

Solastalgia and Transfiguration:

Emotional and Adaptive Responses of the Monpa
Transhumant Pastoralists to Climate and
Environmental Change of the Himalayan
Borderland in Western Arunachal Pradesh, India

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Declaration

I hereby declare that this thesis has not been and will not be,
submitted in whole or in part to another University for the award of
any other degree.

Signature: 木村三恵子

Abstract

There is an emerging focus on climate grief, anxiety and a sense of loss, which are often considered to be psychological responses to physical landscape change and climate change. This research situates environmental emotions as a transformative factor embedded in human-nature relationships and suggests that emotional responses adjust resource affordance and ethical power in the interactions.

I investigate the lived experiences and memories of a transhumant Indigenous group (the Monpa people) dwelling in the Eastern Himalayan mountains (*Monyul*). The case focuses on experiences of mobility, modernisation, marginality, post-coloniality, human-and-non-human interaction, borderland and Indigenous worldviews and shows the depth of place attachment and the Himalayan local dweller's limitation and agency.

The lifeworld of the Himalayan dwellers has been changing because of state incorporation, regenerative energy extraction, global warming, and knowledge paradigm shift. The existing research often positions local societies as a threat to the fragile ecology or exceptionally remote minorities. This research fills the gap between the functionalist mountain development view and the state-dominated borderland consolidation by providing subjective, intimate, transitional accounts of the Himalayan environment.

The fieldwork comprised a one-year ethnographic study in Northeast India, six months of living in the villages in Western Arunachal Pradesh, archival work, and interviews covering Monpa people of different ages, genders and livelihoods. The thesis argues that the Himalayan Indigenous herders have undergone three phases of loss: becoming frontier, utilising animate beings, and containing deep, helpless worries; the pastoralist skills and change-oriented ethics enabled Monpa people to be resilient among dangers of uncertain life.

From the Monpa experiences, the thesis identifies that solastalgia, a term that describes the mental displacement of a person or a person encountering disconnected biophilia, conjures the transfiguration of Self in human adaptation and reconstructs resources across generations. By repositioning and deepening the meanings of emotions, this research contributes to the understanding of climate change adaptation and its emerging focus on emotional dimensions, environmental communication, Himalayan borderland anthropology, emotional geography and mountain development, turning desolation into a remaking of the homeland.

Keywords: Monpa, solastalgia, affective adaptation, Himalayan borderlands, transhumance, climate change

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Before I rehabilitated and restarted, my PhD research had gone through turmoil: transdisciplinary study, visa, money, curfew, pandemic, landslides, dementia care, bereavements, threats of wars in my country, depression and self-doubts. W. H. Auden's poem *Make Up Your Mind* (1933), 'Between attention and attention, the first and last decision, is mortal distraction of earth and air,' could describe a little how I felt. I am grateful to many people who transformed the 'title' into *Easy Knowledge*, just like the poem when it was published.

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into their cultural and spiritual life. Although I could not include the data in this dissertation, the experience made part of my pastoralist literacy.

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Iris 汝羽 寫於觀音山和淡水河交匯的蘆洲

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Glossary of Indigenous and Contextual Terms

I mark the words in the Monpa language (or Monquet) with the Roman alphabet. With some of the vowels, I use *ü* or *ê* to mark the stressed sound, *h* to mark the airy sound that should be combined with the consonants. This is because Monpa language does not have a standardised written form. Therefore, I use these letters to document the closest pronunciation of each word. Please note that there is extensive variation in the Monpa language and terms; these words are used in the interviews and small talks at my fieldwork sites, which do not cover all the Monpa communities and the whole region.

Abotani

Mythological ancestor of many Indigenous tribes in Northeast India; invoked in discussions of origin and cultural identity.

Am / Apa / Ama / Ai

Terms of respect used in Monpa households: *Am* (aunt), *Apa* (father), *Ama* (mother), and *Ai* (female elder).

Brang

Small huts or shelters, often used seasonally or during transhumance.

Term for huts

Bhukhari

A traditional stove or fireplace that is commonly used for heating and cooking.

Bhotiyas / Bhutias / Bhotiya

A group of Indigenous ethnolinguistic communities who traditionally inhabit the high-altitude Himalayan border regions of India, particularly in the states of Uttarakhand, Sikkim, and Arunachal Pradesh, and also in parts of Nepal, Tibet (China), and Bhutan.

Brey / Shr-rang

Traditional Monpa units of measurement.

Old Monpa measurement.

Brok / Broks / Brokpa

Stone herder huts used seasonally. Brokpas are yak herders, integral to Himalayan pastoralism. Broks for four seasons: Sos brok, Zyar brok, Ton brok and Goon brok.

Broksa

Pasture lands used by the Monpa people, often under customary management or communal arrangements.

Chakhar / Choekor Duchen / Torgya / Chu-pa

Important Monpa Buddhist festivals. Chakhar involves ritual offerings, Choekor Duchen commemorates Buddha's first sermon, and Torgya is a year-end festival to dispel evil. Chu-pa is the 10th month of the Tibetan Calendar.

Chang / Duchang

Homemade alcohol and drinking activity.

Chu

Refers to flowing water, it can also mean feeling cold.

Chur / Mar

Chur is cheese, mar is butter; both are key cultural and dietary items.

Dakini Drowa Sangmo

Spiritual and mythological tale of a divine feminine figure who nurtures and protects land.

Doepa / Doe chag

Monpa terms expressing desire (Doepa: 'I want') and emotional attachment (Doe chag: 'attachment').

Dongyur Mani

A specific sacred or revered water source in the village, once a communal gathering place.

Dupuyung

Monpa expression meaning 'I worry'; reflects everyday emotional awareness.

Dui-gyur

Buddhist idea about the change of time.

Dut / Dut-tsan / Dut-tsans

A type of container or sacred vessel, possibly used in rituals. Dut-tsans is the plural form.

Dzo / Dzomo

Hybrid animals bred between yaks and highland cattle: Dzo (male, sterile, used for meat); Dzomo (female, productive, used for milk).

Dzongpen

Tibetan tax-collecting officers.

Dêrma

Likely a deity, spirit, or term referring to a sacred object or animistic belief.

Fan / Lungta

Fan refers to ritual paper or cloth charms used in Himalayan spiritual practices to represent protection, blessings, or offerings to spirits. Lungta (Tibetan: ‘wind horse’) are prayer flags believed to carry goodwill and sacred intention across space through the wind.

Fan is a paper or cloth charm used in Himalayan rituals, often inscribed or shaped, representing protection, wishes, or offerings to spirits. Lungta is a Tibetan term meaning ‘wind horse,’ referring to prayer flags believed to carry blessings and positive energy across space through the wind.

Gangri

Sacred, snow-capped mountain (also known as Gorichen in government texts), central to Monpa cosmology. Also can be referred as Kangri Karpo, Gangri Garbo, Bairiga, Ruoni.

Garbu-chu / Kyuk-chu

Garbu-chu refers to underground springs considered sacred and typically shared across households. Kyuk-chu denotes small rivers or creeks used for irrigation and daily water needs.

Gawu-dug-marle-bushal

Monpa phrase meaning ‘the journey is good,’ used during or after travel to indicate safety and well-being.

While travelling, the journey is good.

Gosa / Tso

Privately owned land, distinguished from communal or monastery-held lands in Monpa land tenure systems. Village.

Gya

Monpa term for outsiders, especially referring to Indians from the plains.

Gya-liang / Liang

Far farm; farm.

Gyu

Property.

Jhum

Shift, slash-and-burn or swidden agriculture practiced in forested hill areas.

Kālacakra

The Buddhist idea of the wheel of time.

Kashe

Deer.

Keit

Glacier.

Ketti work

Farming.

Kett / Kong / Gong / Besta / Rhu / Kyar / Deng / Charsh/ Tsando / Mrepdang / Tsong

Names of wild plants, herbs, or roots collected for food, medicine, or both.

Khandrol Ma

A feminine spiritual figure in Himalayan Buddhist cosmology, often associated with sky-walking dakinis or local guardian deities, embodying both fierce protection and compassionate presence in sacred landscapes.

Kho

Millet.

Khor mot so

Snow stopped falling, it didn't snow.

Khraisia

Taxable land under monastery control in traditional Monpa systems.

Khyemsa / Liangsa / Parmong / Mang / Mangsa / Nag

Land types in Monpa land management: homestead, farm, woods, communal land, thick forest.

Kot

Cows brought from the lower land that have been trained to adapt to a higher altitude and climate.

Kye-liu

A local red potato, an important food crop.

Lakpar

Group farming

Lama

Vernacular way to name priests who perform rituals for people, it can mean a monk or simply a knowledgeable ritual conductor.

Ley-dap

Traditional fireplace or fireplace zone inside the Monpa house.

Lhamo

A mountain goddess or divine feminine spirit associated with lakes and weather.

Lö

Burr.

Log / Log Shang

Electricity or light. Electrical pole.

Losar

Tibetan New Year; widely celebrated across Buddhist Himalayan regions.

Lose-yam-yab-shundil-sum-dir

My body feels lighter when problems get solved, and the sheep are safe.

Lü

Water spirits are believed to live in underground springs, represented through ritual flags and offerings. General terms for Himalayan deities: *sadak* (of ground), *yul-lha* (of the region), *lü* (of underground waters), *nyen* and *tsen* (of mountains).

Mang momos

Momo is a type of steamed or pan-fried dumpling originating from the Himalayan region, typically filled with minced meat or vegetables. Mang is a type of wild chives.

Mani

Prayer wheels or Buddhist inscriptions placed at water points or crossroads.

Methok-tsa

Wildflower plants and flowering shrubs; important for ecological rituals and medicine.

Misteri

Carpenter.

Monyul

Yul is the Monpa word for place, land, or homeland. Monpa's ancestral homeland, now geopolitically fragmented across India, Bhutan, and China. Literally: 'land of Mon people.'

Na Gali Nigulo

Did it rain?

Nam / Nam-tso / Tsi

Nam refers to mist or vapour in the air, while Nam-tso denotes rainfall. Tsi refers to water for hydration. These terms reflect Monpa conceptualisations of water in both visible and atmospheric forms.

Nam-dung

The sky.

Namda / Revyoung

Different ways to say safety.

Nang-chue / Nang / Ning / Ningjie

Inner beliefs. Inside. Hurt. Heartache.

Nas

Barley, grown both for consumption and ritual in Monpa agriculture.

Nye shindu shindu rai

I was very happy.

Nye-tsang

Host-guest bonded relationship system between households or villages, often reciprocal.

Ngrok lumpa ka dö mone

Our village and our area are poison-free.

Pa / Monpa

Pa means humans, Monpa means the people of *Mon*.

Phu / Dha / Summa

Phu and Dha are mountain deities; they can have names such as Sa Nga Phu, Phu Dumu, Phu Gyap, etc. Summa means the location of their residences.

Pu

A sacred tree used in household rituals and associated with prayer flags.

Reh tse-ga, Laa ga shin-ho nou-um

At the top of the mountains, in the higher altitudes, you will feel much happier and comfortable.

Sa

Soil.

Sa-nia

Land losing fertility.

Sa-char / Nam-char

Sa-char refers to terrestrial signs or ‘earth elements’ in Himalayan geomancy, used to assess the physical features of the land for settlement and well-being. Nam-char refers to celestial or atmospheric signs—such as wind, clouds, or planetary movement—used to determine auspiciousness or foresee change.

Sem-kid

Monpa emotional term meaning feeling peaceful or contented at heart.

Sim

Heart.

Shab-ju-du

Respect.

Shin

A ghost.

Shingka

Monpa women’s traditional attire.

Simchump

Bugs.

Shuo-shiang

Traditional pinecone torch for light or ritual use.

Shang / Shiang

Trees.

Seasons: **Suet** (spring) was cold with heavy snow, usually from February to April; **Sharth** (summer) was from May to July, and was accompanied by the monsoon rainy season from late May to early July; **Tanth** (autumn) and **Gunth** (winter).

Taiku / Taikyu

A culturally embedded emotion meaning quiet, lingering worry or collective anxiety.

Ter

Treasure.

Tso-devmin-krinii tikei

We are safe and okay.

Tsorgen / Gaon Bura

Village leader.

Ush

Chopping wood.

Wula

Porter work or forced labour tax imposed historically on Indigenous communities.

Yangpa

Sheep/goat herders; distinguished from brokpa yak herders.

Yar-ke

Development, positive development.

Yur-yur-shindu

Monpa expression denoting deep affection or love, often toward people or animals.

Zurma

Land inheritance.

Abbreviations and Acronyms

ICIMOD The International Centre for Integrated Mountain Development

IPCC The Intergovernmental Panel on Climate Change

AR5 IPCC Fifth Assessment Report

MoES Ministry of Earth Sciences, Government of India

UNFCCC United Nations Framework Convention on Climate Change

MPPACC Socio-Cognitive Model of Private Proactive Adaptation to Climate Change

L&D Loss and Damage (UNFCCC terminology; elsewhere referred to as ‘losses and damages’)

IEJ Indigenous Environmental Justice

TEK Traditional Ecological Knowledge

ILP Inner Line Permit

PAP Protected Area Permit

IAS Indian Administrative Service

RGU Rajiv Gandhi University in Itanagar

HKH The Hindu Kush Himalaya

LAC Lines of Actual Control

CCP Chinese Communist Party

PRC People’s Republic of China (China)

NEFA North-East Frontier Agency

NEFT North-East Frontier Tract

ADC Autonomous District Councils

MAR Mon Autonomous Region

MARDC The Mon Autonomous Region Demand Committee

MLA The members of the Legislative Assembly

NHPC National Hydroelectric Power Corporation

GHG Greenhouse Gas

LPG Liquefied Petroleum Gas

PDS Government of India Public Distribution System

GLOFs Glacial Lake Outburst Floods

SOC Soil Organic Carbon

PhED Public Health Engineering Department (state-level, Government of India)

RWD Rural Works Department (state-level, Government of India)

LPC Land Possession Certificate

SIDS Small Island Developing States

LDCs Least Developed Countries

Chapter One

Introduction

1-1 The opening vignette

‘*Apa*, we came here to ask, what have you seen in the mountains, rivers, sky, and forest around us that has changed in the time that you can recall?’ My translator carefully put the question to a retired Monpa *Brokpa*. Brokpas are the herders with resting huts on the grazing route. Herding, particularly seasonal vertical migration called transhumance, is a common and traditional livelihood in the Himalayas. The herders have all-year, long-term experiences navigating and responding to changes in the mountain environment. However, such herding activities are shrinking in scale, and so are the memories interacting with environmental change.

The Monpa people are an ethnic group living on the edge of the Tibetan and Ahom kingdoms. *Mon* is the descriptive indicator given by the external ethnic group, suggesting its out-of-centre place. So the Indian Scheduled Tribe¹ name Monpa originally meant a discriminatory impression about the people living in out-and-away wild places, while the Mon/Monpa identity has become very complicated. The homeland of Mon, geographically between the east of Nepal to the northwest Myanmar, in the past 350 years has been overturned by imperialist expansion, territory division and border wars, and most recently involved in geopolitical tension and resource extractions. Monyul, the name by which Monpa people call their territory (and people), was separated into three parts under the control of three states, and the traditional connections terminated.

‘*Apa*’ is the gentle term for an elder male figure in the Monpa language; this herding

¹ Scheduled Tribe is an Indian system of Indigenous identification and designated entitlements. This system makes the words tribe or tribal not always associated with negative meanings.

man has lived through the changes since the early 1930s and has never considered leaving despite the frequent landslides, earthquakes and climatic change. I worked with my translators to deal with the extensive language variations from village to village. Before initiating household visits at each site, we rehearsed and rephrased the questions several times, and I sometimes felt the questions sounded too broad and like a fairytale.

‘Khor mo tso (Snow stop falling). When a glacier melts, its water streams into the river. A glacier is made up of various layers of ice sheets, and it's melting rapidly now. The rate of melting is affecting the volume of rivers. Earlier, there were no such environmental changes, and today the temperature has increased a lot, and there is a decline in snowfall. We used to offer *fan* (flags with mantras and sacred colours) to sacred beings, and the herds could generally avoid danger. But with the decline of snow, there is nothing.’

The interviewee began by describing his observations. Initially, he seemed indifferent, then appeared worried, then talked excitedly. Our questions began with climatic change, particularly related to the scientific reports about the global warming effects in the Himalayas, but following their sharing, they uncovered more broadly about the interviewees’ defined ‘environment’. We obtained accounts from people of different ages, genders, and productive roles. In these answers, they actively explained how they manage to deal with the problems and their concerns. People around us became animated, which the local people found to be a common experience that greatly interested us as visitors. In the later writings, I was critical of this research encounter and the representation this thesis produces, which made me stumble.

During the interviews, we paused, looked around, and thought about the rivers and trees in the Monpa territories, revealing moments from Apa’s long memories and coinciding with what was then happening. Time multiplies in different parameters and for different subjectivities, and the climate change phenomenon is not just about the present experience; it is also a political narrative we are in. Climatic

change is happening more intensively in the monsoon-impacted Eastern Himalayas than in other parts of the world, reflected in Apa and others' accounts in different magnitudes, with variance of altitudes at the same time, forces and depths of influence on their daily lives.

Apa's and other Monpa people's affective accounts gave the landscape different names and agencies, and the mountainscapes multiplied and strayed far from scientific understanding. Through narrating lived experiences and reasoning about how changes happen, there was not one ontology, one reality, one development, but many. Mountains are not geologically structured rock and soil; they reside, move, have a lineage, carry sacred marks and do social gatherings. I could feel their presence through the emotion and stress translated for me, which led me to explore a different field in development studies and borrow inspiration from many disciplines. The guardians of the mountains are, at times, emotional and allergic to pollution. Permafrost and nighttime fields have characters, mostly female. Trees are not merely forest coverage, but could be a helping hand when people are losing their lives to unseen danger. Fields of *Nas* (barley) grew near the house, small portions of which were saved for ritual purposes rather than consumption. Shifting weather patterns and irregular climate patterns are part of a narration about time, and how people consider this current life in the circulation of lives and worlds. Apa's telling involved deities and animates of nature, militaries, and government. My young translators and I found ourselves eagerly awaiting answers from interviewees in villages, of different livelihoods and genders, probing the type of experiences we could not even imagine. This made me realise that knowledge and identity recognition are not bound by place and group membership.

Apa's account, like those of many Monpa elders, illustrates that experiences of environmental change are not simply observed but felt through deep emotional attachments to land, kin, and memory. These emotional responses are shaped by social roles, spiritual cosmologies, epistemology and ontology that construct the ethical grounds, and a lived sense of place, all of which infuse the changing

landscape with meaning. To engage seriously with such responses is to acknowledge that losses and damages² are not only policy terms within climate negotiations but also resonate with trauma literature, reflecting the adaptation and resilience framework, where the unmitigated and unpreventable grief signifies the rupture of continuity, identity, and a sense of safety (Erikson, 1994; Fiddian-Qasmiyeh, 2020). This shift in focus invites us to rethink environmental change not solely as a biophysical process but as a layered affective terrain, shared by a mixed group of Indigenous and non-Indigenous, where grief, uncertainty, and moral disorientation accompany the slow violence of climatic and geopolitical transformations (Nixon, 2011; Tschakert et al., 2019). It is within this emotional terrain that the core concerns of this study emerge.

1-2 The problems

Ice and glaciers play a major role in the mountain climate system; they are the major source of running rivers and of drinking water for humans and animals in the downstream regions. They also moderate the climate in the Himalayan mountains. The Eastern Himalayas receive intense monsoonal rainfall each summer, which serves as a critical water source for agriculture but also acts as a primary catalyst for landslides and slope destabilisation across the region (Bookhagen & Burbank, 2010). Glacier retreat in the Eastern Himalayas has accelerated significantly over recent decades, with studies indicating that glaciers in the region are losing mass at a rate faster than the global average, largely due to rising temperatures and changing precipitation patterns (ICIMOD, 2023; IPCC, 2022). A Government of India Ministry of Earth Sciences (MoES) report published in 2020, using various CMIP5

² Loss and damage generally refers to the adverse effects that cannot be mended by adaptation and mitigation efforts, the United Nations Framework Convention on Climate Change (UNFCCC) has recognised it as the third pillar of policy actions. See Adaptation Gap report 2023: <https://www.unep.org/resources/adaptation-gap-report-2023> (Last access: 2025/04/27). This research addresses the losses and damages of the immeasurable, cultural and social sides of adversities.

scenarios,³ suggests the Eastern Himalayan region warming will be around 5.5 °C by the end of the twenty-first century, yet the high-elevation locations (> 4000 m) may receive more precipitation (Krishnan et al. 2020). The whole Himalayan region is warming faster than plain and urban areas, and the uncertain precipitation patterns in the Eastern Himalayas intensify risks. Snow and rain, as both life-sustaining and hazardous, underpin much of the region's environmental precarity and shape local adaptation practices.

The political uncertainty at the borderland and the border-centred development focus created problems no less than the climatic challenge. The Indigenous tribal population, including those who have migrated and settled for over 500 years, were forced to engage in multiple external controls over their homeland. The Eastern Himalayas were passed through by the early Persians, Tibetans, Chinese, British and more; the control was under the name of civilisation, imperialism, resource economics, or the dream of a modern multi-cultural nation state. Different historicised attempts sought to define the place's character to give it justice; the most undeniable fact is that the strong 'national borders' cut through family lineages and restricted pastoralist practices, cross-breeding and trade were forced to stop.⁴ The area became isolated due to the colonial legacy and the contentious border factor.⁵ The 1962 Sino-Indian War changed the developmental scene of Arunachal Pradesh, and border tensions have remained⁶ and continuously

³ This refers to simulations using the IPCC Fifth Assessment Report (AR5) and climate change modelling studies using the IITM Earth System Model (ESM) and CORDEX South Asia datasets.

⁴ This is from the responses of the research participants with early report from advocacy group: <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/changes-pastoralism-indian-himalaya>. This statement does not cover the whole Arunachal Pradesh but specifically the Western Arunachal Pradesh. The Passau mountain pass between East Arunachal and Myanmar is still viable, though limited.

⁵ Isolated by situation, not physical connection. Further context could see: <https://thediplomat.com/2024/07/the-past-and-future-of-the-territorial-swap-offer-in-the-china-india-border-dispute/> (Last access:2025/04/16)

⁶ In November 2024, Arunachal Pradesh Governor Lt. Gen. (Retd.) K.T. Parnaik highlighted the state's sensitive international border as being of vital and strategic importance for national

erupted (Madhuri 2024). Highways, power stations, and military bases were constructed not merely for economic development but as instruments of state territorialisation (Guyot-Réchart, 2017; Wu et al., 2016); they also altered the landscape and became huge media of environmental change (Li et al., 2024; Singh et al., 2021). The provision of schools, hospitals, district administrative offices, and welfare schemes was introduced, embedding the presence of the Indian state into the Indigenous people's everyday lives (Baruah, 2003; Arpi, 2013). Colonial and postcolonial governance in the Eastern Himalayas has historically rendered Indigenous ecological knowledges invisible, framing mountain frontiers as extractive and securitised zones (Damodaran et al. 1998). Disruptions and uncertainty are usual. Internet shutdowns, often imposed for administrative or security reasons here, have affected access to basic services, including health, education, and livelihood activities, disproportionately impacting remote and marginalised populations (Human Rights Watch, 2023). The lack of consistent digital infrastructure further hinders the implementation of development programmes and economic inclusion (The Economic Times, 2023), which affects climate change actions. These 'developments' have upset the fragile balance of the ecosystem; the rural mountain areas are fast urbanising with incremental issues like land use disputes,⁷ forest poaching,⁸ restricted mobility,⁹ and mourning.

security. <https://timesofindia.indiatimes.com/city/guwahati/arunachal-border-strategically-vital-needs-vigilance-guv/articleshow/119351708.cms> (Last access: 2025/04/16)

⁷ I will discuss further. Here, I list a few news and advocacy articles:

https://www.landislife.org/stop-the-11000-mw-siang-dam-honor-indigenous-rights-in-arunachal-pradesh-india-9041/?utm_source=chatgpt.com; <https://www.reuters.com/article/us-india-landrights-lawmaking/individual-land-rights-to-indiasindigenous-people-could-be-disastrous-expert-says-idUSKCN1GR1F8/> (Last access:2025/04/16)

⁸ See a development agency estimate: <https://www.cepf.net/our-work/biodiversity-hotspots/himalaya/threats> (Last access:2025/04/16)

⁹On military facilities occupying land in Arunachal Pradesh: Tsering, N. (2025, March 3). *Arunachal: Tawang MLA calls for govt intervention to protect sacred lands allegedly occupied by Army.*

Arunachal24.

Available at: <https://arunachal24.in/arunachal-tawang-mla-calls-for-govt-intervention-to-protect->

This research aims to analyse how Monpa transhumant herders emotionally experience and adapt to environmental and political disruptions; to examine how solastalgia, grief, and worry mediate adaptation, mobility, and belonging; to challenge dominant models of resilience and adaptation through a relational ontology of emotion; and to contribute to debates on climate change by foregrounding the emotional, cultural, and epistemological dimensions of Indigenous experiences in the Eastern Himalayan borderlands. This research chose the Monpa community living in Western Arunachal Pradesh in India to set the inquiry on the impact of environmental change on the local mountain dwellers, human-nature relationships, and climate change adaptations.

Many Monpa pastoralists and non-pastoralists use the word '*sim tai-kyu* (heart feels sad, unsettling, worried)' to describe their feelings toward the shrinking glacier on the *Gangri* (snow-capped mountain top), increasing highway over forest and other environmental changes. The reduction of snowfall and erratic rainfalls has caused major concern and triggered adaptive measures in the production of transhumants in the Himalayas (Sharma et al. 2009; Tiwari & Joshi 2012; Bhagawati et al., 2017; Maiti et al., 2017). The borderland environmental governance has incentivised the cash-medium change of livelihoods, seen as economic and civil progress, and for ethnic minorities to 'modernise'. The elusive modernity entangled with traditional ecological sense and school education-based scientific views, contested with cultural identity and ethical beliefs, invoked stress, worry and distress along with their efforts adapting to the changed home. The population of the borderland Indigenous community also transformed into new migration patterns, chasing academic and vocational diplomas rather than the right green pastures.

Arunachal Pradesh is labelled a protected area.¹⁰ The people of Arunachal face

[sacred-lands-allegedly-occupied-by-army](#) (Last access: 2025/04/16)

¹⁰ Ministry of Home Affairs (MHA), Government of India. (2018). *Annex VII: Protected/Restricted Area Permit Regime*. Available at: https://www.mha.gov.in/PDF_Other/AnnexVII_01022018.pdf (Last access: 2025/04/16)

discrimination within mainstream Indian society for their Mongolian looks and presence in the disputed area (Ngaihte, 2014); they are unable to travel to China because they are *Arunachali*.¹¹ Securitisation of place has not only produced local development's dependencies on the State but also exacerbated internal inequalities and challenged Indigenous epistemologies of land and belonging (Chakraborty & Sherpa, 2023; Pandey et al., 2023). To engage with this powerless/power transition, complicated social milieux with the intersection of gender and generational differences within the Monpa society, the underlying logics behind adaptive and emotional behaviours, and how affective reasons challenge resource and space management are yet to be uncovered.

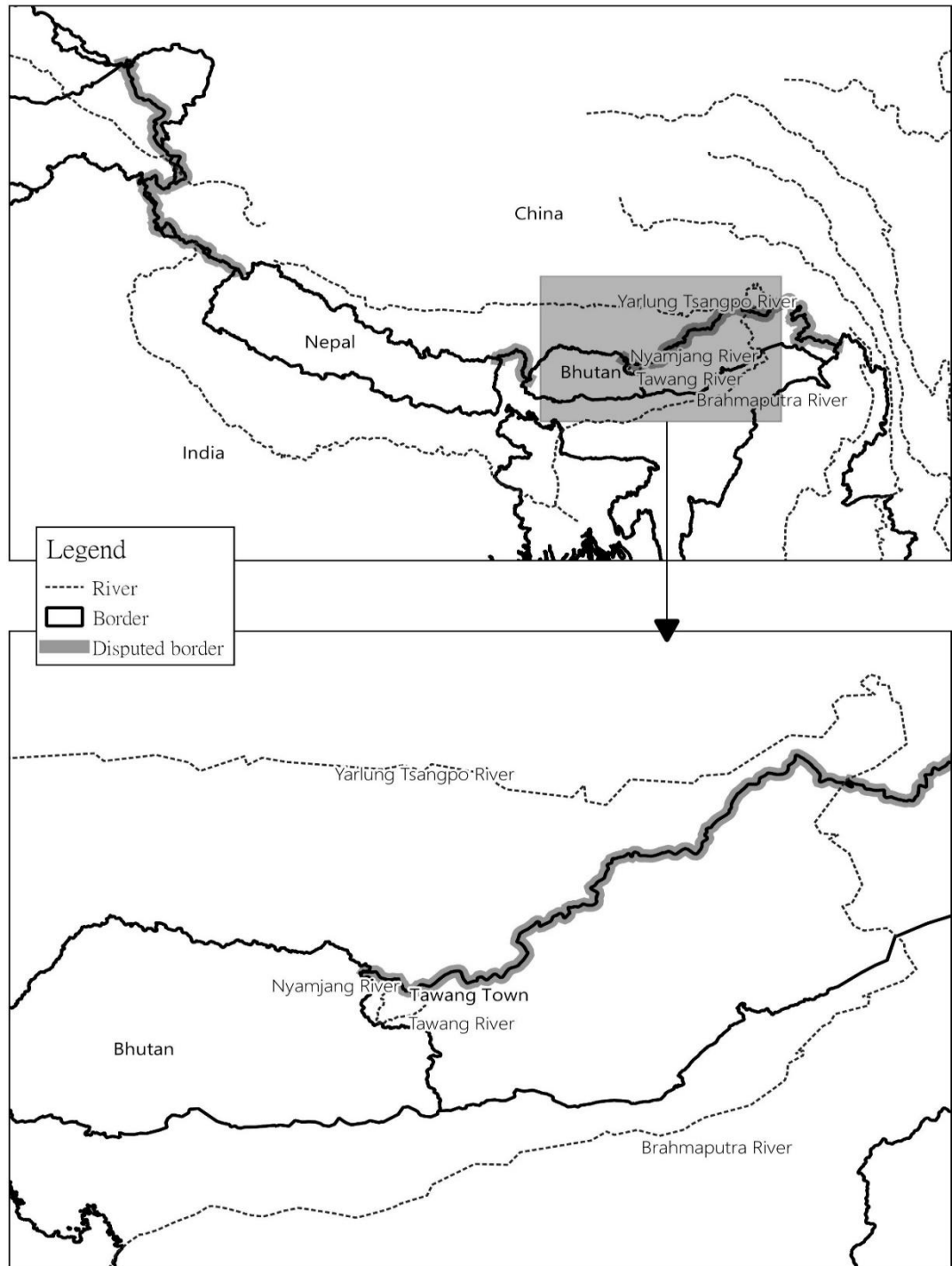
The theoretical problematisation of this research refers to how emotions have been positioned and applied in understanding perceptions about environmental change and adapting to climate change. Knowing that the mental and relational responses are integral parts of losses and damages (IPCC, 2022; Boyd et al., 2021), the political discourse and policy planning lack frameworks to address and enhance the connected wellbeing of humans and nature. Gaps of knowledge remain growing on the technocratic and power-blind stem of vines; the root causes of losses and damages have been obscured by Western and colonial remains (Jackson et al., 2023). Solastalgia (Abrecht, 2005, 2020) is an increasingly popular concept to discuss the mental loss related to dwelling in environmental change, yet the concept has been mainly defined, delineated and deployed in the Global North. The environmental humanities field has built scholarly work collating testimonies from across the world (Bogard, 2023; Land Body Ecologies, 2024), and the term continuously appears in mass media across Global North and South. This research sees solastalgia as the reconciling point of Global North and South confrontations, a grafting to address the gaps in relationality, epistemology,

¹¹ The main reason is that Arunachal Pradesh are claimed by both China and India as their legal territory, it is the colonial legacy of imperial negotiations around the McMahon Line before WWII. The infrastructure building, asserting control and limitation of mobility, also happened to the Indigenous people/Memba people in the Chinese Himalayas.

ontology and power; it is important to contour the applications of concepts and confront empirical complexities.

The Yarlung Tsagpo River flows from Tibet to India, in Arunachal Pradesh, it is called the Sian River (see Map 1.1), and then joins the Brahmaputra River. Tawang town developed from the famous Tawang Monastery and became a border town in the days when the borderland was called the North-East Frontier Agency. The government's (mostly the Tawang District government) entry into environmental governance from deforestation/illegal logging, the disappearance of distinctive species, sedimentation in the river, and the disappearance of underground water as a drinking source for humans and animals. It is a mountainous area where hydropower dams and zero-carbon-oriented investment seek new beds to reduce forests for carbon sink transactions.¹² This is where this ethnographic study began to work.

¹² See Das, B. et al. (2021) 'Above ground biomass carbon assessment using field, satellite data and model based integrated approach to predict the carbon sequestration potential of major land use sector of Arunachal Himalaya, India'.



Map 1.1 China-India border, Monpa area and transboundary rivers. This map was prepared in collaboration with Dr A. Y. Cheng¹³.

¹³ Dr Cheng teaches the history of architecture in Taiwan. <https://archi.csu.edu.tw/p/905-1105->

1-3 Aims and Objectives

This research investigates the emotional, cultural, and adaptive responses of Monpa transhumant pastoralists in Western Arunachal Pradesh to environmental and political transformations in the Eastern Himalayan borderlands; it aims to explain how place-based distresses like solastalgia were shaped and processed, and the emotional geographies of the uncertain Eastern Himalayan environment. The objectives of this research are: (1) to analyse how Monpa transhumant herders and ex-herders emotionally and affectively respond to environmental, climatic, and political disruptions, with a focus on solastalgia, worry, and place attachment; (2) to trace how emotions mediate adaptive practices, mobility decisions, and belonging under conditions of militarisation, infrastructural expansion, and environmental change; (3) to situate Monpa emotional geographies within relational ontologies that challenge dominant framings of adaptation, resilience, and resource management; and (4) to contribute to critical climate change debates by showing how emotional, cultural, and epistemological dimensions shape lived experiences of loss, adaptation, and contested development in the Eastern Himalayan borderlands.

1-4 Research questions

The puzzle of this research is about the shape and manifestation of solastalgia in the lives of borderland pastoralists and Himalayan ethos, assuming it would be different from the concept's prevalent features, to politicise the discussion about the emotional function and meanings in climate change discourse. After adjusting that puzzle with the Monpa case, the overarching research question of this study is:

How do Monpa communities' emotional relationships with their environment shape, and become shaped by, the ways they interpret and adapt to ecological disruptions, geopolitical transformations, and developmental interventions in

the Eastern Himalayan borderland?

To include all emotional dimensions, I use emotional relationships to include affect, attachment, place-based feelings, and emotions. The human emotional relationship with environmental change and nature is interwoven with their perceptions and experience-based skills reflected in their linguistic and behavioural actions. There are three major forces of environmental changes that I discuss in the empirical chapters; they are linked to one another, and have been imposed on the Himalayan Indigenous people when they became the citizens of the post-WWII new states.

To operationalise the overarching question with theoretical depth, I divide the aspects of inquiry into the following three research questions. In each question, I pair the inquiry with explanatory factors drawn from empirical data and case background features. These factors/concepts are meaningful in remaking the solastalgia concept more inclusive and applicable.

- 1. How do different generations and gender groups within the Monpa community sense and emotionally respond to environmental change?**
- 2. How do Monpa people explain/make meaning of environmental loss and disruption, such as vanishing snow, forests or water sources, through cosmological beliefs, ethical values, and ritual practices?**
- 3. How do Monpa households and communities adapt to environmental and political change, including climate stress, militarised borders, state development, and shifting mobility regimes?**

This research engages the concepts of affective ecology, solastalgia, relational ontology, affective adaptation, and mobility under modernity. It explores how emotions arise from ecological and political disruptions, how Monpa cosmologies shape experiences of loss, and how shifting infrastructures and border securitisation reconfigure emotional landscapes. These frames set the foundation for the study's theoretical contribution to knowledge. Empirically, this research

advances a relational and affectively grounded understanding of environmental change and challenges the state-bordered climate change governance with the Himalayan borderland case.

1-5 Contributions to knowledge

This study contributes empirically to understanding the important role of emotions, including solastalgia, in climate change adaptation, particularly in the mental health and Global South contexts; however, the conceptual works of solastalgia and other concepts of this study aim for contributions in two folds. First, it redefines solastalgia through the twin concepts of solastalgia and transfiguration, proposing a revised climate change framework that addresses mental loss and cultural loss together rather than separately. Second, it lifts the conceptual focus beyond Indigenous populations living in remote nature-dependent environments, proposing that the emotional and cognitive processes underlying solastalgia are also relevant to diverse Indigenous and non-Indigenous experiences of environmental transformation. I unpack solastalgia and remake it with transfiguration, which I will provide the argumentation in Chapter 4 and Chapter 8. Empirically, this research contributes to understanding the affective human-nature relationship intersected by uncertainties in mobility, political stability, weather and infrastructure in Arunachal Pradesh, India. However, wayfinding from the traits of the social and political conditions in similar ecologies, the arguments about the Monpa case can support other situations beyond Arunachal and beyond remote border communities like the Monpa one.

The ethnography output of this research contributes to preserving the community's collective memories and lived experiences, principles and emotional accounts of a certain time in history. This representation work and the reflections on methods add nuance on how to work on emotions in the field anthropologically, with examples of managing linguistic variance and unforeseen crises. Chapter 5 to 7 of this dissertation emphasise the mental, tuning, being-with, affective perspective, though limited and imperfect, they enrich the understanding of political agency,

non-human solidarity, the native account of change, and how to pragmatically view the subjectivities of Indigenous peoples in the conservation and development of resources in development studies. The empirical data challenge the conventional way of imagining or positioning these relationalities; their value is practical and applicable.

The Himalayas embody phenomenological complexity and geopolitical importance, and this study dialogues with the local and foreign academic interlocutors with respect to home and belongings, adding a new activist position addressing the environmental change there, which is also affecting the rest of the planet. This study complements the current frameworks on adaptation, resilience, value, justice, loss and damage about climate change by finding the keys that figure environmental emotions and interrogate ethics about change. I will elaborate on this extension of the existing frameworks and other detailed research contributions in Chapter 8.

1-6 Dissertation organisation

This dissertation comprises eight chapters. The Introduction presents the problem statement, research questions, and objectives. Chapter 2 contextualises the Himalayan borderland historically and geopolitically, focusing on the Monpa people. It counters orientalist fantasies by providing a grounded portrait of the region. Chapter 3 details the research process, including methodological choices and fieldwork challenges, especially in conducting ethnographic work in a militarised and geopolitically sensitive region. It situates the research within a reflexive, relational, and ethical framework.

Chapter 4 outlines the conceptual tools that recur throughout the dissertation: emotion, mobility, borderland, adaptation, and modernity, and critically engages with dominant understandings of environmental emotions. These concepts offer alternative points of departure and interrogate how familiar themes in the social sciences, such as modernisation and mobility, can be reinterpreted through an emotional and decolonial lens. Seemingly neutral terms like ‘emotion’ and ‘borderland’ are shown to be deeply implicated in the politics of resilience and

development. The interdisciplinary orientation of this research is deliberate, with a decolonial ethos and a complex study area at its core.

Chapter 5 examines the decline of transhumant pastoralism, using elder narratives to trace political, economic, and cultural shifts. It introduces non-human agents as active participants in environmental change, revealing how spirits, animals, and deities animate Monpa cosmologies and influence ecological ethics.

Chapter 6 shifts the lens to material infrastructures and explores the everyday enactments of adaptation during crisis. Drawing on Monpa understandings of water, wood, and illness (including COVID-19), the chapter critiques dominant crisis discourses that sideline ethics and affect. Through the framework of affordance and emotion, it engages with underexplored dimensions of climate justice.

Chapter 7 synthesises the emotional experiences gathered from fieldwork, situating them in historical and cosmological registers. It centres the Monpa expression *Taiku*, a quiet, lingering sorrow without resolution, to extend the theoretical framework of solastalgia. It explores how environmental emotions are relational, embodied, and politically charged. The chapter asks what ‘restoration’ might mean in a context where mobility, modernity, and state-led adaptation intersect with existential loss.

Chapter 8, the conclusion, reframes the empirical and theoretical contributions in relation to broader debates on borderland development, transboundary rivers, and climate politics. It repositions solastalgia not only as a local affect but as a globally relevant analytic for understanding the psychic toll of environmental transformation.

Rather than being a story of a marginal community in a ‘remote’ location, this dissertation seeks to evoke empathy and recognition of shared emotional worlds. The Monpa people’s mobility, their adaptations, and their aspirations to ‘become better with nature’ gesture towards a future-oriented ethics beyond legal rights or technocratic solutions. The thesis contributes to knowledge with a view toward collective survival through change and relational repair.

Chapter Two

Research Background

2-1 Introduction

The Himalayan region is rich in resources and holds significant symbolic influence; therefore, multiple political powers have sought to control it. The name and place-making came from those gazes, desires, cartography and territorialisation. However, the sacred mountains are also a contentious borderland, and the abundant mineral and water resources have led to a lack of ecosystem- and nature-centric justice in national border issues and international mountain governance. For the mountain dwellers who have lived in the region, their perspective and navigation came from their lived experiences.

This chapter aims to clarify the complicated information and viewpoints about the above phenomenon, which is the key background for this thesis investigation. I first introduce the Himalayan mountains, arguing that the millions of people living in this mountain range share a collective experience of being the ‘research field’ of the explorers, surveyors and colonial authority to test their scientific, geological and anthropological knowledge. Then I move to the Eastern Himalayan climate and ecology, highlighting the influence of Tibet on the Bhutia/Bhotiya (Buddhists) people, including the Monpa. I explain the complexity and ambiguity of *Monyul* and *Monpa*, and I further provide a brief history of the formation of Northeast India. The colonial institution ‘excluded area’ scheme transformed into the Inner Line scheme after India’s Independence. In the last two sections, I briefly discuss the constitutional status and current political situation of Arunachal Pradesh and how these factors impact resource politics, and I illustrate the climate change phenomenon as culminated by scientists. These historical, geographical, demographic, and

ethnographic backgrounds, where militarisation and transnational material flows intersect, leave the Indigenous communities in a distinctive position.

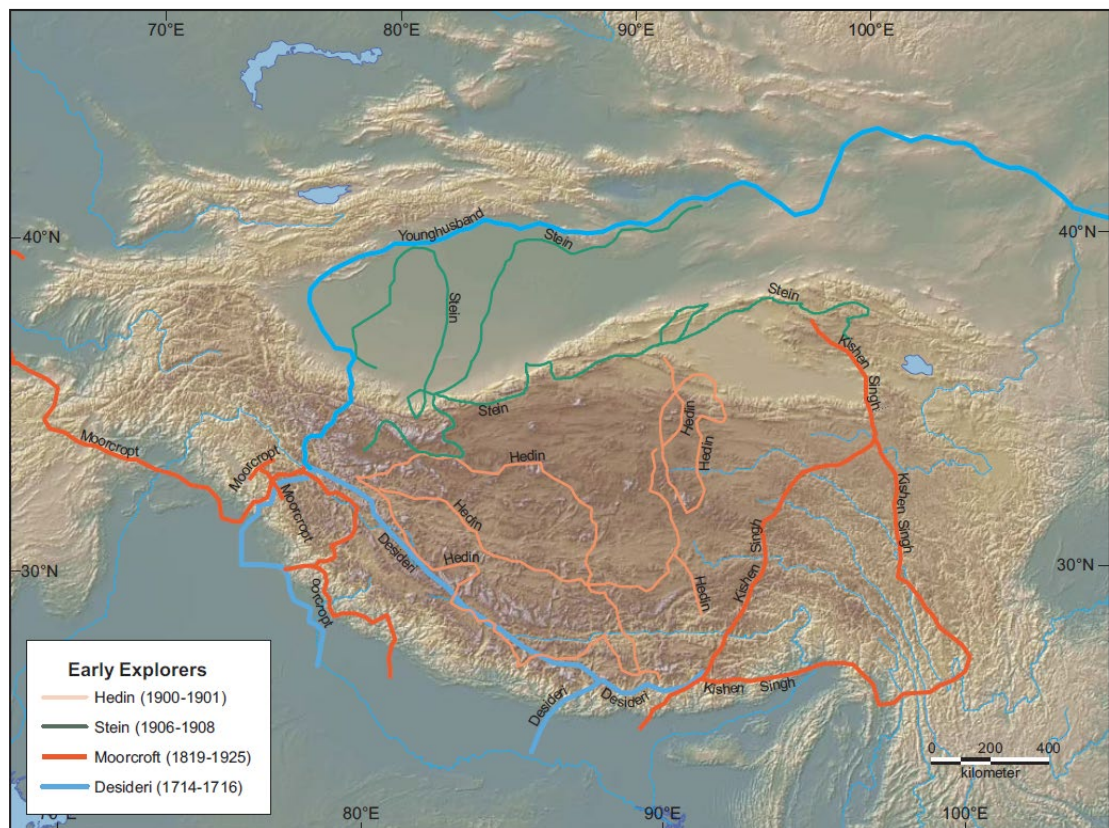
2-2 Overview of the Himalayan geography

Himalayas exist on multiple spectrums across religion, culture, ecology and security; the name of it has also been used by merchandise brands that wish to extend its image. As a whole, the name is derived from the Sanskrit word *Himālaya*, meaning cold and high dwelling or the abode of snow. Besides the popular name, the Himalayas, this mountain range has been called by various similar-syllable names in the individual languages and cultures that have been living in this huge mountainous range, due to the strong influence of Sanskrit and Tibetan culture. The word Himalayas is a nominal inclusion of the mountains. In fact, sections or peaks of it have been named differently: Tibetans name each snow-capped mountain around their territories with different names, like *Kangrinboqê* or *Bonri*. And the Bhutanese name the closest section of the mountain range *Gangkhar Puensum* in Dzongkha language, meaning the white three brothers. Names are related to the ontologies of the landscape and ecology, as well as the positionality of the speakers/humans.

In contemporary political reality, the Himalayan mountains are located in six countries today: Nepal, China, Pakistan, Bhutan, India and Afghanistan. These countries either gained their independence from colonial rule in the early 20th century, declared their formation after civil wars or underwent constitutional regime change between the 1970s and 1990s. The Himalayas not only exist on the borders of these new sovereign states, but also in particular bilateral relations; the mountains took part in the nation-building narratives (Banerjee 2015). The Himalayas were integrated as part of the borderlands of these political entities (Zhang and Saxer 2017).

The mountain range was strongly shaped by the competition of the British, Chinese and Russian empires in the late 19th to early 20th century (Hopkirk 2006). Zurick and Pacheko (2006) gathered the information and produced several explorer maps that

showed the expansion of Western survey and control. Western Arunachal Pradesh was ‘explored’ earlier than the rest of the state. For Europeans, the mysterious mountains of the East became an arena for the West's new technological developments and knowledge politics. Fleetwood’s science history work complements the political geography by telling a story of how ‘Himalayas’ became a critical site that tested the limits of European instruments, bodies and schools of knowledge (Fleetwood 2022). He suggested that the ‘measuring’ of the Himalayas gives rise to the ‘vertical globe’ concept for the Europeans. In the meantime, the high peaks were considered a security weakness of the British colonial authority; mapping contains the imperialist penetration in both political and scientific attempts.



Map 2.1 ‘Asia early explorer’ by Zurick and Pacheko (2006), source: Cambridge Digital Himalayas.

In today’s scientific terminology, the Himalayas are referred to as the Hindu Kush Himalaya (HKH), a region comprising ten major Asian rivers across eight countries (adding Myanmar and Bangladesh to the east). HKH is geographically a key source

of rivers and riverine, and the arena of intergovernmental collaborations on environmental management ¹⁴(Wester et al. 2019). With these countries serving as the primary governmental agents in the development of the Himalayan region, the Himalayas have also become a resource-rich backyard, offering valuable hydropower and mining resources for the different nations, and certainly competitions and negotiations regarding security (Davis 2021, World Bank 2021).

However, when looking beyond the state viewpoint, across current national borders and competitive development of territorial actions, the millions of people living in the Himalayas share long-standing connections with each other (Douglas 2020, Keay 2022). My focus is on the inhabitants of the Himalayas, exploring their survival strategies, adaptability, emotional behaviours, and sense of belonging to the mountains. However, I want to emphasise that while I want to highlight the commonalities among mountain dwellers from different countries, I have no intention of isolating local cultures and alienating them from the shared experiences that mountain dwellers and plain dwellers may have in coping with environmental change.

The topology of the Himalayan borderland is challenging for human habitation. With numerous peaks exceeding heights of 8,000 metres above sea level, human settlement is generally spread across altitudes of between 1,000 to almost 4,000 metres (Zurick et al. 2006). The various types of livelihood suited to the terrain would include arid agriculture in the highland desert climate, deep-water rice cultivation reliant on river irrigation, and the mixture of shift/swidden agriculture and pastoralism in bush ecology, are closely related to climates (Aase 2017). The micro-climate in mountain areas also creates different ecological and economic combinations, and it is common for the higher and lower communities to establish political alignment and trade relations (Becker & Körner 2011).

¹⁴ See ICIMOD <https://www.icimod.org/who-we-are/the-hindu-kush-himalaya/> (Last access:2025/04/10)

2-3 Easter Himalayas and Monyul

The region known as the Eastern Himalayas stretches from eastern Nepal across Northeast India, Bhutan, the Tibet Autonomous Region, to Yunnan in China, northern Myanmar and the Chittagong Hills of Bangladesh. This area is mainly culturally influenced by Tibetan Buddhism and animist beliefs that tie the local epistemologies to the natural environment. The *Kangri Karpo* (or *Gangri Garbo*, *Bairiga*, *Ruoni*) mountains extend to the Mishmi Hills and make up the peak area of this region (Huber 1999). This mountain range lies on the path of the South Asian Monsoon, catching heavy precipitation every summer (May to July) and presenting a comparatively wet and rich environment for further agricultural activities as well as more frequent landslides. With both conifer forest and broadleaf forest, alpine shrubs and meadows thrive between approximately 4,000 and 5,500 metres and are home to more than 7,000 species of plants, three times the number estimated for other alpine meadows in the Himalayas¹⁵.

This research focuses on the Monpa people living in Western Arunachal Pradesh, particularly in the Tawang District and some in West Kameng District. The place is on the east side of Eastern Bhutan and the south side of Southeastern Tibet. Monpa people not only live in these two districts in India, but some other groups of the Monpa identity live in Bhutan and Tibet. Monpa people refer to their homeland as Monyul. Monyul does not have a concrete boundary, but it is certainly located in Eastern Himalayas. Eastern Himalayas also include many areas which are similar to Monyul. For example, *Luopa* is usually placed along with Monpa because they live close by. Luopa's population is smaller than Monpa's, but its society was divided by the borders like Monpa's. Therefore, when I discuss the case of Monpa people, in fact, the analyses may apply to other small ethnic groups in Eastern Himalayas, and vice versa.

¹⁵ See WWF <https://www.worldwildlife.org/ecoregions/pa1003> (Last access:2025/04/10)

The Monpa people in my research sites like the rhododendrons, which grow near the treeline between forest and meadows. The rhododendrons have multiple kinds in the Tawang area; they are found by the boundary of villages, not in yards, because they contain minor poisons in their flowers. The Forest Division of Tawang District government published an illustrated book of rhododendrons; rhododendrons have been treated as a symbol of biodiversity. Plants evolve with the altitude of mountains, and similar trends emerge in relation to population and culture. I've found that in culturally diverse environments influenced by multiple political powers, objects and symbols seem to hold more weight, which is why I specifically mentioned the rhododendrons; it caught my attention. The traditional dwelling areas of the Monpa people are also situated across the altitudinal range, from the lower broadleaf forests to beyond the treeline.

The higher-elevation zones of western Arunachal Pradesh, particularly in areas such as Zemithang, are characterised by alpine meadow systems that sustain transhumant pastoral livelihoods. In contrast, lower-altitude areas such as Kalaktang fall within humid subtropical ecological zones marked by dense forest cover and high annual precipitation. Dirang, situated at mid-elevations (approximately 1,500–1,800 meters), benefits from combined snowmelt and river-fed hydrological systems that ensure relatively stable water availability for agriculture. In Tawang and surrounding upland slopes, cooler temperatures and moist conditions support diverse but small-scale agricultural practices adapted to steep terrain.

Across the Eastern Himalayas more broadly, large-scale commercial plantation agriculture has historically remained limited (Rasul & Thapa 2003). Instead, the region's agricultural landscape is predominantly shaped by smallholder agroforestry systems and household-based cultivation (Arora & Khasa 2022).

This research focuses on the Monpa people's ancestral homeland, the *Monyul*, as they call it. Monyul is a general name; *Mon* means down south and 'peripheral' (a common expression across Southern Tibet to Myanmar and Vietnam's northern

uplands), and *Yul* means a place.¹⁶ Using Mon as the description of ‘uncivilised’ area, no doubt contains a sense of cultural superiority. Monyul appeared in the surveyor’s map in 1872 as a blank, undefined area, and a short glimpse of the Brahmaputra River lay on the southeastern side as the edge. Mon and Monyul are different from the other peripheral or remote areas in Western Himalayas, for example, Hunza in Baltistan, the eastern border of Pakistan. While Hunza has been labelled as a relic, a symbol by colonial and Pakistani nation-building narratives (Hussain 2015), Monyul is associated with ambiguity and transnationality. Monyul’s ‘remoteness’ was made by a deliberate borderland managerial tactic, which I will discuss further in Chapter 5. The periphery and remoteness were perceived from the state; before the early 20th century, it meant from Lhasa.

In the context of current geopolitics, Monyul is a historical and politicised name. Its territorial referent is historically fluid and politically contested. In the early 2000s, Monpa political mobilisation around the notion of Monyul crystallised into a formal autonomy movement. Under the leadership of Tsona Gontse Rinpoche, the Mon Autonomous Region Demand Committee (MARDC) was founded in 2003, explicitly invoking the name Monyul. It is not merely an ethno-cultural identity of the place, but also a territorial claim encompassing Tawang and West Kameng districts. This mobilisation has a solid relation to the fact that Tawang and West Kameng were historically under the administrative and ecclesiastical influence of the Lhasa-based Tibetan government for about 300 years prior to the 1914 Simla Convention. MARDC’s official documents emphasised territorial autonomy and demanded inclusion under the Sixth Schedule of the Indian Constitution. The movement framed Monyul as a geographically bounded, multi-ethnic zone rather than a purely ethnic enclave (Gohain, 2019). This political usage of Monyul is part of a wider cultural strategy: the Monpa people in Arunachal mobilised transregional Buddhist

¹⁶ According to a traditional-historian account, *Mön* (མོན) or *Mön-yul* (མོན་ཡུལ་), or *Lhömö* (ལྷོ་མོན) was an older Tibetan name for Bhutan. The inhabitants (‘Mön pa’, མོན་པ་) were called ‘dark people’ in some Tibetan sources - not necessarily ‘southerners’ per se, but ‘dark’ in a *socio-spiritual* sense. See https://texts.mandala.library.virginia.edu/book_pubreader/40772 (Last access: 2025/11/02)

networks and invoked a Tibetan-Buddhist past to legitimise their autonomy claim and resist both boundary marginalisation and assimilation (Gohain, 2020).¹⁷

I will explain in Chapter 3 how I chose to base my case studies in Northeast India for funding reasons. Still, I see the Monpa population in Western Arunachal Pradesh as part of a larger ethnic group with transboundary backgrounds. While Monyul remains a destination of multiple contestations and means of political mobilisation, the past actions and memories associated with it shape the realities that people live in now.

2-4 Monpa people

Pa means humans, Monpa means the people of Mon. Originally, in the Tibetan language, this term was rather broad and encompassed all the people who lived in the southern, dense forests, which were, to some extent, wild and remote compared to central Tibet. The Monpa ethnic group of 60,000 people exemplifies Himalayan mountain societies, historically shaped by clientelist ties to dominant Buddhist institutions and now influenced by the ruling ideologies of the central governments in India, Bhutan and China.

During my fieldwork, when I asked the Monpa research participants and my translators about the history of the community in Jang or Tawang, I received several different kinds of answers. Some believed that their ancestors were banished from their original homes in Tibet to the margins; others thought their ancestors may have part of the frontier base to secure Tibet's interests in the southeast end. No matter what the narrative was, there was a hint that the Monpa people are migrants who settled in the places where they are now, and the reason is political. Regarding the

¹⁷ 15 years later, when I entered the field, Monyul sounds like an imagined place. Although I understand that the demand for autonomy has never fully ceased, people usually use this word when referring to a larger imagined collective community, to me. The younger generations use this word a lot less than the elders; rather, they use *Mon* more often, as a former stigma to the minorities living there. Straight from my understanding in the field, Monyul is believed to cover small parts in India, Bhutan and Tibet under China, located at the southeast edge of Tibet.

origin of the Monpa, Bodt (2012) refers to research on ancient texts and early Bhutanese history, and he suggests that they are ‘the indigenous inhabitants of the southern Himalayan slopes who have become the retinue of the various protective that were adopted into tantric Buddhism from Hinduism or from the local Bon beliefs (Nebesky-Wojkowitz 2002, Olschak 1979:89-92)’ (ibid, 2012, p.4). Comparing the two explanations, the character of protectors and migration as a destined journey belong to the Monpa. This research studies the Monpa people dwelling in Tawang District and West Kameng District. I use ‘Indigenous’ to describe these people, for they have been living on their homeland for at least five hundred years, despite self-identifying as migrants.

The Monpa people of today generally do not reject their cultural and historical links with Tibet. The origins of Monpa society remain contested, with some scholars tracing connections to the ancient Lhomon kingdom believed to have existed between 500 BCE and 600 CE, centred in present-day Bhutan (Namgyal 2020). From the eleventh century onwards, northern Monpa communities came under the influence of Nyingma and Kagyu schools of Tibetan Buddhism, subsequently adopting the Tibetan script primarily for religious purposes (Namgyal 2020). The region maintained relative autonomy until the late seventeenth century, when the Fifth Dalai Lama's government in Lhasa issued an edict in 1681 formally incorporating Monyul into the Tibetan administrative system, followed by a reiterating edict in 1731 (Tenpa 2018). The founding of Tawang Monastery in 1680-81 by Merak Lama Lodre Gyatso marked a pivotal moment in consolidating both religious authority and political governance in the region (Namgyal 2020). By the 17th century, Tawang had become one of the most significant frontier administrative units under Tibet's *Ganden Phodrang* government, with complex governance structures including the *Shi Drel* (four-person council) and *Druk Drel* (six-person council) exercising considerable autonomy in determining boundaries, taxation, and legal orders within Monyul (Tenpa 2018). The birth of the Sixth Dalai Lama, Tsangyang Gyatso, in Mon Urgenling in 1683 further underscored the region's spiritual and political significance within the broader Tibetan Buddhist world.

A mixture of culture and demographic profiles resulted from the early history, and the contemporary demography posits a mild contradiction. After 1959, when the Tibetans went into exile, they passed through Monpa land, and some stayed in places close to the Monpa settlement. Nowadays, it is not uncommon to see Tibetans working and living in the two bigger local towns, Tawang and Bomdila, as well as their rehabilitation camp in Tashigang; although more of them would travel and work in Dharamshala (the cultural and political centre of exiled Tibet). Tibetans and Monpas also intermarry. However, it is worth noting that the Tibetans here are of political refugee status in India, while the Monpa hold Indian citizenship by birth. Besides these intricate ties between the Monpa and Tibetan peoples, the dwelling places of the Monpa people include multiple ethnic residents. Bhutanese, Assamese, and Nepali are the usual guests; Bengali and Northeast Muslim also set up single trade points in different settlements. The human settlements in Western Arunachal are not monocultured.

Temporality and the ideas about time and progress are related to people's culture and beliefs. The social events of Monpa society are largely centred around religious occasions such as *Torgya* (year-end social gathering), *Losar* (New Year), *Choekor Duchen* (Buddha's Sermon festival), pilgrimage picnics and others (Dorjee 2006). Take *Torgya*, for example; *Torgya Chakhar* is the ritual performed in the monastery when a millet-made *Torgya* is made. At the end of the festival, the millet offering is burned to symbolise the eradication of evil and bad luck (Sarkar, 1981). While *Torgya* is more prevalent in Tawang, different areas that operate the agricultural activities have similar harvest celebrations in a different month. Another Monyul-Tibet related cultural feature is the calendar; the year and weekday names in the Monpa language are taken from the Tibetan calendar.

The Monpa, Sherdukpen and Memba Scheduled Tribes in Arunachal Pradesh belong to the Vajrayana Buddhism, which is attributed to Tibetan influence.¹⁸ They

¹⁸ This could be specifically referring to Vajrayana Buddhist tradition that emphasises esoteric practices.

are part of the Bhutia/Bhotiya ethnic group in the Himalayas, along with other group members in Nepal, Bhutan and Sikkim.¹⁹ In these territories, Bhutia or Bhotiya are sometimes categorised as a tribal group (in India, it is a Scheduled Tribe identity too), and the name suggests the link with Tibet (in Tibetan language, Tibet is pronounced as *Bhot/Bod*²⁰). Bhutia/Bhotiya is not only a religious identity, although the majority of them are Buddhists. Bhutia/Bhotiya refers to the early migrants from Tibet to the southwestern regions, the Mon areas; some believe such emigration began in the 8th century when Buddhism began to flourish in the southwestern regions (Aris, 1979; Murty, 1983). However, there could be more historical events that were not documented. Bhutia/Bhotiya identity has the potential for political mobilisation; it is important to understand that the Monpa people are part of this category and played a role in the related movement.

Buddhism is not the only religion or belief system that dominates Monpa people's local life. Bon religion²¹ is another common belief in some parts of Tibet and Monyul. The Bon beliefs include non-Buddhist, and often gods, deities, and spirits manifested from nature (non-human beings, natural landscapes). Bon beliefs are close to animism for their close relatedness with nature/non-humans; although in mythology and religious accounts, it is sometimes attached to some Buddhist figures or principles. According to local Tawang ethnologist and historian Tsewang Norbu, spirits and deities such as *sadak* (of ground), *yul-lha* (of the region), *lū* (of underground waters), *nyen* and *tsen* (of mountains) can be observed in people's expressions about their beliefs (Norbu 2016). I have heard about these traditions in

¹⁹ Bhutia/Bhotiya ethnic group is a modern creation in cultural politics and mass communication, and it functions to include all Vajra Buddhist (Tibetan-influenced minorities). There are no ethnic groups that identify their ancestral background in these terms.

²⁰ However, I would like to add the fact that not all Tibetans are Buddhists; a significant number of Muslims and Catholics have been present for more than one hundred years, according to current research.

²¹ Here I refer to it as a religion; however, I understand that some theologians or politicians may consider it only a 'tradition'. The reason for this phenomenon can be referred to the earlier account in this chapter.

my field sites and seen how people still interact with them. These cultural, political, and religious traces patched up the cultural scene that is visible in contemporary everyday life in Western Arunachal, and perhaps in Eastern Bhutan, and some parts of Sikkim and Nepal too. Although the Monpa people do not have a written form of their own ancient history, nor do they claim an independent culture, people are living with the culture they created with the local environment. The social and cultural lives of Bhutia/Bhotiya, including the Monpa, are intersected by powers of religion, animism and deep interactions with the natural environment.

Among the Monpa people in Western Arunachal Pradesh, there is diversity in cultures. Monpa people who live in Tawang and Kalatang have some differences in terms of language, kinship, and social organisation (including local political governance). Tawang and Dirang Monpa live at higher altitudes and engage more in animal husbandry, while the Kalatang Monpa have a greater interest in agriculture (Duarah, 1992; Dutta, 1999; Wangchu, 2002; Pertin, 2014). Bodt (2012) pointed out that Tawang Monpa speaks Dakpa language (the same as the language in Eastern Bhutan), and the Dirang and Kalaktang Monpa speak Tshangla language. In Arunachal Pradesh, the people living in Menchukha and Pemako are often included in the Monpa ethnic group. Although from the perspective of history and language, and the distance of these two places to Tawang and West Kameng, these two groups might be another Bhutia/Bhotiya people. To conclude, the belonging and identity politics of this region, of the Bhutia/Bhotiya, have been a politicised ongoing work that is impacted by archaeology as well as contemporary politics.

The Department of Cultural Affairs of the Arunachal Pradesh government published a series of ethnological research outputs regarding the culture, language, religions, mythologies, crafts and livelihoods, etc. of the 'tribal people' of Arunachal Pradesh, since the 1970s. I have cited them to honour both the Monpa and non-Monpa individuals who have dedicated their efforts to preserving these fragments of history, and I understand the cultural works of the government officials must have political

reasons and political functions. I would particularly discuss two of these government officials who are also researchers in the latter part of this chapter.

Monpa people are living outside Tawang and West Kameng due to migration to cities; these people self-identified as Monpa as well as being labelled by the Indian state as Monpa. The 'Monpa' have the same name in Eastern Bhutan; they number around 3,000-5,000 people, and pursue similar transhumant livelihoods mixed with agriculture, like the Tawang Monpa on the Indian side. The route from Assam to Tawang follows highways that are connected to the Bhutan border, and drivers like to refill their petrol there because it is cheaper than in India – this explains how close Bhutan and Western Arunachal are. It is common to meet Bhutanese in both town and rural areas in Western Arunachal, with a greater presence in the rural areas than in the peri-urban.

The Bhutanese people are often traders and priests; they travel seasonally to sell their goods or are stationed in specific villages to offer their services. They communicate with the local Monpa people, and bring goods and services, including handloom natural-dyed fabrics for ladies' traditional attire, handmade homeware and prayer rituals to tame evil spirits and attract good luck. The Monpa customers on the Indian side welcome this influx. According to the Monpa people living in India, this is because they themselves have lost the continuation of craftsmanship or complete ceremonial knowledge, and the Bhutanese Monpa people still keep it.²² The asymmetric and differently oriented development across the India-Bhutan border stimulates more contacts.

The Monpa people in China are called 门巴. In Chinese Hanyu Pinyin, it is written Menba phonetically. They are one of the 56 officially recognised ethnic groups in China, separated from Tibet since 1964, with a population of around 11,000. The

²² However, this could be because of the different values among the Monpa people of India and of Bhutan. My research informants once told me about how they used to make the bowl for food by *Lö*, which means burr. But now people prefer finely-crafted bowls, either it is from an industrial factory or advanced handmade items.

Menba people in China mostly dwell in 门隅 (Chinese Hanyu Pinyin: Menyü) and 墨脱 (Chinese Hanyu Pinyin: Medog) areas, with 错那 (Chinese Hanyu Pinyin: Cona) as their centre. Many Monpa people living in the large Tawang region remember their older generation as having a close relationship to the place called *Tsona*, and even relatives possibly on the other side of the Indo-China border. Some of them said they had been to places close to *Tsona* for grazing, mating herds, or forage. Compared to the India-Bhutan border, the India-China border is heavily guarded, and trade can only go through specific mountain passes as agreed by both governments. In 2020, I met a Luopa faculty in Tawang College. Luopa and Monpa are considered closely related, and the Luopa colleague mentioned to me that she had heard elders speaking about relatives in China, but she feels sorry that she could never meet them due to the border conditions.

Although the tense relationship between China and India persists, ironically, representations of China continue to appear on this side of Monpa land in terms of digital content, information and imported goods. In Tawang town, exquisite and ethnically decorated homeware (e.g. cups, dishes, bowls, thermal bottles) made for the Tibetan consumer market were introduced and displayed in shops as high-end products. 'Made in China' can be read on the back of the porcelain, wooden or steel objects. A larger capitalist machine is in operation, and Tibetan cultural tastes are the key to the growth of new markets. Outdoor clothing is also popular in this mountain terrain; name-brand products (usually from overproduction in Chinese factories), like North Face and others, are the favourites of the new Monpa elites. On the rural side, second-hand clothes from Japan and South Korea also made their way by sea to China and reached Northeast India via Siliguri (Darjeeling). They are sold in bulk to retailers in villages, many of whom are women entrepreneurs. The material scene and political scene tell different stories, which is a spectacle to me in Tawang District, but common for borderland dwellers.

The Monpa system of land tenure reflects their way of life. The Monpa people's land can be broadly classified into *Khyemsa* (homestead land), *Liangsa* (farm), *Nag*

(forest land) and *Broksa* (pasture). *Nag* means the thick forest, while the woodland close to the village is usually called *Parmong*. A rock or tree marks the boundary between different ownerships. *Mangsa* means communal land; it usually includes land for homesteads, farms and forests. Households can rent the communal land by paying a nominal fee and return it to *Mang* when no longer in use. People can only claim the right to use communal land from the settlement or *Tso* (village) to which they belong. *Gosa* is the land owned by individuals. Lands have been categorised for their functionalities, and households are entitled to own lands to fulfil all their basic needs. Lands that were not claimed by households were categorised as village/community commons, and they could be assigned to members through council agreements.

In Tawang and West Kameng, the Monpa communities were ruled by the Tibetans, and the local economic system was feudal, approximately from 1681 to 1951. During the expansion of the Tibetan Empire in the 8th century, the Monyul region (modern Tawang and West Kameng) fell under Tibetan cultural and political influence. Following the empire's fragmentation, the area was governed by various petty chieftains and local nobility, many of whom claimed descent from Tibetan royalty. This era established the foundational feudal structures and the early spread of Buddhism amongst the Monpa communities. In 1681, the Ganden Phodrang government formally incorporated the region under the authority of the 5th Dalai Lama. The establishment of the Tawang Monastery consolidated this rule, creating a sophisticated theocratic feudal system. For nearly three centuries, the Monpa people were subjects of the Lhasa administration, paying taxes and providing corvée labour to both the monastery and Tibetan state officials (*Dzongpons*).

Monasteries held the ruling power over localities. Monpa households used to pay tax to the monasteries, according to the size of their land. Therefore, individuals' land is also called *Khraisa*, which means taxable land. The monastery also owned a considerable amount of land, which was leased to people, with 25% of the produce as tax (Norbu, 2017). Land not attached to collective or monastic ownership could

be sold or leased according to the owner's wishes, in line with customary laws. Grove and trees growing on the land belong to the landowner, and are also called *parmang*. Besides agriculture, Monpa people are active in animal husbandry, handicraft and trade, in which land was operated as a necessary resource too. After Arunachal Pradesh became Indian territory, the customary laws, including the laws to manage lands, were still honoured. However, with the way of life changed and the property of border-land raised, the traditional land customs and systems are no longer stable.

The daily life objects in the living spaces of Indian Monpas, such as clothing and homewares, are linked to markets across borders. At the same time, food, cleaning and light plastic products come mostly from India. In material terms, the borderland community exists at the intersection of international and domestic spheres. Distance-wise, they are closer to 'the foreign', but for transboundary people like the Monpa, the foreign is actually the native or close to the native. Another aspect that affects the Monpa's material existence is the presence of the Indian army. The first experience of drinking cow milk from a paper bottle or a plastic bag, using an electric blanket, or tasting North Indian snacks or street foods; these all occurred at the military camps and the shops within them. Items that were brought to sustain military engagement in the mountains became new necessities and new 'modern' experiences for the borderland communities. In addition to the male military soldiers being part of the bodily or masculine figures that the local people encountered with State, some of the soldiers completed their five-year term and left behind children fathered with Monpa women. According to my interviewees, in most cases, these children stay with their mothers and are accepted by the villagers. From the utilities, border experiences and bodily encounters, the Monpa people have a more deep and globalised spectrum than other rural residents not dwelling in a borderland. Perhaps we can say that this is due to a militarised border changing local people's lives. And on this factual ground, it is worthwhile to ponder what a state/country means.

2-5 McMahon Line, Northeast and Tribal Conditions

The Monpa people who live in India are mostly permanent residents of Arunachal Pradesh. The present-day state of Arunachal Pradesh covers a geographical area of 83,743 sq. km, which is roughly 2.55 % of the total area of India (Arunachal Census, 2021). It is part of Northeast India, with its border to Bhutan on the western end and a 441 km long border to Myanmar. South of this huge mountainous state (altitudes varying from 610 to 5,183 metres) is the Indian state of Assam, where the first historical description of Arunachal was provided by the Ahom Kingdom, or the Kingdom of Assam (1228–1826). In the north, the border with Tibet below China is marked by two Lines of Actual Control (LACs). The term LAC refers to the demarcation lines separating Indian-controlled and Chinese-controlled territories in the Sino-Indian border dispute. These lines are the outcome of bilateral agreements signed by China and India in 1993 and 1996. There are Lines, but no fence or walls. Both countries set up checkpoints and patrols along the ‘Lines’. China and India sought to avoid military conflict; however, they have engaged in confrontations with each other on and off for many years. To this day, there is still debate over the border and the actual location of the LACs.

Both China and India have claimed Arunachal Pradesh and Aksai Chin region as their national territories, along with other smaller areas that include Sikkim, Bhutan and Nepal along the McMahon Line. China refers to Arunachal as 藏南地区 (South Tibet). Arunachal Pradesh is currently under India's control. The Sino-Indian border dispute originated from colonial legacies; the McMahon Line, a provisional boundary drawn during the 1914 Simla Convention, which was attended by representatives of Great Britain, the Republic of China,²³ and Tibet. The Simla Convention was an attempt by these political powers to negotiate control over the region. Following the meeting, the plenipotentiaries of Tibet and British India agreed on the establishment of the line, named after Henry McMahon, then foreign

²³ The People's Republic of China claims that it has never been included to justify the territorial claims.

secretary of British India and chief British negotiator at the Simla Conference. The Line was then included in the maps and notes in Delhi, India.

From WWI to WWII, the Republic of China (dominated by the Nationalist Party) and the Chinese Communist Party (CCP) vied for control of China. Ultimately, the CCP emerged victorious, founding the People's Republic of China (PRC) and compelling Tibet to sign the Seventeen Point Agreement. With U.S. support, the Republic of China re-established itself in Taiwan (Lin, 2016). Tibet lost its independent sovereignty and was annexed by the PRC (Shakya, 2012). From the late 19th century to WWII, the subcontinent (British India) saw concerted resistance to British rule, and ultimately partition, resulting in the independent states of Pakistan and India in 1947. With the emergence of new state actors in the shifting geopolitical landscape, the McMahon Line, which divides territories encompassing parts of the Himalayas, became a new national symbol (Gupta 2009; Arpi 2013). The Simla Convention divided Tibet into 'inner' and 'outer' portions. Lands that were formerly included in the outer Tibet region are today's Arunachal and Aksai Chin. For the people living in these two regions, the Simla Convention, to some extent, marked their shifting sovereign quest in the following 100 years.

In 1914, British India formed the North-East Frontier Tract (NEFT), establishing formal colonial administration over the hill areas along the northeastern frontier. The NEFT was bounded by Bhutan to the west, Tibet to the north, and Burma (Myanmar's name then) to the southeast, with the Brahmaputra Valley to the south.²⁴ The tracts were declared 'excluded areas' under the Indian Councils Act 1909, falling outside provincial legislative control and administered directly by the central government through political officers. During the colonial period (1914-1947), British rule profoundly disrupted Indigenous societies and systematically

²⁴ North-East Frontier Tracts (NEFT) initially comprised the Balipara Frontier Tract and the Sadiya Frontier Tract. The Sadiya Frontier Tract was later bifurcated into the Abor Hills and Mishmi Hills districts, creating four main units alongside the Tirap Frontier Tract and the two areas from the Balipara Tract.

exploited natural resources in the region (Bose, 1979; Elwin, 1957). The colonial administration implemented the Inner Line Regulation system, derived from the Bengal Eastern Frontier Regulation of 1873. The government felt that uncontrolled expansion of commercial interests into tribal territory would cause disturbances that might warrant expensive punitive expeditions, and was intent on warding off such dangers. However, this system effectively isolated tribal populations from external contact while facilitating colonial extraction of resources. For example, in Mizoram (which was part of NEFT like Arunachal), the Line System was used by the British to isolate the tribes and prevent them from exposure to and mixing with the outside world (Shymkishor 2021).

Military expeditions brutally suppressed resistance to colonial encroachment. The most significant of these was the Abor Expedition of 1911-1912, launched as retaliation for the killing of British Assistant Political Officer Noel Williamson. The total number of troops accompanying the Abor Expedition, including reserve, base, and line of communication, was about 2,350, in addition to a contingent of military police.²⁵ Adi warriors used conventional skills and weapons of tribal warfare, such as bows and arrows, spears, swords, booby traps, and stone chutes, and succeeded in stopping the invading force for more than three months at the historical battlefield of Kekar Monying. Many Gurkha regiments (originally from Nepal) saw action against rebellious tribes, with villages burned during punitive operations. These military campaigns established British dominance through violence while enabling further territorial surveys and administrative penetration.

The Indigenous peoples encountering the Tibetan Empire and British rule marked their entanglement in the intensifying territorialisation wars from Central Asia to South Asia. The cultural contact (and colonial governance) also caused some 'modernising effect' in materialistic and regime levels. The core of Tibetan political

²⁵ This figure is cited from the official statement made by Mr Montagu, the Under-Secretary of State for India, during the House of Commons debate on 7 November 1911. Hansard, HC Deb vol 30 col 1409.

control grew from ethnic and religious ties and a static centre-margin relationship. The British colonial tactic closed the connection, focused on resource extraction and developed intermediates to sustain the subjugation. The isolation of tribal societies in Northeast India is not because of mountainous terrain; it is also a historicised remnant.

After Indian Independence in 1950, some of the plain area was merged into Assam state. In 1954, the remaining hill areas were reconstituted as the North-East Frontier Agency (NEFA). Chakravarty (1973) argues that in the period between 1951 and the outbreak of the Indo-China war, the area was freed from heavy taxation and experienced rapid social development, including improvements in medical and educational services, agriculture, engineering, and cottage industries, all through intervention by the Indian Government. Another possibility is that this region became open to the migration of people and goods after the Tibetan tax-collecting Dzongpen were denied payment and free labour by the Assistant Political Officer of Tawang (ibid, p.24).

Two foreign anthropologists have left a huge influence on Northeast India and the tribal Indian citizens. Verrier Elwin influenced particularly the system to govern the tribal citizens, and Christoph von Fürer-Haimendorf left his legacy for the outsiders to 'see' what things and people were like in that early period of rebuilding and enlarging cross-cultural contacts. And to me, as another foreign researcher, they made me reflect on how I would handle contentious issues.

Verrier Elwin came to India as a missionary in 1927 but later became an ethnologist working on tribal issues in India. He first worked with Mahatma Gandhi and the Indian National Congress, then converted to Hinduism in 1935 after staying in a Gandhian ashram. He split with the nationalists over what he felt was an overhasty process of transformation and assimilation for the tribals, but after Independence, he had been working closely with Jawaharlal Nehru on governing tribal regions and peoples. In 1954, he (with an Indian citizenship) was appointed anthropological adviser to the Indian Government, especially to work on NEFA. He moved to Shilong

and became a leading missionary there. He married twice, both with tribal women. In 1957, he published *A Philosophy for NEFA* to advocate his ideas on the best-suited governance of the tribal people and tribal rights (especially regarding land and forest). Elwin's work criticised the British colonial rule over the tribals,²⁶ but his own perspective was criticised by the latter scholars as romantic and politically naïve (for example, Guha 1999). In many ways, his contribution to the tribal policy in the 1950s is close to 'public anthropology'; he provided a moral critique of the problematic modernity at that time, and he engaged himself in constructing solutions. However, the area of NEFA is vast and cultures and societies were never static – hard to presume that through the self-determination principle, the pre-colonial state of living/co-living could be regained. And it is needless to state that the view of state-violence and of the negligence of the Indigenous as active political subject, for example, Nandini Sundar and Virginius Xaxa, would regard Elwin's work as romantic primitivism. It is hard to estimate his influence after 60 years, but his collection of tribal cultural items, including artefacts and stories, is still published by the Arunachal Government.

Christoph von Fürer-Haimendorf is another White anthropologist who is known for his association with NEFA. von Fürer-Haimendorf was born in an Austrian aristocratic family, and aimed to be an Indologist in his early days. He studied anthropology and archaeology in Vienna, where he wrote his thesis on the tribal social organisation of the peoples of Assam and northwestern Burma. With the outbreak of WWII, he was holding a Third Reich passport and was arrested by the authorities in the British territories. He then did his fieldwork with the tribals when he was confined to Hyderabad State. From 1944 to 1945, he was appointed Special Officer and Assistant Political Officer to the NEFA and was permitted to carry out fieldwork amongst the Apa Tanis (tribal groups in central Arunachal Pradesh) of the

²⁶ Perhaps Elwin was standing on a tightrope strengthened by a moral call, between the 'liberation' of suppressed, 'different' New Indians (tribal population after India's Independence), and the Post-WWII rising hope of a new kind of strong sovereign power (modern state).

Arunachal Pradesh area of Assam. His work in India was mostly accompanied by his White wife, who was born in British India and travelled originally from Europe with him. His duty was to monitor the security threat posed by the partial occupation of neighbouring Burma by Japan, but he turned the two years into fieldwork and made multiple films and wrote ethnographic works about the Apatanis. After the war, he served as Adviser for Tribes and Backward Classes to the Nizam's Government, to deal with the issue of land reform in Hyderabad, and then in 1949, he moved to SOAS and worked as a lecturer until he retired. Unlike the former British citizen Elwin, 'foreigner' von Fürer-Haimendorf focused on what he could do in terms of ethnological works. I found his typed essays, *Highlanders of Arunachal Pradesh: Anthropological Research in North-East India* (1982) and *Tribes of India: The Struggle for Survival* (1982), in the SOAS Archive. From today's point of view, his observations and arguments are not impressive. Yet the ethnological works of him and his wife support the search for early documentation about the tribal cultures of Arunachal Pradesh in this research.

Besides Elwin and von Fürer-Haimendorf, John Henry Hutton was another famous White male writer and researcher participating in NEFT (formerly NEFA). Hutton was a British colonial administrator and anthropologist who served for the greater part of his career on the Assam-Burma border and notably in the Naga Hills, and later became a professor at Cambridge University. He passed away in 1968, and when I went to Assam and Calcutta, people still mentioned him and his collection. Colonial legacies, or burdens to some scholars who were born later, made institutional memories. Ray (2023) used the Khasi case to discuss the transmutation of place by the British colonial rule and local society (mainly the written culture participated by elite Khasi men) in Northeast India, she argues that the public domain created by published books, newspapers, and journal articles were instrumental to the place-making and excludes other legit members of the precolonial local society, such as women. None of the above anthropologists' work challenged the 'excluded areas' scheme; they comprised a primitive, 'Mon' style of

otherness of NEFA, and the postcolonial Indian Government and postcolonial Indian society inherited them.

Guyot-Réchard's *Shadow States* (2017) displays a busy picture of Tibet, China (Qing and Nationalist Party led by Chiang-Kai-shek) and India, expanding their respective state control over Monyul/Eastern Himalayas from 1900 to 1950. In this process, Monpa people (and their homeland) have been summoned by the Tibetan administration, as well as surveyed by Assam delegates, visited by English botanists/explorers, and sensed the turn of these polities turned from empires/colonies to nation-states. I suppose the experiences of such would be a fragmentation. As the colonial power caused the fragmentation of Indigenous spiritual and social landscapes by the imposition of rigid, secular geopolitical borders, Huber (1999) posits that the establishment of fixed colonial and post-colonial boundaries, such as those that carved up the former trans-Himalayan Tibetan sphere, effectively severed vital religious and cultural networks.

NEFA's trajectory was ultimately shaped by geopolitical realities and state-building imperatives. In 1954, NEFA was divided into six Frontier Divisions, including the Tuensang Frontier Division. In 1957, Tuensang was separated to form part of the new Naga Hills-Tuensang Area (NHTA), leaving five remaining divisions/districts (Kameng, Subansiri, Siang, Lohit, and Tirap). Tawang Circle of Tawang District was established in 1951, Lumla Circle in 1954, and Zemithang Circle in 1959, reflecting these regions' long involvement in border-related competing interests. As China sought to fully take over Tibet, and India considered that they had inherited the formerly British dominion, they both came to claim control in the late 1950s, and in 1962, war broke out between them in Aksai Chin, the North-East Frontier Agency (Arunachal's name then), and Assam. The Sino-Indian War only lasted four months, but its impact on the local communities and Tibetan refugees living in India is still ongoing. First of all, the war turned the homelands of the Indigenous and local population of Arunachal, Ladakh and part of upland Assam into battlefields. Displacement due to the mountain warfare occurred in two ways: residents were

forced to flee for their safety, and many of the residents were pressed into military supply chains. Since then, the militarisation and military frontier are not strange to the people in Arunachal.

The people in the five groups (Kameng, Subansiri, Siang, Lohit, and Tirap) of NEFA retained their frontier status through the war and the development of a newly independent state until 1972 (Luthra, 1972), when NEFA was reorganised into the Union Territory of Arunachal Pradesh. It later became the 24th state to be established in the Republic of India in 1987. The places' past remains not only in elders' memories, but also in the landscape. In 2020, on the street walls of Tawang town, the word NEFA is still present, but for tourism reasons.

NEFA was renamed Arunachal, as Pradesh itself means state. Arunachal means 'the land of the rising sun', as this easternmost state was the first Indian territory to see the sun in the morning. According to the Arunachal Census of 2011.²⁷ The total population of Arunachal Pradesh was then 1,383,727, with the male population (713,912) slightly larger than the female (669,815). The Arunachal Census of 2021 showed that 68.7 % of the population had a tribal identity. In the following paragraphs, I will introduce the current way that tribal identities and rights are represented with materials from the current government census.

In the government papers of the Arunachal government (Arunachal Census, 2021), it is recorded that 42 languages are popularly spoken in the state. In reality, counting the variations of a language, the languages practised could number 200. Arunachal's population is made up of numerous small and sparsely dwelling tribes; within the same labelled tribes, there is linguistic diversity. Take the Monpa language, for example, communities located at different altitudes practise five major variations. Religion effectively bonds different linguistic tribes, and in communication, 'foreign' languages, Assamese, Hindi, and English became the

²⁷ The Arunachal Census 2021 (the latest version) continues to use the data of 2011.

common ground of oral communication within the state, while government publications and notices use English as the sole medium.

The tribal populations of India have been given two names for historical reasons. In eastern, central, western and southern India, the tribal people are generally referred to with the Sanskrit name Adivasi.²⁸ While for the populations of the Northeast, with the long history of the Northeast tribal questions and Elwin's legacy, tribal remains are still being called 'tribal'. Scheduled Tribe is the formal name used by the Government of India in all legal documents. Unlike the Adivasis of the Indian subcontinent, who were displaced to become plantation workers, tribals in the Northeast mostly have remained in their ancestral land, if not displaced due to development.

Extensive ethnological research was done by the Arunachal government, and it carried out the function of supporting the governance, as well as the capacity building of the government officials who served there. Among the books that I collected, I was especially impressed by Niranjana Sarkar's work. Niranjana Sarkar held the position of Deputy Director of the Directorate of Research in Arunachal Pradesh during the 1960s and 1970s. He undertook extensive ethnographic fieldwork across the region, focusing on the documentation of tribal dances and religious rituals that were at risk of being lost to modernisation. Neeru Nanda, a member of the Indian Administrative Service (IAS), began her career in Arunachal Pradesh in the mid-1970s, serving as an administrative officer in the remote Tawang region from 1974 to 1976. During her tenure, she conducted extensive field research that moved beyond mere governance to a profound ethnographic study of the monastic organisation and household lives of Monpa people. She later published *Tawang: The Unknown Buddhist Canyon* (1982) and has been known ever since as

²⁸ The term Adivasi (Sanskrit for 'original inhabitant' or 'earliest settler') refers to the heterogeneous indigenous population of India. While the term carries a distinct political and cultural identity of indigeneity and resistance to marginalisation, in legal and constitutional contexts, these groups are officially designated as 'Scheduled Tribes' under Article 342 of the Indian Constitution.

an expert on Tawang. After these two scholar-officers, the tradition of high-ranking and out-of-state officer that comes to Arunachal Pradesh and ‘research’ the area while working in governance seemed to become regular. In 2019 and 2020, when I first entered my field, I also came across a young Bharatiya Janata Party member who arrived around the same time, working as the ‘special secretary’ of the power centre of the Arunachal government. Bengali and Assamese scholars who have been ‘close to the region’ have also published many works regarding the ethnological materials of tribal people and tribal ‘customary’ laws and habits. However, these types of publications, including the more recent edited volume made by the National Institute of Advanced Studies, could tend to ‘weave’ the histories, cultural profiles and local people’s political opinions more towards the Republic of India, since Arunachal Pradesh has been in a ‘border dispute’ for almost a hundred years.

Scheduled Tribes are designations that label the disadvantaged by historical oppression and discrimination. The census broadly divided the numerous tribes in Arunachal into three cultural belief groups, the first being the Monpa and the Sherdukpen of Tawang and West Kameng districts, followers of the Mahayana Buddhism (Tibetan Buddhism) tradition. The second group are the Apatanis, Adis, Galos, Mishmis, Nyishis, Tagins, Akas, and so on, who worship the Sun and Moon deities (Donyi-Poloism). The third group includes Noctes, Wanchos and Khampti (tribal communities of TLCN: Tirap, Longding, Changlang, Namsai) who follow Vaishnavism and Buddhism, respectively, with hereditary chieftain systems. Additionally, there are the Galo, Nyishi, Tagin, Apatani and Adi communities, commonly known as Tani clans (geographically as Tani Belt because they are located at the centre of the state) due to their connection with *Abotani* (abu/abo-father, common ancestor of Tani-tribes) with whom the mythical origin of mankind is associated (Arunachal Census, 2021; Osik, 1996). Based on such categorisation, Indigenous religion plays an important role in grouping the numerous local communities.

However, Christianity in Arunachal Pradesh accelerated following the attainment of Union Territory and statehood status, after the relaxation of stringent frontier restrictions. Missionaries initially navigated protective government policies to establish footholds by offering essential education and healthcare services to remote tribal communities. The faith's rapid growth has recently ignited substantial controversy centred on proselytism ethics. Critics, including traditionalists and Hindu nationalist factions, contend that the rapid increase in the Christian population (now one of the highest in the Northeast) is driven by incentive-based conversions and threatens the Donyi-Polo and other Indigenous animistic traditions of communities such as the Nyishi and Adi. In recent years, this has necessitated a complex governmental negotiation between upholding guaranteed religious freedom and preserving the region's constitutionally protected tribal cultural heritage, which is part of the basis of their tribal status.

Whether or not the tribal community has an oral history of migration routes, all of the tribal populations are considered Indigenous peoples in Arunachal Pradesh by the government administration. In contrast, 'migrants' in Arunachal Pradesh generally refers to migrants from Nepal and Assam. These migrants are different from traders or religious personnel; they have usually come to the state for economic reasons, employed in agriculture or as handymen. They can settle if they marry local people. Besides these migrant workers, missionary personnel, schoolteachers and government officials sent to the office in Arunachal, make up a minority of the state population. The settling of the non-Indigenous population on the borderland has proved controversial in Northern India and Western China. The protection of tribal rights and land ownership has been a contentious issue in Ladakh²⁹ and the whole Northeast. Despite its multi-ethnic cultural and biological

²⁹ In Arunachal Pradesh, in my fieldwork, the concerns are mainly about land acquisition. In Ladakh, decolonisation and equal political presentation are more complicated issues. See 'Why are people in India's Ladakh protesting against central government?' <https://www.aljazeera.com/news/2024/3/11/why-are-people-in-indias-ladakh-protesting-against-central-government> (Access 2024/04/11)

diversity and the protected land rights that provide a safe space for coexistence, there remain multiple layers of state-society negotiations of power.

Economic development in Arunachal progresses at a relatively slow pace. The net state value added by economic activities in Arunachal Pradesh has doubled over the last 10 years, yet still remains low compared to other states. The major increase lies in the agricultural sector and primary sector (Arunachal Census, 2021). There is little industrialisation in Arunachal Pradesh. Besides infrastructure construction and the tourism business, promoting economic crops such as kiwi and pumpkin, and the sales of traditional crops like potatoes and apples have boosted cash income for the Arunachalis. In rural Monpa households, my interviews reveal that the largest household purchase in recent years has been of private vehicles, making the most of the rapid growth of highways and vehicle roads. Interviewees observed that related small enterprises requiring a minimum investment, like car washes or motor workshops, have been growing. The rural accumulated capital, from a macro perspective, is based on non-agrarian transfers of State capital to the Arunachal state and commercial capital originating outside the state (Harris-White et al., 2021); societal and tribal factors play a crucial role in determining the beneficiaries of accumulation. This is the common impression of Monpa interviewees: connection to the government institution, relationship on the basis of public contract, and tribal identity (including the membership and status of the traditional village community) affect the accumulation of wealth for individual households. From road construction to hydropower dams, land acquisition is an inevitable transaction. Rural development in terms of 'government sanction' also involves negotiation of extractive commodity exchange. Overall, natural landscapes, which serve as both the target for primary resource extraction and a resource for promoting tourism, are intertwined with strong cultural identity discourses. This creates a conflictual agenda regarding the environment and the fractured vision of mountain development.

As compared to other Northeast states, for example, Nagaland and Mizoram, with over 90% of the population designated as Scheduled Tribe/local tribal, Arunachalis are relatively open to outsiders to work, stay or visit, despite the Inner Line/Protected Area Permits. Rather than adhering strictly to the environmental determinism of the 'corridor' hypothesis (Aris 1980), it is argued here that the Monpa identity is characterised by a fluid synthesis of hybridity and mobility. This 'Arunachali' social fabric persists despite the structural rigidity of the Inner Line system, which has remained an administrative fixture since the colonial period. Consequently, the Indigenous experience is defined by its existence between these geopolitical lines, manifesting a form of autonomy that remains inherently limited by state-imposed boundaries.

2-6 Resource Politics

Forest resources became a primary target of British colonial exploitation. The Forest Act of 1865 established state ownership, declaring forests as state property for the first time and dismissing traditional tribal claims, while creating reserved forests where tribal access became severely restricted. The British colonial government exploited timber for commercial purposes, including the production of railway sleepers, which led to a drastic fall in forest cover (Sakia, 2011). Tribes were restricted from practising *jhum* cultivation in reserved forests, and those living in villages were required to provide labour for forest operations. Traditional practices of shifting cultivation, hunting, and gathering, fundamental to Indigenous livelihoods, were increasingly criminalised under colonial forest legislation. The imposition of taxation and forced labour created severe hardships for local communities. Colonial authorities extracted revenue through appointed intermediaries and compelled tribal populations to provide unpaid labour for infrastructure projects, including roads and military installations necessary for maintaining colonial control. The region's fluid, monsoon-dominated landscape clashed with the colonial imperative to impose a stable, legible administration and fixed revenue settlements (Cederlöf, 2014). Cederlöf argues that state control

through mapping and bureaucratic practice fundamentally challenged existing, highly contextual socio-economic networks and Indigenous customary land tenure systems, leading to the creation of both frontier polities and a new class of fiscal subjects (ibid, 2014).

The Sixth Schedule of the Indian Constitution originated from the need to integrate the geographically remote and culturally distinct tribal areas of Northeast India following independence. Adopted by the Constituent Assembly on 7 September 1949 and enacted in 1950, the Schedule was principally informed by the recommendations of the Bordoloi Committee. Its primary objective was to move beyond the colonial-era 'Excluded and Partially Excluded Areas' framework by granting significant political and administrative autonomy to designated tribal populations in Assam (and later Meghalaya, Tripura, and Mizoram). This autonomy is operationalised through Autonomous District Councils (ADCs), which are vested with legislative, judicial, and fiscal powers over crucial matters such as land rights, customary law, and forest management, thereby ensuring the protection of Indigenous culture and preventing external exploitation. However, Arunachal Pradesh is neither under the Fifth Schedule nor the Sixth Schedule, operating instead under the Inner Line Permit (ILP) system. The Arunachal state legislative assembly unanimously passed a resolution in August 2020 to urge to bring the entire state under the Sixth Schedule, with Chief Minister Pema Khandu warning that tribal culture would be lost without such protections.

The Sixth Schedule provision provides the legal basis for the establishment of the regional council, autonomous district council, autonomous council and territorial council. It provides partial procedural justice for the tribal population and can control and govern its resources, and set up a process to convert the tribal laws to become compatible with the country's laws. It does not stop the tribal elites from seeking to maximise their own wealth and power through political representation,

or facilitate the mismanagement of mountain resources, leading to an unsafe and unstable environment for the mountain dwellers.³⁰

Unlike neighbouring Nagaland and Mizoram, which benefit from Articles 371A and 371G respectively, Arunachal Pradesh's constitutional safeguards under Article 371H prove fundamentally inadequate for protecting Indigenous rights. Article 371A grants Nagaland special status whereby Parliament cannot legislate on matters relating to Naga religion, social practices, customary law, land rights, and civil and criminal justice without state assembly consent, while Article 371G provides Mizoram with protection for its religious and social practices, customary laws, and land ownership systems, with the state assembly deciding whether national laws apply to these matters. In stark contrast, Article 371H does not provide special rights or protections to Indigenous communities or elected representatives.

This constitutional asymmetry has generated persistent demands for reform. The Arunachal state government has twice written to the State, in 1998 and 2006, requesting the removal of Article 371H and urging constitutional amendments to replace it with provisions akin to Articles 371A and 371G. The Arunachal Pradesh government under Nabam Tuki sought to repeal Article 371H and replace it with provisions along the lines of Articles 371A and 371G, as Article 371H only confers greater discretionary powers on the governor, rendering the aid and advice of the Council of Ministers to mere suggestions. While Articles 371A and 371G afford a high degree of legislative power and autonomy to respective assemblies, Article 371H faces challenges regarding its practical implications.³¹

³⁰ Corruption scandals increase at least for twenty years, latest coverage by news agency see 'Arunachal CM Pema Khandu is set to move court against those spreading allegations of corruption' <https://www.indiatodayne.in/arunachal-pradesh/story/arunachal-cm-pema-khandu-set-move-court-against-those-spreading-allegations-corruption-428092-2022-07-24> (Access 2022/08/20) The current state chief minister, Pema Khandu, is from the Monpa community.

³¹ Perhaps the Indo-China territorial dispute makes the autonomy even more impossible.

The inadequacy of Article 371H has profound ramifications for resource politics in Arunachal Pradesh, particularly concerning forests, land rights, immigration, hydropower development, and military infrastructure. Unlike Mizoram, Nagaland or Sikkim, the special constitutional provisions for Arunachal Pradesh do not recognise customary law nor provide restrictions on land ownership, with the only law restricting land ownership being the Arunachal Pradesh Land Settlements and Records Act, 2000. Article 371H prohibits the transfer of land from tribals to non-tribals without prior government approval. This protection remains substantially weaker than the comprehensive land rights guaranteed to Nagaland and Mizoram under their respective constitutional provisions.

Realities on the ground reflect more grey areas and operational spaces regarding land ownership transfer and definition. Before the engagement of the State, tribal lands were divided into two types of ownership, household and community (village or settlement). The land ownership scheme was passed by 'customary law' after the tribal lands became part of the State territory. In cases of the government procuring lands from individuals or communities, customary laws were respected and incorporated into compensation.

The Arunachal Pradesh Land Settlement and Records Act 2000 made the lands that do not belong to any individual or community state-owned. The right to mines, quarries, and mineral products, including mineral oil, natural gas and petroleum, was also assigned to the government. The right to land as private property was gradually developed in the early 1950s (especially when 'outsiders' came to Arunachal); however, the State power further intervened in the definition of land rights and eventually, in 2018,³² the central government became the arbiter of its land property. The Arunachal state government confirmed the legality of private

³² See 'Arunachal Pradesh confers land ownership rights for the first time to indigenous people' <https://www.hindustantimes.com/india-news/arunachal-pradesh-confers-land-ownership-rights-for-the-first-time-to-indigenous-people/story-g9DZtGjitGfl8BO8O6SRCL.html> (last accessed 2020/01/02). And this right does not suggest more protection of the Indigenous people's rights.

land transactions between individuals; the significance of which was basically to enable private companies taking over public sector development to secure the space for investment. This would make infrastructure building a lucrative business. The entire state of Arunachal is an Indian State Protected Area. Without permanent residency, buyers cannot purchase land in Arunachal. On the other hand, formalising land ownership as transactional property could potentially enhance the bargaining power of agriculturalists in negotiations with the conductor of the government builder, as well as the risk of losing ownership if the farmers failed to pay registration fees.

For the Monpa society that has a mixed livelihood of pastoralism and short-term, rain-fed agriculture, every village community owns communal lands, often in high-altitude areas, which have been used partially for summer grazing. Individual households of the village community also own their land; besides houses, woodland and farmland, meadows used for grazing can also be rented to other herders passing by or staying temporarily. Only a small portion of land, often in between communities, is not claimed. People can also pay a yearly royalty and agree a lease with the state government to acquire the usership/access to the resources of state-owned land.

The government has also set up forest conservation zones, from which they retain the full rights to the timber and other resources. However, the Land Settlement Act 2000 also reminds the government to consider Indigenous rights to access traditional areas and resources. This becomes another arena for negotiation, especially regarding movable resources such as timber, wildlife and water. The current law was meant to limit the land transactions that only exist within the state. However, as more and more rentiers have appeared on the market in recent years, fearing Arunachal land might end up under the ownership of foreigners/global capital, the members of the Legislative Assembly (MLA) continue to lobby for further law-making around land ownership and management of land transactions.

The protection of tribal cultural rights and customary laws also imposes taboos and limitations on land management. Military camps, or traffic points that were built too close to traditional sacred places, lead local tribes to raise concerns, as sacred groves, places and sacred resources in nature were meant to be avoided by humans (Chaudhry & Murtem, 2015; Gohain, 2017). Although the District Government has yet to be made autonomous, a considerable number of local people have gone through capacity and certification tests and become political leaders (elected or administrative) of their hometown. To some extent, the local elites³³ can have a say about land management and acquisition; however, local and lay people believe that government officers (local or otherwise) could easily be corrupted by the prospect of land as a source of profit. The state government has also responded with the reorganisation of laws and regulations regarding land acquisition.³⁴

In the lack of a sound protection of the Indigenous land and resource rights, if we understand MARDC's claim for autonomy from this perspective, the mobilisation of Bhutia/Bhotiya identity can be understood as a kind of claim for justice. Bage and Lama (2022) compare different cases and argue that the Monpa demand for ADC to replace the country-uniform Panchayati Raj system may be motivated by their desire to preserve and promote the Monpa culture, rather than economic deprivation. However, for the central government, autonomous rights could pose a threat to the integrity of the country's territory and control over remote resources, while the state selectively creates remoteness as well (Gohain, 2019).

³³ Who owns the land? <http://www.indiaenvironmentportal.org.in/content/14560/who-owns-the-land/#:~:text=Arunachal%20Pradesh's%20tribals%20believe%20they,technically%20owned%20by%20the%20state>. (Last accessed 2024/09/11)

³⁴ In 2021, Arunachal Pradesh Cabinet asks Land Management department to examine utility of Jhum Land Regulation 1947 https://economictimes.indiatimes.com/news/politics-and-nation/arunachal-pradesh-cabinet-has-asked-land-management-department-to-examine-utility-of-jhum-land-regulation-1947/articleshow/82882004.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst (Last accessed 2024/09/11)

The hydropower sector exemplifies the consequences of these constitutional deficiencies. Article 371H fails to mandate Free, Prior, and Informed Consent (FPIC) or recognise community resource rights. Arunachal Pradesh's intense hydropower focus stems directly from its exceptional hydrological endowment. The state is traversed by major tributaries of the Brahmaputra River, including the Siang, Subansiri, and Lohit, resulting in an estimated technical hydropower potential exceeding 50,000 megawatts (MW). Monpa communities have actively engaged in anti-dam movements rooted in the defence of their ancestral territories and the sanctity of rivers and sacred sites. I will refer to this case in the empirical chapters.

Since the late 1970s, government initiatives to build hydropower dams in the Siang Valley have triggered numerous anti-dam movements, often resulting in conflicts between the state, corporations, and tribal communities, as the state facilitates corporate forces to exploit sacred rivers while estranging established democratic procedures. The proposed 11,200 MW Siang Upper Multipurpose Project has encountered fierce resistance from the Adi tribe. The Adi tribe has called for recognition of their rights, urging consideration of the dam's potential impacts on their land, livelihoods, culture, and identity, particularly regarding involuntary displacement, land grabbing, the influx of non-Indigenous populations, and militarisation. The Siang Indigenous Farmers' Forum has alleged that displacement caused by the project would render over 100,000 members of the Adi tribe landless, threatening their survival and forcing them into poverty.

Rights organisations have urged the state government to implement the Forest Rights Act (2006) to strengthen traditional community forest governance systems. The crisis in Arunachal Pradesh exemplifies the failure of the modern state to accommodate nomadic logic. As documented by Dutta (2025), the state's preference for fixed developmental 'governmentality' has systematically eroded the commoning practices of the Monpa herders. This legal invisibility is compounded by the fact that the state government has historically sidelined the Forest Rights Act (IRAC, 2023), leaving herders without formal recourse as they

navigate a landscape increasingly ‘striated’ by military surveillance and ecological decay (Mongabay, 2020). Critics argue that the strategic push for mega-dams has rendered pre-feasibility reports and public hearings mere formalities, effectively marginalising Indigenous voices (Huber & Joshi, 2015). Furthermore, the demographic impact of a vast migrant workforce presents a profound challenge to the ‘Inner Line’ protections. Even where direct displacement is minimal, the resulting ‘demographic inundation’ threatens the long-term cultural and political autonomy of the Monpa and other frontier tribes (Hazarika, 2018).

The Arunachal Pradesh Congress Committee urged the Prime Minister to amend Article 371H to provide constitutional recognition of tribal land and resource rights, mandatory free, prior, and informed consent of local communities before any project is undertaken, and protection of cultural identity, languages, and customary laws. The strategic importance of Arunachal Pradesh along the disputed Sino-Indian border has further complicated resource politics, as national security imperatives are frequently invoked to override Indigenous concerns.

Military infrastructure development demonstrates similar patterns. In June 2009, General J.J. Singh announced that two army divisions comprising 25,000 to 30,000 soldiers each would be deployed along the border in Arunachal Pradesh as part of a planned augmentation to meet future national security challenges. The Indian Army has effected major reorientation and rebalancing of troops in strategically sensitive areas along the Line of Actual Control in Arunachal Pradesh, with capability development projects including construction of roads, bridges, tunnels, helipads, and other infrastructure being implemented under strict timelines. In Tawang district, land is already overburdened with military presence, with additional pressure on resources having serious cultural and social impacts on local Indigenous populations.

The confluence of hydropower development, military expansion, and inadequate constitutional protections has created a crisis of Indigenous sovereignty in Arunachal Pradesh. This mechanism proves insufficient to address resource

extraction, land acquisition for infrastructure projects, and the erosion of Indigenous decision-making authority over ancestral territories. The constitutional framework that emerged from the colonial North-East Frontier Agency's transformation into a state has left Arunachal Pradesh's tribal populations in a uniquely vulnerable position, lacking the robust legislative autonomy enjoyed by neighbouring states while facing intensifying pressures from both developmental imperatives and geopolitical competition along the Himalayan frontier.

2-7 The current impacts of climate change

In the report prepared by the Indian Institute of Tropical Meteorology (IITM-MoES) (Krishnan et al., 2000), the impact of climate change on the Indian Himalayas is discussed. The report summarises research on HKH and the Tibetan plateau, suggesting that since the warming effects began to accumulate in the 20th century, the most impacted area has been the HKH, where the third largest permanent ice sheet and permafrost have been melting. The Eastern Himalayas typically experience monsoon conditions every year; an increase in precipitation and accelerated meltwater in a warming environment make the foothill areas more prone to flooding and landslides. The whole Himalayan region, and especially in Karakoram Himalayas, is experiencing declining trends in snowfall and retreating glaciers, with higher wintertime precipitation. Future climate projections under various CMIP5 scenarios suggest that the temperature of the HKH will go up by 2.6 – 4.6 °C by the end of the twenty-first century. A significant decrease in snowfall is expected in several regions of the HKH and locations above 4,000 metres (Krishnan et al., 2000).

According to the Arunachal government Climate Action Plan (Government of Arunachal Pradesh, 2011)³⁵, Arunachal Pradesh ranks among the Indian states with

³⁵ Source: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.moef.gov.in/uploads/2017/08/Arunachal-Pradesh-SAPCC.pdf (Last access: 2025/03/21)

the lowest greenhouse gas (GHG) emissions. According to the so far only report in 2011, around 5.15 million hectares (61.54%) of the state area is forested. Less infrastructure development, low carbonisation levels, high utilisation of biomass for energy, power generation from renewable sources, and the absence of industry are the major factors contributing to low levels of GHG emissions. Yet the dependence on fossil fuel has greatly increased due to the increasing number of automobiles, and the relation between GHG and local sources of biomass used is uncertain. More than 90% of the state population depends on biomass as the primary source of energy for cooking, water heating, space heating, lighting and livestock rearing. Hydropower generation by the state utility accounts for about 85% of the state power generation, and power consumption has increased by a rate of 7.1% every year. Firewood is the main domestic energy source, followed by liquefied petroleum gas (LPG) and electricity. About 59 % of GHG emissions come from the energy category. The Arunachal Pradesh energy system remains off-grid and localised. However, the continued building of power plants, highways and other infrastructure keeps generating CO₂ emissions. GHG emissions in Northeast India, including Arunachal Pradesh, show an increasing trend from 1980 to 2005, with CO₂, CH₄, and N₂O emissions highest in Assam (Jamir & De, 2013)

The climate change perspective shifts the focus to soil and nitrogen. The report identifies non-CO₂ emissions, primarily from nitrogenous fertiliser application in rice production and livestock farming, as the main contributors to environmental impact in Arunachal Pradesh. Livestock have been falling in numbers as many pastoralists have reduced the scale of production and diversified their livelihoods. However, fertiliser usage has grown at a rate of 4% per annum against growth rates of only 0.7% and 0.2% of foodgrain and rice production. The explanation for such interesting phenomena might be the increase in Public Distribution System (PDS) outlets in rural areas, which makes the procurement of chemical fertiliser, foodgrain and rice easier and cheaper. The agriculture sector contributes 75 % of CH₄ and 39 % of N₂O emissions in the state; The statistics do not distinguish the

greenhouse gases, methane and nitrogen dioxide, between subsistence farming and cash crop agriculture, which primarily includes fruits and spices.

Even so, Arunachal Pradesh produces relatively few greenhouse gases, far less than other Indian states and other pastoral regions on Earth. For the Indigenous communities of Arunachal Pradesh, climate change is not merely a statistical abstraction but a lived reality interpreted through Traditional Ecological Knowledge. Studies (such as Kanwat, 2011) indicate that tribal elders perceive a 'climatic shifting' manifested in erratic rainfall patterns and the desiccation of perennial springs. This environmental degradation is often understood within a moral landscape, where ecological crises are linked to the erosion of traditional taboos and the encroachment of state-led developmental projects.

Maximum temperature in the Himalayas is projected to increase by 2.2°C to 2.8°C during the 2030s, and towards the 2080s, the increase is expected to be 3.4°C to 5°C. The minimum temperature is projected to increase by 1°C to 2.6°C during the 2030s and by 2.8°C to 5°C during the 2080s (Government of Arunachal Pradesh, 2011). As suggested by the projections, dwellers of mid to high altitude settlements tend to state the temperature change with a warmer summer and colder winter. Annual rainfall is projected to decrease by 5 % to 15 % in the 2030s and increase by 25 % to 35 % towards the 2080s as compared to the baseline. Monsoon rainfall shows no significant change in the 2030s and shows an increase to the tune of 25% to 35 % around the 2080s, mainly varying in the pre-monsoon season. The water-sanitation-energy matrix can reveal location-based patterns, with catchment management emerging as a key action point across multiple sectors.

So far, state funding has backed two sectors of climate action. In the vulnerability reduction sector, the state interventions focus on identifying and restoring climate-resilient indigenous crops, promoting non-timber forest product utilisation and reducing dependence on timber and fuel wood to alleviate pressure on forests and biodiversity. In the adaptation sector, the funding supports specific crops such as apples, kiwi, ginger, citrus, and spice cultivation to mitigate the impact of

precipitation change. Pollution, sewage, and rainwater harvesting are the main focus of this sector, and they are more concentrated in urban areas. Climate data (including climate patterns, responses, tolerant species, and traditional knowledge), the cultivation of alternative options (such as managing solid waste and air pollution), and human capital development (including capacity building and nodal agencies) have been identified as cross-cutting themes.

Geopolitical concerns bring the warming Himalayas to the debate surrounding the cryosphere. Hydrological changes in the Himalayas impact freshwater availability for nearly a billion people living in the Indus, Ganga, and Brahmaputra river basins. Ustream, hazardous disasters like glacial lake outburst floods (GLOFs), avalanches, landslides, and catastrophic floods also pose threats to livelihoods and indeed to borderland security. Unlike border issues, these transboundary risks have been and will continue to be a significant concern for regional development. The Himalayan region faces significant challenges in managing transboundary water and forest resources due to climate change, overexploitation, and political tensions (Om Katel et al., 2015). Regional cooperation is crucial for effective resource management, but the borderland conflicts tend to disrupt potential cooperation. While some countries, like Bhutan and India, have successfully collaborated on water resources, others struggle with trust issues and missed opportunities (Biswas, 2011). The water treaty between India and Pakistan is an example of the fragility and precarity of such kind of international agreements. Addressing these challenges requires institutional changes, attention to micro-projects, and data sharing to ensure sustainable resource management in the Himalayas (Bandyopadhyay & Gyawali, 1994). However, collecting and sustaining credible data varies among countries of the Himalayan region, and sharing is highly sensitive.

Remote places globally have become targets for the extraction of high-demand resources. Infrastructure for managing disaster risk or serving the State's interests would be an important factor for the border civil society in challenging the existing (or competing) governance legitimacy. On the other hand, despite these estimated

risks, large-scale hydropower and mining projects have been developed and completed with minimal preparation for managing potential cross-border impacts.

Sharing climate risk information has been raised by many scholars (for example, Pandey, 2024; Malik & Ford, 2024). However, whether trust can be built in the protracted conflicts over border territorial competition and information sharing remains to be seen. If given the full protection of land rights and allowed to engage in decision-making, what kind of actors will the mountain dwellers and inhabitants of the remote areas be?

2-8 Conclusion

From the initial migratory waves estimated to have commenced in the ninth century, to the later spiritual ‘enlightenment’ of Tibetan Buddhism and the imposition of the Tibetan’s feudal governance three centuries ago, the Monpa communities have navigated a series of profound socio-political transformations. This historical trajectory continued through the British colonial era (characterised by ‘frontier’ construction and extractive resource management) and culminated in their post-colonial integration into the Republic of India as its most recent citizens. Throughout these periods, the Mon highlanders have encountered shifting paradigms in forest resource access, land tenure regimes, fiscal subjugation, and armed conflict, exacerbated more recently by the exigencies of climate change. Analysing these communities through the lenses of historical contingency and power dynamics is imperative; it facilitates a conceptualisation of these mountain dwellers (and their non-human companions) as active agents within a volatile landscape of developmental change.

This chapter has articulated a conceptual framework of ‘place-making’ and the ‘sense of place’ as they pertain to the Eastern Himalayas, Monyul, and the broader administrative entity of Arunachal Pradesh. Building upon this historicised foundation, the subsequent chapter will delineate the research engagement with this site, detailing the methodological approach, fieldwork reflections, and the epistemological framework that informs the study.

Chapter Three

Research Process and Methodology

3-1 Introduction

From planning new research at a UK university office to walking side by side with the herders and their cattle in the Himalayan mountains, it was a long road in designing and executing the research plan and generating outputs. This research builds on Mehta and Naess's (2012) pathways approach to adaptation, yet extends it by foregrounding the affective disruptions and ontological stakes experienced in highland communities undergoing environmental change. This chapter explains the research process, research methods and methodology. The first section outlines a trajectory that led me to the Monpa people in India; the second provides a detailed journey of overcoming bureaucratic hurdles and unexpected barriers. In the methodology part, I discuss the influence of emotions, Indigenous identity and decolonial intentions on transfiguration,³⁶ with a relational reflexivity approach. The fieldwork was disrupted by the COVID-19 pandemic, and the writing process was lengthy; progress and learning were presented, serving as the foundation for understanding the subsequent empirical ethnography. This research, differing somewhat from most empirical or positivist development studies, seeks to investigate the nuances of change over time.

3-2 What led me to the Himalayas and the Monpa people?

I grew up on an island with only around a dozen countries in the world that recognise it as a country; my country is not part of the United Nations. My home has been under the threat of invasion ever since I can remember. My grandparents either fled from or survived through wars. My dream was to move beyond the isolation and experience something different. I made it to Tibet as a young backpacker in 2005; I felt that I could breathe and feel free in the

³⁶ I use transfiguration here to address the image, performance, position, inspired by how this word is used in sociological labour research.

Himalayan mountains.

Inspired by fortuitous encounters during my travels in 2006, I began researching Tibetan refugees in India, particularly the children sent abroad alone, in 2010 while pursuing my graduate studies in Sociology and China Studies. My research focused on the stateless people who were brought up or born in the rehabilitation camps; some of them live on the Indian side of the Himalayas, feeling so close, yet far from their ancestral lands. I was drawn to the people whose communities have been divided by the creation of modern states in the second half of the 20th century. Because I have seen how states can use aggression and resentment in the compulsory education to support and legitimise their governance. From such sentiment, I am interested in people whose homeland became contemporary borderlands. The questions of where people truly belong, how to resettle the displaced, and their well-being, as well as the relationship between remote communities and states, became deep personal puzzles for me. I want to know how to restore the feelings of home and safety.

I set my research in the Asian highlands, particularly the parts that are academically named *Zomia*. A body of research focuses on the peasant and tribal protests against the State, and the formulation of contemporary anarchist ideas. For example the Northeast tribal and Adivasi insurgency in India referred to Scott's (2009) work on mountain peasants, and more recently study includes anarchism in Southeast Asia, with intersection on ecology and animism (Potiker et al. 2022; Lodia 2023; Clark 2025). On the other hand, the capital-poor remote regions rely on tax redistribution to upgrade infrastructure and overcome their remoteness, and the State is relatively important to such a market-based society (Mathur, 2016). Mountain systems and mountain dwellers give that impression of escaping the control of the plain-based authorities. Although drawn to the underlying essence of such an interpretation, I wish to point out the increasingly important role of environmental change and the complex development issues in Asian highlands, especially borderlands.

My interest in borders, constructivism, power, and non-human agency stemmed from my cross-disciplinary background. I was influenced by Iris Marion Young, James Scott, Benedict Anderson, Ming-Ke Wang (王明珂), Chih-Ming Ka (柯志明), Veena Das, Hannah Arendt, and

Liisa Makki; resistance, ideology, performance, technology, body, violence, and the acculturation of becoming a nationalist subject set my mind to pondering the state-society relationship. For me, the concept of Zomia is rather romantic and almost serves as a symbol of hope in various discourses. The modernisation-states are a powerful entity, forged in the aftermath of two world wars; no society can escape it, either integrating it or being threatened by it. However, as governance has focused on economic growth, and political stability has faltered, borders and nationalism have come to the forefront in asserting state legitimacy.

Still, once a careful distance between local society and the central government is maintained, and freedom and inclusive justice are ensured, the environment- or nature- could become the arena where different epistemologies and methods are tested. It is intellectually challenging to imagine emancipatory protection, including that of nonhumans, even through people's memories and politicised knowledge production. This is where my ambition lies.

From 2017 to 2018, I was knocking on doors with my research plans on displacement and resettlement. As my limited government-funded scholarship restricted the choice of destination country to India, I set my eyes on the Western Ghats and the Indian Himalayas. The Northeast Frontier seemed too complicated; it embodied precolonial, colonial and post-colonial entanglements, and the rising superpowers in the world still compete for control over Himalayan lands. I was intrigued by how the local people actually *feel* about it, given the fact that they have not escaped or become refugees. As the issue of 'climate refugees' became increasingly heated, these mountain dwellers chose not to leave. They have been labelled a 'tribal' name, a term associated with discrimination and special entitlements.

UK-based ethnologist Verrier Elwin and anthropologist Christoph von Furer-Haimendorf have published works about this place and the tribal culture (Elwin 1959; Furer-Haimendorf, 1962, 1980, 1983); I came across their work in the university library and professional association archive. That era of tribal and non-tribal encounters has gone. Popular historical works by John Keay and Ed Douglas show how the cultural image of the Himalayas has been

constructed (Keay, 2022; Douglas, 2020). The trans-Himalaya (Southwest China) research group at Academia Sinica, with its early works made in the 20th century, has engaged in recent discursive research in historical anthropology (Ho et al., 2011).

Social scientists' work reflects their opinions, especially the Himalayan borderland, where, relation to contemporary nationalist state-driven projects have been in game in the Himalayan borderland, with the nationalist projects' hidden text to understand and control this area commonly shown. The academic works have configured the 'frontier' character of the place, but what does day-to-day life look like (see Figures 3.1 & 3.2)? Impressed by the works in the edited volume *Borderland Lives in Northern South Asia* by David Gellner (Gellner 2013), which I found in a local scholar friend's bookcase, I did quite a lot of 'window shopping' in libraries and markets. I look forward to rethinking and redefining the concept of Himalayan borderlands. I believe mountains connect rather than separate places. Mountains need to be seen as a specific research dimension. Yet mountain research has mostly focused on conservation and control of resources. What are the mountain dwellers' views about sustainably better lives, and why have they not left, knowing that global warming has made their lives harder? How can we balance this small, sparse population's demand with the transboundary resources from the mountain, in the context of popular democratic systems and chaotic global climate politics?



Figure 3.1 and 3.2. Food supplies in Bomdila street market.

With my head full of these questions, I sought out a place to conduct qualitative research and long-term fieldwork in Arunachal Pradesh. My government scholarship was not enough for four years of study, so I was aiming for another scholarship that includes certain Chinese aspects within the scope of the research. Arunachal makes the perfect fit. After researching the local dietary habits and the convenience of food supplies, I chose a place where I could blend in easily and not cause a burden to the people I was studying. This is how I came to the region of the Monpa people, getting to know their histories, livelihoods and beliefs, and their relationship to Tibet, the local Assamese polities, and the former British colonial authority based in Bengal. I learned about the Indo-China War (1962), which subsequently divided the Tibetan homeland into two territories. With contacts shared by Dr Mu-min Chen and Dr Jigme Yeshe Lama, I started the pilot study in the spring of 2019 and then officially started my fieldwork in July 2020.

3-3 Researching the hard-to-reach place

My first hosts in Tawang were a newlywed couple; the husband had met with a Tibetan

scholar, also a friend of mine, in a Tawang-themed conference³⁷ previously held by the Department of Defence. He was from a politician family in Kalatang, the southeastern and warmest part of Monyul. The wife, from Seru village near Tawang town, was part of a new middle-class teaching at Tawang College; she became my first key interlocutor. When they first picked me up on the highway, around 10 pm on a deep, snowy winter's evening, they first said to me, 'You look like us!' I replied, 'When you heard a PhD student was coming from the UK, did you think that you were going to see a white woman?' They laughed and asked whether I was hungry. I am well aware of the class difference in terms of the resources for professional development, and I guess I wished to leave them with the impression that, as an Asian, I wasn't at the top of the social ladder in the West. This couple, Yeshe and Chhoten gave me their warmest welcome, and Chhoten arranged her student Wangyal and Sonam to take me for a ride to make contact with herders around Tawang.

There was too little research done on Arunachal Pradesh. In 2018, I read a few works in Mandarin about the Monpa people living in the Cona area of China, and the study on the Monpa population in Arunachal Pradesh was conducted mostly by scientists (Bhagawati et al., 2017; Saikia et al., 2020) around then³⁸. I also read some established work on Northeast as a 'nationalised space' (see Baruah, 2003), and conservation-related human and non-human interactions (Aisher, 2012; Aiyadurai, 2016). The pilot study was done to test the water; its aims include making an appraisal of risks and the feasibility of the research. I estimated that by spending one year in the field, I should be able to accomplish what I set out to do in the research proposal, and I was looking forward to starting the fieldwork. People I met on that trip generally welcomed me and my proposed topic. Most of the people I met shared concerns about the changing environment of the Himalayas.

I obtained permission to undertake the fieldwork from July 29th, 2019, to August 31st, 2020.

³⁷ See the edited volume *Tawang, Monpas and Tibetan Buddhism in Transition: Life and Society along the India-China Borderland* by Mayilvaganan et al. (2020). This book is the output of that conference.

³⁸ Of course, more monographs have since become available, including political anthropologist Swargajyoti Gohain's interesting ethnography *Imagined Geographies in the Indo-Tibetan Borderlands: Culture, Politics, Place*. Unfortunately, I only came to know of Bérénice Guyot-Réchart's work *Shadow States: India, China and the Himalayas, 1910–1962* during the writing-up period.

After I passed the Research Outline Seminar and completed the paper revision, the next obstacle I faced was obtaining the Research Visa to embark on my fieldwork. The visa application took about 6 months. After arriving in India in July 2019, I also had to find my way to obtain a legal permit to conduct long-term ethnographic fieldwork in Arunachal Pradesh. Finally, I was issued a research-purpose permit in October 2019. There are two main reasons for such a delay of ten months.

First, the Republic of India and Taiwan do not have an official diplomatic relationship. India does not recognise Taiwan (Republic of China, Taiwan) as a country. As a result, the Research Visa application met a bureaucratic problem in finding my identity in the nationality category of the computer system. I did not seek to conduct my fieldwork using a tourist visa; this could have caused unnecessary and unforeseeable risks to my stay in India and related harm to my informants and co-workers. I tried to apply for a Research Visa at the India-Taipei Association in Taiwan, which is the usual representative office responsible for visa affairs. The visa officer informed me that it was almost impossible for such an application to come through, and advised me to apply for my visa through a commercial institution (VFS Global) based in London.³⁹

I returned to the UK and proceeded with my application through a new set of formalities. Prior to attempting the visa application in Taiwan, I had obtained the promise of affiliation to the Department of Humanities and Social Sciences, Indian Institute of Technology, Guwahati (IIT Guwahati), and Dr Vasundhara Jairath agreed to supervise me during my fieldwork. The new visa requirement forms contain new paperwork that requires my host institution to confirm and issue a paper copy, which took months to arrive in the UK. And then, VFS Global had to wait for the response from the Government of India to create 'Taiwan' in the category of nationality in the system. I was asked to submit an extra financial statement for the fieldwork while waiting for the application, among other unknown reasons that delayed proceedings. Being a Taiwanese national who had lived and worked in India for four years before I continued my advanced studies in the UK, I understand that many Indians

³⁹ This is to avoid the political interference and possible loop of communication, according to the advice. The commercial institution conducts the affairs completely abide by existing regulations.

often confuse the Republic of China (Taiwan) with the People's Republic of China (China), wrongly considering Taiwan as part of China. The Research Visa eventually came through in June 2019, giving me 11 months to conduct my research in India.

The second reason for the delay was due to the borderland characteristics of Arunachal Pradesh. The whole state of Arunachal Pradesh is one of the most restricted areas in India; Indian nationals have to obtain an Inner Line Permit (ILP), while international visitors have to obtain a Protected Area Permit (PAP) to access it. I encountered two obstacles: one was obtaining a PAP for research purposes rather than tourism, and the other was securing a PAP for a duration longer than the usual one-month period.

When I tried to apply for the PAP in Guwahati, Assam, the problem of my nationality came up. My application was denied, and I was redirected to seek a solution at the Ministry of Home Affairs in New Delhi. I followed whatever guidance I could find then, and then went to New Delhi, applied for the PAP, but never heard back, nor could I trace the application. Professor Barbara Harris-White connected me to Professor Vandana Upadhyay, who belongs to the Department of Economics at Rajiv Gandhi University (RGU) in Itanagar (the capital city of Arunachal Pradesh). Eventually, I made a tourist PAP to visit Itanagar, met with Professor Upadhyay and the Vice Chancellor of Rajiv Gandhi University. I was made a visiting scholar at the Centre for Development Studies at the Economics department.⁴⁰ And then, in the company of two students of Professor Upadhyay, I went directly to an Indian Administrative Service (IAS) officer whose office was in charge of issuing PAPs.⁴¹ I presented my research plan in his office, then received my permit⁴² to start my fieldwork,

⁴⁰ This does not change my affiliation of the research visa. In a way, I had two host institutions in India, and both IIT Guwahati and RGU provided immense facilitation to conduct my fieldwork. From the 10th to the 16th, I stayed at Rajiv Gandhi University (RGU). Professor Vandana Upadhyay arranged an invitation letter from the Centre for Development Studies (CDS), Department of Economics. She covered all of my travels and lodging expenses at RGU/Itanagar and even paid for the two lectures I did for the students of the Econ department (around Rs 2500 each – the money went to the PAP fee immediately).

⁴¹ The officer was a local Arunachali. This may prove that when things are not listed in the book, the only way is to find the right person, which reminds me of Akhil Gupta's book *The Red Tape*.

⁴² I was eventually approved for a six-month Research PAP. As far as I know, it was the first ever.

after a dozen domestic flights and an exhausting months-long process.

The Monpa people are one of the two-hundred-plus tribes in Arunachal and one of the thousands of Bhotiya settlements in the Himalayas. Perhaps that is why we could read research works conducted in Nepal, but rarely about the rest of the Himalayan borderland, because it requires significant effort to cross multiple state-imposed boundaries.

The obstacles to reaching a place like Arunachal Pradesh convey deeper messages about territorialisation and identity issues. It shows that it is generally hard for a foreigner to do research in Arunachal Pradesh, and it is even harder for someone who has 'China' on their passport cover. I thought of giving up, but I think that my case can set the practice straight as well,⁴³ concerning research ethics and keeping long-term trust with research participants. Opening up different versions of 'tribal' stories and challenging the framing of 'tribal populations' requires gaining access to these societies and amplifying their own voices.

I kept myself busy with various tasks while waiting for the paperwork. In August 2019, I focused on finding relevant secondary text research from the Calcutta Research Group, the Asiatic Society Library⁴⁴ and the National Library Kolkata in Calcutta. In the summers of 2022 and 2023, I also spent some time at the British Library reviewing early travelogues and journals. In Arunachal Pradesh, I visited all academic research branch offices, museums and government college libraries that I could access, and collected and read many publications issued by the Arunachal government covering folklore stories, ethnological studies, religious research, and general development study reports. I also searched Indian PhD dissertations and met with some young Arunachali scholars.⁴⁵ Tribal areas, in many

⁴³ Foreign researchers were working in this area, but based on what I heard (I cannot verify in person) they made visas that did not fit the real purpose or ended up marrying a local person in order to stay. I did not want to follow such practices, so I paid the price in terms of time and effort.

⁴⁴ There was a volume containing the early 20th century governance of the Northeast, which I found had been 'lost' when looking for it.

⁴⁵ For example, Dr Lobsang Tenpa, who later published a book with the Daramshala-based Tibet Library and Archive 'An Early History of the Mon Region (India) and its Relationship with Tibet and Bhutan'.

parts of the world, have often been treated as ‘museums’, neglecting the fact that they are real neighbourhoods and spaces where people live their lives.

Unravelling the ‘mysterious’ name of the place and allowing engagement to go beyond ethnic display and tourism may show that its remoteness is chiefly constructed rather than being a natural feature of what it has become. I was inevitably dragged into the political mire, but my main interest has been in the relationship between the environment and people.

From September to early November 2019, while failing in every way of obtaining a suitable PAP to enter Arunachal Pradesh, I searched for alternative fieldwork sites back in Himachal Pradesh. I conducted my research with the Tibetan refugees in Himachal Pradesh from 2012 to 2016, becoming familiar with the ethos and environment, and especially with the Gaddi people. These are Indigenous pastoralists based in the Indian Western Himalayas, herders of transhumant goats and sheep, and mountain dwellers exclusively from the princely states. While waiting for the paperwork, I made a few research visits to Tundah and Naddi villages, conducted interviews with settlers and migrating herders, visited religious sites and walked with villagers in the mountains for about five weeks in total. I considered including both the Monpa and the Gaddi cases in the data and analyses. However, after the COVID-19 pandemic and given the limited resources for my dissertation fieldwork, I realised that I could not make a profound, valid comparison between the two cases, so I decided to leave the Gaddi case out of the dissertation.

3-4 Pushing through boundaries and immersing myself in Himalayan rural life

In mid-October 2019, I set out for my first fieldwork trip to the Monpa areas in Western Arunachal Pradesh. The Monpa people generally reside in two districts of the state, the Tawang District and the West Kameng District. I left for Bomdila in West Kameng District from Itanagar, with Professor Vandana Upadhyay’s former student, Mr Tsering Wandia, a Tawang Monpa from the Lumla Circle, as my translator and driver. We brought with us a returning linguist, Dr Timotheus Bodt, as an extra passenger in the car, and he agreed to facilitate some translation during the interview ⁴⁶. This two-week trip, driving up from

⁴⁶ Both of them helped a great deal in this pilot study trip. Dr Bodt did years of fieldwork in Monpa area and

Bomdila to Tawang, included visits to the Central Institute of Himalayan Culture Studies and the ICAR-National Research Centre on Yak. The latter part of the trip involved staying at Dr Bodt's former fieldwork site in Chug Valley during a harvest festival and attending the annual Tawang festival. The journey was aimed at gaining a general understanding of the Monpa areas and searching for suitable sites for ethnographic work.

We covered Bomdila, Dahung, Dirang and Chug and stopped multiple times whenever we could find ordinary locals to chat with. Bomdila is a town with a mixed tribal population; the Monpa people constitute one of the ethnic communities living there. Dirang, Tawang and Kalatang are linguistically divided into three major Monpa groups. Tawang is the highest by altitude of the settlements, followed by Dirang and Kalatang. Kalatang is close to the area of the Sherdukpen tribe, which shares a similar religion and culture with the Monpa tribe. Other, smaller tribes residing next to the Monpa settlements include the Lishi people, with whom I was told the Dirang Monpa people previously had territorial issues. On this trip, I began to understand the animist beliefs of the Monpa pastoralists. I also had my first exposure to the problems of firewood trading and illegal forest logging (Figures 3.3 & 3.4).

kindly shared his knowledge and experiences. This trip broadened my understanding of the Monpa people, who dwell at lower altitudes and are more engaged in rice cultivation. It connects the latter part when I explore my field site with the advice and network from the faculties of Bomdila College and chose Jang.



Figure 3.3 View of the Dirang region, more of a valley terrain when compared to Tawang.



Figure 3.4 Micro-hydropower plants use the slope to provide electricity for specific valley settlements.

I wanted to establish the on-site fieldwork at a settlement or with a pastoralist group, so it took a while to ascertain where the transhumance livelihood was still viable. Eventually, I was assisted by academic faculties at the RGU-affiliated college in Bomdila, and headed to the sub-divisions of Jang⁴⁷ and Lumla. Both of these areas have a population of only around 6,000 people.⁴⁸, with many herders in Jang and none in Lumla. They could represent two types of the Monpa people living and being with nature. The agriculture in Jang is swidden farming (Jhum) indigenous crops in forests. Lumla is almost identical to Eastern Bhutan (it is actually only a river away), with deep-water rice cultivation, but facing wildfire issues in the forests. Trade between these two areas has been going on for centuries.

Travelling from the nearby city to these places usually took 12-15 hours or more hours by car. Public buses ran from Itanagar to Bomdila, taking 13 hours, and the road condition was usually very bad (for example, the highway collapsed). A private jeep taxi company registered with the Assam government ran regular services between Tawang, Dirang, Bomdila, and Guwahati. This was the route that the Monpa people usually took to access medical services outstation⁴⁹ and import construction materials. A helicopter service ran between Guwahati and Tawang, yet it was more sensitive to weather, and it was generally hard to book a ticket. The ticket price was around three times the normal private taxi fare; taking flights between Assam and Arunachal could be seen as a sign of higher status, so avoided this.⁵⁰

I used the student accommodation at the IIT Guwahati as a base and began to travel to Jang. I travelled back and forth and stayed in odd lodgings until I could find a host family to stay

⁴⁷ Originally, I wanted to go to Zemithang and Tingbu, but they are too close to the border, so foreigners are not allowed, even with a PAP. In Zemithang and Tingbu, there were more herders and less agricultural activities because of the altitude.

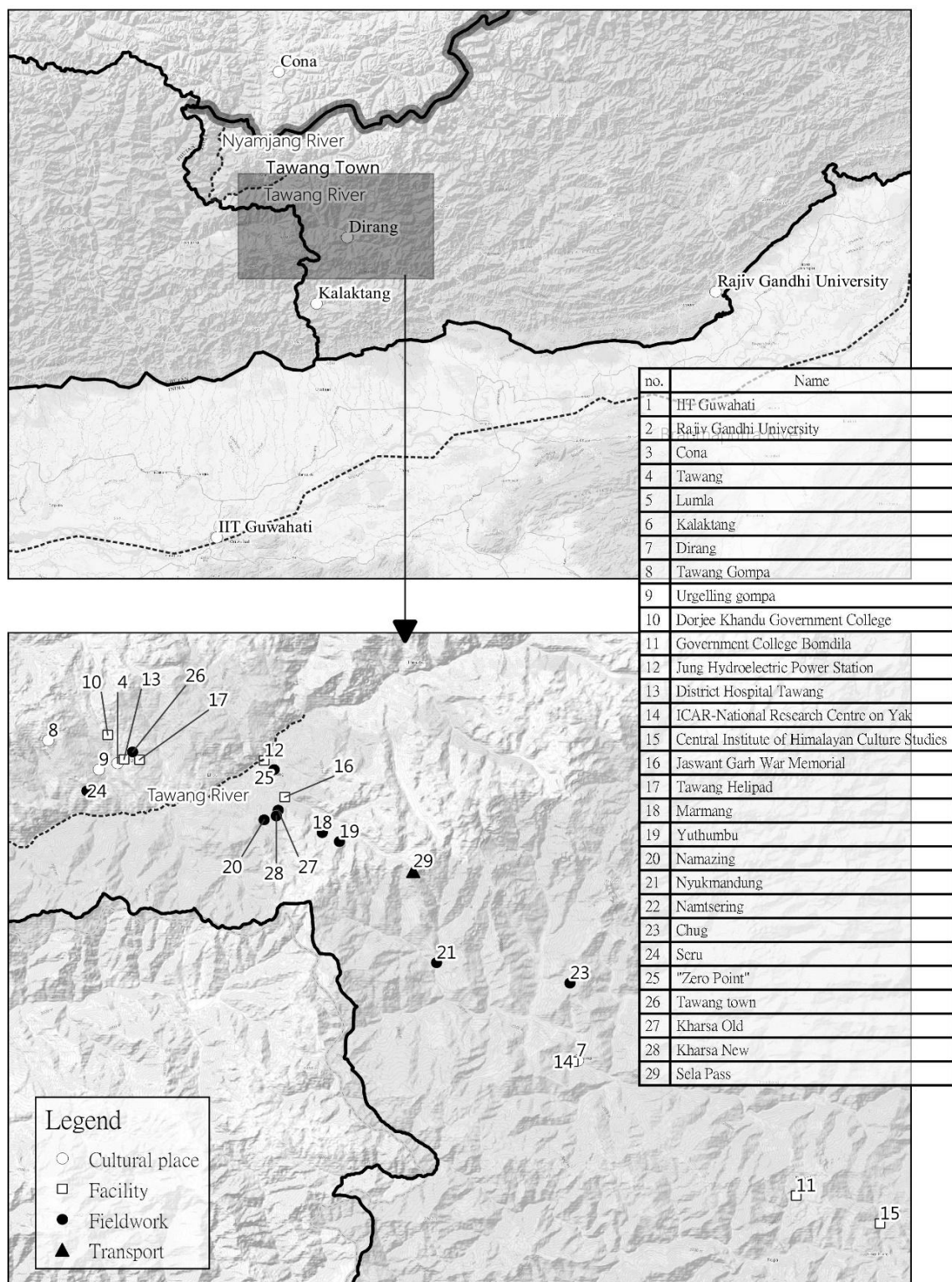
⁴⁸ Statistical Abstract of Arunachal Pradesh 2021,
<https://www.ecostatistics.arunachal.gov.in/State%20Publications/2.pdf> (Last access: 2025/04/09)

⁴⁹ The hospitals in Tawang have no operation wards.

⁵⁰ I took the helicopter once, with a government official booking the ticket. But in conducting fieldwork, taxis are a much better way to observe and meet local people.

with longer term. Unfortunately, my mobility was obstructed by the curfew in Assam from late November to early December 2019. The Citizenship Bill drew street protests and roadblocks by the police⁵¹, resulting in two people being killed and the whole city and the nearby area under total curfew. After repeatedly going back and forth and waiting to proceed, my first phase of research was undertaken through mainly household visits and interviews in Yuthumbu village, Marmang village, and Namazing village (See Map 3.5), as well as in the households located near the 'Zero Point' by the highway in Jang.

⁵¹ 'Citizenship Bill: Tensions rise as protests flare in Assam',
<https://www.aljazeera.com/news/2019/12/12/citizenship-bill-tensions-rise-as-protests-flare-in-assam/>
(Last access: 2025/04/08)



Map 3.5. Fieldwork sites in three Monpa cultural zones, with public facilities and transport points. This map was prepared in collaboration with Dr. A.Y. Cheng.

I first stayed with the cousin of a colleague from Bomdila College, and then I stayed in the guesthouse for truck drivers by the highway because the owner's family was willing to spend more time talking with me. They provided me with basic knowledge of the relocation of human settlements after road construction; the traders and drivers were mainly from the lowland, and showed me how to survive the cold and the limited food supplies. I came to know their son, who later volunteered to accompany me to Namtsering village and translate interviews for me. The average elevation of Tawang is about 2,669 metres (8,757 ft), and electricity and mobile networks are not available in the rural area. In Jang, there were still herders migrating along with the seasonal change. This was the main reason I decided to stay in Jang. Besides, urbanisation, the provision of health care, food rations, modern schools, and even tourist businesses were visibly on the rise in Jang. However, the overall development setting was still rural, unlike historical administration points like Tawang and Dirang.

I teamed up with two college students, Jangmu and Passang, who grew up in Yuthumbu village near Zero Point and could show me around. The mobile internet connection was often absent there ⁵², and the government had not published comprehensive maps; I therefore got to know the area on foot. I walked about 10 km every day, going up and down and beyond, making sure to show my face in the area. There has never been any rape case or sexual harassment in this area; it is rather peaceful and sometimes isolated (see Figure 3.6). The only danger for me was not paying attention whilst walking on icy roads at night; I fell several times.

⁵² Like the local people, I had three SIM cards: one for the network, one for phone calls when there was no network, and one for the stay in Assam. But when there was no electricity, I had only a pen and paper.



Figure 3.6 Looking out from the common land of Marmang village.

The constant movement and self-introduction paid off, and I believe that my appearance, which resembles that of the local Himalayan people, worked to my advantage. Both Jangmu and Passang refused to accept any money.⁵³ They familiarised me with their families and neighbours. This made our interaction less transactional and more friendship-based.⁵⁴ I came to know the Tawang Monpa people in Jang by being with them in their houses, helping to care for the animals, cooking, chatting, and eating. They also took me to religious rituals and ceremonies. In the mundane day-to-day, we built mutual understanding and trust. I

⁵³ I gave them gifts from the UK. I was not sure whether this was environmentally ethical as it is like transporting the culture of over-production and consumption there. But they were pleased, as it was not easy to obtain nice, comfortable wear in the area.

⁵⁴ One of them saw me as an assignment given by elder relatives, and the other treated me as a friend. I could easily express my needs and vulnerability in adapting to the environment and culture. We arranged dates to do interviews when they were free, and they organised the destinations and logistics. On the days they were unavailable, I visited old people and animals or just walked around.

learned how to explain my research, learned how to approach people in acceptable ways, and rehearsed interviews with generous and warm assistance from them and their families.

We subsequently worked out how to conduct the interviews. I needed Jangmu and Passang as translators because of the characteristics of the Monpa language. The language(s) of the Monpa people have never been standardised. In the Tawang Monpa, Dirang Monpa and Kalatang Monpa linguistic zones, the popular languages can be totally different from one another, depending on the level of interaction. Furthermore, even in the same linguistic zone, phrases and expressions can differ from one village to another. After the Monpa residential zone was covered by Indian basic education system, the population speaking a little Hindi and English has been slowly increasing. However, these are still not the main players in the day-to-day language landscape. People use many 'foreign' words from Hindi and English to express a never-before-existed item or to shorten expressions. It was not practical to improve my elementary Hindi in conducting the interview, and my borderland research permit forced me into a race against time. I chose to work with local translators with whom we could both comfortably communicate in English. There was, and still is, no other way to learn the Monpa languages besides staying with them and learning from them. The best strategy was to work with the translator from the village where I would be visiting. Besides Jangmu and Passang, I had Lhamu, Norbu, Gonpo and Urgen as my translators in Kharsa (both old and new), Namazeen, Namtsering villages and Tawang town; they were either college graduates or Class 11 students who could communicate in English easily and understand the importance of comprehensive translation.

With all translators, we began our work by discussing the content of my research, my research questions, how to inform (in a culturally appropriate way) the research information sheet, and communicating the question of consent and participation. Most of my research participants were illiterate; they could not make a meaningful signature of consent, so if they permitted the recording, we verbally confirmed with all of them. With Jangmu, Passang and Lhamu, we went through all interview questions covering life stories and livelihoods, as well as their feelings about the environmental change they had observed so far. Lhamu was a Master's student in History; she echoed my positionality as a researcher with care and

doubts. The interview questions were originally written in semi-structured style in English. Eventually, they became open interviews. The research participants, translators, and I normally had 4-5 hours of conversation, with a specific interest in research-related topics and some others. We paid visits to each household that appeared to be inhabited and to the households that my translators knew were working pastoralists. Interview recordings, in audio or video form, were made to preserve the testimonials of older people in particular. After each interview, my translators and I would sit together, reviewing important new information and making notes to improve expression in the next interview. I was not trained in linguistics, but in notes and translations, we applied Roman alphabet and phonics to represent the Monpa words. After the transcription, I sent some of the recordings to a PhD student, Mr Nima Dorji of RGU, and hired him for a second translation and verification, making sure the information and narratives were complete and the translation correct.

My second fieldwork phase in Jang began with an accident on the highway. After the Tibetan New Year in 2020, I boarded a jeep with 10 other passengers returning to Tawang District, looking for someone to help me to Kharsa village. However, the driver of our jeep was inexperienced; he had not put the snow chain on the tyres, and the car could not climb up, slipped down the slope before reaching Sela Pass, the highest mountain pass before you enter the traditional territory of Tawang. Three boys helped me get out of the car, as I did not understand what was happening. These boys happened to be from Kharsa village; they had just completed the study in other states and were going home; they took me with them.

Norbu and Phuntsok became my navigators and brothers⁵⁵ in the new village. I stayed with Phuntsok's sister to begin with and then moved in to live with Norbu's family because the house is located in New Kharsa village; the family also has a house in Old Kharsa village. Phuntsok's brother-in-law was one of the many Monpa men who worked in the border police and the Assam Rifles army. Norbu and Phuntsok helped me with interview translations with their family and neighbours. Norbu's cousin Lhamu later became my close companion and translator on a daily basis. Norbu's mother, Mrs Thupti, looked after me, and the

⁵⁵ Especially when I was treated with alcohol, but I could not drink much myself. A brother-like person came in is suitable for the social manner.

grandmother of this big family became my guarantor when the COVID-19 pandemic struck. Being stationed in a Kharsa-related settlement area, I became immersed in these three families' daily life and the village life. Unlike household visits and open interview-based fieldwork, the stay in the second phase was closer to ethnographic fieldwork. I had a better position to observe events from dawn to night, exploring ways to understand feelings and thoughts beyond narration and in a non-interview setting.

Except for when I was busy taking notes and sleeping, I spent almost every minute with the local people doing various things with them, mostly in mixed groups of men and women. Besides the family house and attached small farm, I went with them to the far agricultural fields and household woodlands, village common grounds and water points. Most of the traditional landscape had been altered with newly built units (see Figure 3.7). Through frequent interactions and planned lessons, I picked up a total of 700-800 Monpa words with the help of my translators and Lhamu's brother Rinchen.⁵⁶ The second phase was unexpected because the intimate living arrangement was made due to the COVID lockdown. However, I felt lucky that people liked me enough to let me stay on. During the lockdown, I cooked often and introduced my food to the family. Pizzas, scones, gnocchi and custard appeared for the first time in Jang.

⁵⁶ Rinchen was one of the founding members of the Save Mon Region Federation (SMRF) which successfully stopped the mega-dam building in Tawang. <https://elaw.org/resource/save-mon-region-federation-v-union-india>. He also introduced me to his friend from Mirba village, so we could talk about the environmental change experiences there.



Figure 3.7 Fast building houses in the woodland.

Before the COVID pandemic took over, I stayed in a cluster of five yak-herding villages in Jang for a total of 6 months. I also made a few short stays in Tawang town, at a guesthouse owned by district medical officials, talking to relevant officers in information, energy, and forest departments. I had the chance to stop by a few army-run theme parks resembling war tourism. The original plan of conducting a comparative study with the farming village in Lumla Circle was dropped due to COVID restrictions. I could only do a few days of interviews in Namtsering village ⁵⁷. Another plan to hold two Traditional Ecological Knowledge workshops with the history and social sciences students in Tawang and Bomdila Colleges ⁵⁸ was altered due to the pandemic. We managed to do the first one, seeking to define Indigenous knowledge, doing ecological mapping, and teasing out narratives. This was by invitation of the college; I agreed to give a few talks on the work that I had read on these

⁵⁷ Just when I discovered that the taxi drivers of these villages were good research participants in providing information about cultural change, I could not continue.

⁵⁸ With the generous help and facilitation of the college faculties to prepare the venue, recruit participants, and actually join and share their views and experiences.

subjects. I saw the workshop as a source of inspiration, observing how college students might think differently from the villagers and whether there were exceptional cases that I could not obtain through a village cluster survey. It is not a solid data collection, but it sustained part of my curiosity about diversity. Unfortunately, we never had the opportunity to assist the workshop participants in conducting the oral history collection in their home villages. All education, especially college activities, was paused for months following the COVID-19 outbreak.⁵⁹

My on-site fieldwork had to stop by the end of May 2020. The Tawang District office extended my PAP for another month, as no one was allowed to move/leave at that moment. With food supply, funding and safety, I was able to sustain myself in the Kharsa village with my host family then. But being in the mountains and having a visa that was about to expire triggered my anxiety. I registered all my residences with the local police, but I could not be sure whether my stay would cause trouble for the local friendly people at some point. By chance, in late May, Professor Vasundhara Jairath notified me that IIT Guwahati had a duty of care for me, so some faculty members at the department had mobilised networks to get the fieldwork students back to Guwahati; I was lucky to be one of those to return. I travelled during the window between two nationwide lockdowns with a junior local government officer as driver. We drove through sliding slopes and flowing mud due to monsoon rain and had to stop and wait for the army to clear the road until I was picked up by another car at the Arunachal-Assam border. After that, I went straight into two consecutive quarantines, each taking 14 days. I did not realise that this experience had caused me trauma until quite some time later.

From May to July 2020, I kept in contact with the informants and translators in Jang and Tawang through Facebook and WhatsApp. I hoped to shift the interviews to a more digital method of acquiring information, but the plan failed due to limited internet and technological problems in Arunachal Pradesh. It was the most unexpected way to end my

⁵⁹ In 2022 and 2023, after the online learning platform prevailed, the college contacted me to give more talks to share my research findings and interpretations.

fieldwork. Giving up the plan for Lumla was an emotional blow. I left with regrets. I made my first visit back to Guwahati after the pandemic in 2022, but I could not return to Arunachal Pradesh because the tourist access rule had changed again.

3-5 Overview of the data and methods for this dissertation

64 current or ex-herders participated in the semi-structured and open interviews and provided linear, detailed information on their lived experiences and views. My data also included chats, unplanned group discussions, short talks (without a theme and not fully understanding each other), doing things together (such as walk-and-talk, foraging in the forest, shopping at the market, farming, cleaning, brewing, eating, weaving, attending meetings), non-verbal environmental experiences together with my participants (hunting, animal farming, trekking, picnicking), which did not count as interviews and were documented in my field notes and recordings. During these non-interviews, I was permitted by people around me to pose or request clarification for any questions that emerged in interactions.

There was no access to proper internet that would have allowed me to research and improvise my methods during the pandemic and lockdowns. After the lockdown, I lived with the host family for 70 days. During this time, I kept a photo diary of how we interacted and encouraged each other regarding the difficulties we faced. The diary was not originally for research purposes but became useful in reflecting that particular period of time, and eventually, some information was used in the empirical chapters. Although the context of pandemic/lockdown co-living was outside of the original research brief, the research participants and villagers were all aware of my research aims.

All the people I met were briefed about my background and motivations, either by me or the usual village news agency. I worked and lived with the people, with their permission. I understand that emphasising the process of obtaining formal consent sometimes unintentionally heightened the perceived importance of my research, which altered the atmosphere and impacted the emotional data; therefore, I worked on two types of communication strategies. After initial confirmation with the host family, their neighbours and extended families, they could see that I was always taking notes and sometimes taking

pictures. We would immediately confirm with them whether they would allow me to keep these records.

With household surveys and individual interviews, I asked my translator to explain the information sheet in the local language and asked if they would allow me to use the information shared with me for my research. Once they agreed, the translator further asked whether they consented to be recorded or filmed. In situations where observation and participation went beyond verbal exchanges, such as when I was invited to a women's tea party, I would not ask everyone at the event for their consent. However, I made it clear that the things I heard and saw would be included in a 'book' I was writing, which was my PhD dissertation.

The secondary materials, some of which I ultimately did not use in the dissertation but that still contributed to my understanding of the place and culture, came from two sources. One was the archive of publications (including government census and reports) distributed and displayed in Arunachal Pradesh libraries. And another was the British Library Royal Anthropological Institute archive in London. I consulted imperialist timelines that might cover the area, and read travelogues searching for any descriptions of the Mona or Mon regions. There was more than one place called Mon in the Eastern Himalayan highlands from the late 19th to the 20th century, all across Myanmar and Northern Thailand. Mon seems to be a general name for remote, forestry, and tribal lands⁶⁰. In the Academia Sinica Contemporary China archive, I read newspapers covering the retreat of the Nationalist Party army from Myanmar to Assam during WWII. There had then been aeroplane crashes in the eastern region⁶¹ of modern Arunachal Pradesh; the area has been a passage between north, south and east.

Besides reporting data sources and how they were procured, I also want to mention the 'fun' experience in the research process. Researchers and ethnographers often see and write only partial truths (Clifford, 1986). There were no good or bad social performances, either by

⁶⁰ It is quite ideological, not exact, which is intriguing.

⁶¹ The mountainous region was called the Hump during WWII.

the researcher or the researched. And the researcher is often being researched by the participants, for example, my participants googled me and my institute, asked to follow me on my social media, and asked me many questions regarding my family, job prospects, and travel home. There could be misunderstandings or wrong translations despite the best efforts made to prevent them. There could be projective delivery of questions and answers in the interactions, yet all were still meaningful. The fun worked in two functional ways: one was to be open about doing things that were not necessarily related to research itself, but just 'together' with the participants, and the other lay in allowing space for errors and trying to correct them in the next take.

I used two cameras during the fieldwork; one was a Canon DSLR that I used to record interview videos. But most of the time, I used an iPhone camera; it was less intimidating and more people could relate to taking pictures with mobile phones.⁶² I used a portable hard disk (2TB) to store all the recordings, photos, and documents during fieldwork and migrated the data to OneDrive, which IDS provided. I gave access to some of the videos and audio recordings to the second translator through a shared Dropbox folder, which was deleted once the work was completed. Before taking pictures, I made people aware that I was about to start sharing the pictures I took with them soon afterwards. I understand that taking a picture of ordinary objects in people's everyday environment would open a space for the perceived value of things. At the very least, it was a mutually influenced process of aesthetic perspectives: what seemed attractive to me also became attractive to them. I did not discuss this with them; the photography of non-humans was rather free and always under the supervision of my companions.⁶³ Since mobile phones are common for all villagers, even children, taking pictures was not problematic for my research participants. Actually,

⁶² There was one episode about equipment. I thought since most people were cash-poor and probably did not have much experience using high-quality DSLR cameras, I offered to lend mine to one young girl. She refused and told me that many people in their thirties actually owned these high-quality cameras, as photography had become a popular hobby for the generation growing up with social media. Indeed, producing TikTok videos, making Instagram posts, and playing mobile games are very popular leisure activities for the generation in their twenties and thirties.

⁶³ Photography was allowed even in taboo and ghost-dwelling sites inside or near the villages.

taking a selfie together after the interview brought smiles to the faces of my middle-aged and older female interviewees. I deliberately approached the photo sessions not as a way to produce proof of my work or to take selfies, but as a fun activity. It was also a way for me to confirm that the interview had not caused upset or sorrowful feelings for my research participants.⁶⁴

In ethnographic fieldwork, to some extent, the researcher uses their bodily experience as one of the instruments to collect data. In this research, I limited the ‘data’ to text-based materials⁶⁵; either they were spoken by my informants or written by me, in published works, or by myself taking notes on the unspoken expressions of research participants and their surroundings. However, this does not exclude my own sense of the place and my emotional ties to the research participants. I will discuss this part further in the relationship section of this chapter.

3-6 Methodology

Researching emotions and emotional research

Emotions are not limited to psychology or psychiatry. This research does not take an interest in a ‘universal emotion’, meaning it does not assume that grief, anxiety, or loss are general emotions experienced by all of humanity. As I elaborated in Chapter 2, emotional responses to environmental change, expressed by individuals from different cultures, geographies, power statuses, and levels of agency, should be explored by considering each person's unique space for change, their rights, and the situational mindsets they hold.

How should we understand individual or collective emotions following the above principles? I took my cue from the ‘emotional turn’ or ‘affective turn’ in qualitative research, drawn mostly from anthropology and sociology. Academic research has made a lot of progress in

⁶⁴ The only two photos I took for my own sake were the one with Phuntsok’s grandparents and my host family in Kharsa village before I left for Guwahati. I really like them and want to remember being with them.

⁶⁵ This was the final decision after careful consideration. As my fieldwork came to an end, my identity and participation was more restrained. Materialising the encounters separated the facts from the relationships, turning some into objects to work on, while others remained cherished as personal, heartfelt matters.

this matter; nearly forty years ago, emotion was argued as ‘an aspect of cultural meaning’ (Lutz & White 1986, p.408). Emotional responses thus reflect the inner cultural logic of a social group. This is supported by psychologists’ research emphasising how the socialisation process affects the building of character. Shared emotions and similar emotional responses can be seen as a place of convergence.

The challenge has always been– how do you know what they feel? Questions about the accuracy and the quality of the ethnographies (Leavitt, 1996) cannot be resolved easily. The interpretative nature of ethnographic work is embedded in the context and situations of how the encounters happen, proliferated in the storytelling nature, yet attacked when assessing the scientific rigour of the argument. I set the agenda of my research to understand, not to define, how and what ‘the Monpa people’ feel. I ended up analysing some emotional words that frequently appeared and incorporating the expressions with elaborations gathered from interviews and chats.

I decided on the narrative approach to studying emotions.⁶⁶ Firstly, I looked for symbols and signs of the self and how they were articulated (Geertz, 1977) to the environment; for example, how the Monpa people positioned themselves in relation to non-humans and what analogy had been adopted to enable self-expression. Secondly, through open interviews or conversations with the research participants, I sought out themes and patterns, aiming to trace their connections to epistemological and ontological positions (Braun & Clarke, 2006). I conducted an emotional topography (Hastrup, 2010) of myself, getting a clearer picture of my emotional mindset before interpreting what and how others felt.

Traditional anthropological methods that collate sets of cultural, historical and social data can offer great insights about change; for example, Hastrup’s study on the Inuit, or Gillian Tan’s work on the Tibetan nomads of Minyag Dora Karmo. Anthropologists have improvised methods quite a lot, from setting different agendas to modifying ways of engaging.⁶⁷ With

⁶⁶ I would avoid appraisal and other wording in describing my data, as I was not trained or equipped with the professional psychological skills.

⁶⁷ For example, the works of Kari Marie Norgaard, Susan Crate, and Ben Orlove. However, this was PhD research – work needed to be done within a set period of time before the funds ran out; I had to prioritise

highly scattered, linguistically diverse groups, the methodology would face tough challenges.⁶⁸ The 'field' is people's feelings; it is also these expressions situated in this particular time and space. The field is also the mountains, where humans and non-human beings (in the form of animates) coexist; they both feel, and feel together. And I feel together with them as well, only in different ways.

Inspirations from Indigenous and decolonial methodologies discussions

Beginning with how to define the environment, to probing the Monpa people's sense of place in their Eastern Himalayan homeland, this research borrowed and tried ideas from the recent proliferation of decolonial and Indigenous knowledge research methodology. The ontology of the environment in environmental research is usually related to nature, ecology, and the physical, material foundation in which humans and non-humans take part. However, this research did not presume or define what the environment is or what it involves. The research participants defined the environment and environmental change. Among the resulting interview questions, we asked, 'What have you seen here (this place) that has changed?' We waited for the participants to name the changes that were significant to them and then put follow-up questions requesting more detail of these changes. We did not include factors such as shifting cultivation and population growth, seen to be harmful to the fragile ecology, in our questions. Instead, we followed the participants' own sequence, asking how, why, and what they thought and felt about these issues.

And unless the participants ended the narrative themselves, we did not interrupt. In some of the interviews, when the research participants were willing to share more time, we began with life-story questions. We started with names, ages, livelihoods, and family members (including what they did and where they lived). The life-story interviews allowed us to collect longer narratives about herding activities, marriage and birth giving, farming collaboration, and experience of migration. Depending on their personal style of story-telling, some

efficient and feasible ways of doing things.

⁶⁸ Setting aside the trust and racial issues of representation of the hard-to-approach people, minorities in the Himalayas need a more or less standardised, perhaps mixed method, making it easy to collaborate with the concerned community, to track the state of change and wellbeing.

interviews gave a comprehensive account of moving through grazing areas and trading with different villages; in other interviews, we could only get short and fragmented answers about what they felt, knew, and thought of certain things. We deliberately let the conversation flow, following the participants' choice of topic, and when we heard some names and words used repeatedly, or their descriptions might relate to emotions and a sense of place, we intervened at a good time to ask for further elaboration. The interviews always happened when they felt fine and ended when they felt like it. In writing, I took the ontology of emotions to be what the subject stated, supported by observation of their facial and physical expressions to clarify or exclude contradiction. Therefore, as I wrote the dissertation in English, I had to make many comparisons of different linguistic expressions and translations, carefully selecting the right words to avoid assumptions of modernity and easy appropriation, and explain them with more footnotes where necessary.

I paid great attention to linguistic articulations (Taylor, 1985; Bloch, 1997) and observed non-verbal communications, while the translators paid more attention to sensors, social interactions, epistemic differences and geographical distances (Mignolo & Tlostanova, 2006, p. 214). I am aware that the discussion of Indigenous knowledge (Grenier, 1998) often comes from lived experiences and perspectives that influenced different behavioural patterns, reliving the cultural meanings (Berkes, 1999). While the village tours with my translators gave me numerous opportunities to have 'themed' chats freely with people, it was more through interactions and the 'side-by-side doing' of things that the referral of their emotions to Indigenous identity, their changing lived experiences, or their growing awareness about the State-society relationship and globalisation really emerged. In the changing social and economic milieux, the researcher has to identify the diverse narrations of different personalities and generational cultures. Being a non-Indigenous researcher, I could sense there was always a moral and political boundary that challenged the representation of epistemology. Although I did try to abide by the 'morally good and right' Indigenous methodology reference books, the most important function of them to me was to keep a sense of whether there was a voice that was oppressed. I have self-analysis notes like 'It is worth noting that to come to that saturation point, the researcher has to immerse oneself and intentionally learn about the social codes and manners of the researched society and

be willing to prioritise the research participants' needs (no signposting of whether I should stop, but rather just suggesting to stop)'. Yet, I also lived there, experienced the changes, noticing the similarity of my perspectives and theirs.

Except for government officials and village leaders, this research uses the real names of the informants, especially when presenting their worldviews and emotions, in order to honour the fact that the stories belong to them (Chilisa, 2012). The Monpa people do not have a central symbol representing their culture; instead, they have an identity symbol, which is the yak. From the non-Monpa researcher's point of view, I found weaving to be an interesting cultural symbol undergoing environmental change. The wood-made loom was prevalent in all households, and durable bags and clothes were made from woven fabric. Herding activity and village life scenes were woven into *Shingka* (Monpa women's traditional dress and blazer) as a representation of memories and good times. With the heritage and technique lost in Jang, *Shingka* was imported from handicraft workshops in Bhutan. The Monpa people would pay 4,000 to 20,000 rupees for the fabric and simple tailoring to make them ready to wear. During the pandemic, weaving activity was revived. Perhaps there was a lot of time staying at home, or perhaps the supply of readymade fabrics was reduced during the lockdown. Looms, threads and fabric making became popular once again in the cluster of villages where I stayed. In making thread from wool, dying in different colours, pushing through every thread in the pattern (in mind) and moving the loom, weaving became a spiritual activity for the women. They did not weave bags to sell to the tourists; they began to weave a belt for a newborn baby in the neighbourhood, or just for the sake of weaving. And if not weaving, then knitting, which was also popular.

How I did my coding

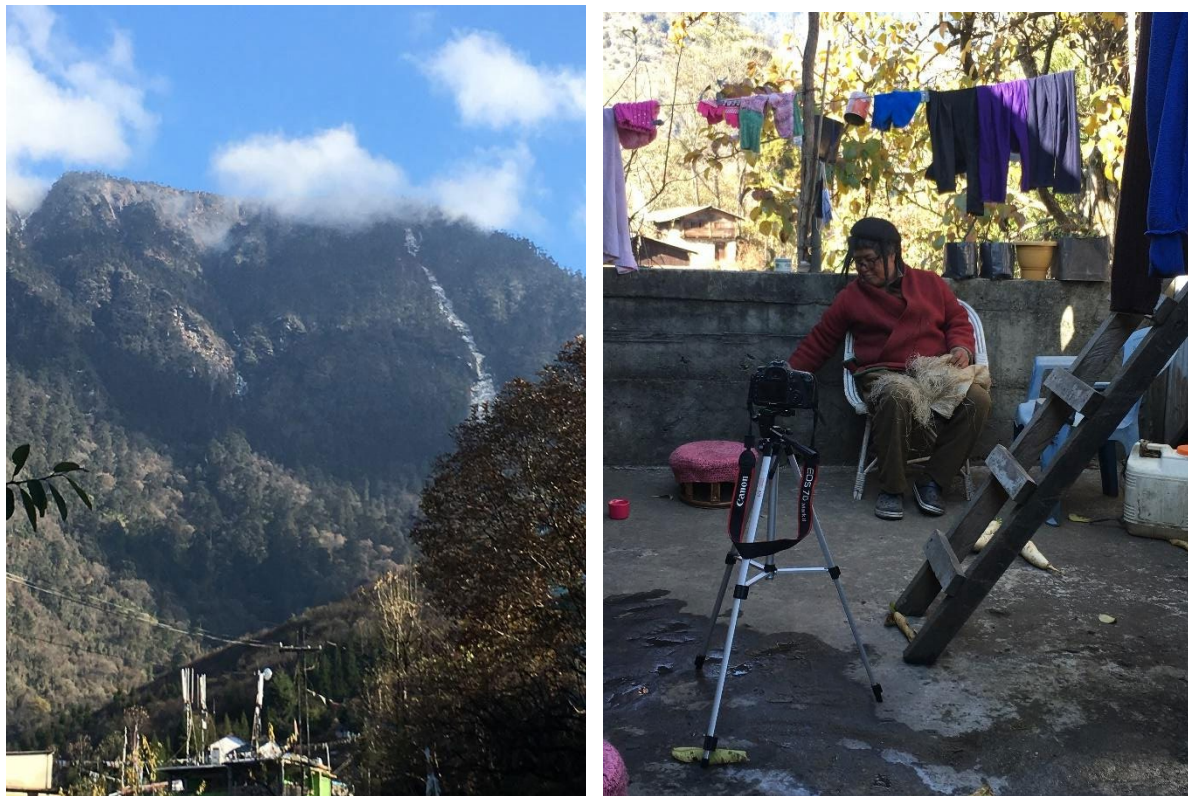
I first coded the Monpa people's distress; they used the words *Nang* (inside, from the heart), *Ning* (hurt), *Ningjie* (heartache), *Taikyoi* (upset, deep sadness), *Dupuyong* (I worry) to describe how they felt seeing the glacier melting, the reduction in snowfall, and trees being cut down. I tried providing complete context, background, time and space-inclusive accounts of when and why these emotions occurred and to what extent they affected mental health.

Secondly, I separated the herding and agricultural activities, stitching together fragments of information from different interviews and fieldnotes. I then tried to piece them together, creating meaningful descriptions that distinguished between the past and present. The pandemic section was integrated with discussions on firewood and water, based on materiality and affect, as explored in academic discussions in anthropology and sociology. I coded these with material-based nodes and assembled them following the arguments I wished to make.

Coding was based on native cultural concepts, context, and objects, and my interpretation bound the information together. I did not interpret what things were in theory. Instead, my methodology was to let the participants show me what things were, and I followed their lead.

3-7 Relationships

Among all the Northeast tribes in India, the Arunachalis are considered the least resistant and most compliant with the ruling power (whichever at the time) by other tribes such as the Naga people, the Manipuri people (who had fought the British and the Indians) and others. This was the impression I got during my fieldwork. It was a sense that informed me about tribal politics, which I was unaware of. I feel very grateful that I was permitted to see and interact with the Monpa people and the natural environment. I grew up in an urban setting; it was not easy to be surrounded by wildlife and forest. I am no stranger to landslides and flooding, as we have typhoons in Taiwan, and these are cyclical problems every year. Figures 3.8 and 3.9 show the common scene while conducting fieldwork in the villages, and the sense of tribal culture and politics; I really began to learn and unlearn about them after I became a familiar presence in the neighbourhood.



Figures 3.8 and 3.9 The melting glacier on the left. At the right, we were preparing to start an interview – waiting for the tea to be made.

In wishing to speak about the world through the eyes of the Monpa people, I sometimes imagine the deities and ghosts in their accounts. By emplacing myself in the terrain and searching for clues to create a topography in academic writing, I sometimes set aside my own emotions while ‘working’ in the field. I cannot become them, a fact both my research participants and I recognise. But I tried to do everything they did in their daily life, which was new to them and possibly broadened their sense of how researchers worked. For example, I joined in the ploughing and seed sowing, but when the women stood together in one line, they considered my pace too slow, and I was sent to take care of the children on the farm. Another example was the forage trip; I was grouped with a returnee to the village who had little experience. Our group was looked after for a while, and then we got lost together, going through the usual steps of finding a way home. Through building rapport and sharing personal information, our relationship evolved over the course of our interactions.

I never lost sight of the exploitative potential of ethnography, termed the ethics of empathy (Holland, 2007). This gave me two souls in one body, and I kept a safe distance between my

two roles throughout. To me, this was a relationship that was both professional and personal, and the people I sometimes relied on emotionally were the very people I sought to analyse for the purposes of knowledge production (Figure 3.10).



Figure 3.10 After the lockdown began, I continued to gather and clarify information, which mostly occurred in backyard chats after that day's labour, when *Ais* (grandmothers) were *duchang* (enjoying daytime drinking).

The picture shows a scene I was able to capture on camera. The *Ai* at the centre was my guarantor of housing; she passed away in 2020.

The relationships I built for this research were more than functional. My entry to the field was perceived differently according to the different stakeholders: for the scholars in the capital and city, I was a PhD student working on my dissertation fieldwork; for the college and school teachers, I was a researcher sharing new ideas and adding merit to their works. For the villagers, I was an ethnographer, meaning that I participated in all activities where I was welcomed, and the topics we discussed covered a very wide range, providing entertainment and refreshment. I felt grief while conducting my fieldwork; from their description, I imagined the ice, snow, and animates that used to stabilise the seasonal change, now gone, and their absence threatening the community. The grief also came from

seeing the marginalised group having no choice but to cope with increasing problems arising from the connection to the market, army, and State; it seems that development has not brought them positive fulfilment. But the feeling was revelatory, and I could not identify the meaning of it exactly; it was like a dense cloud sitting at the edge, and some uncomfortable humidity was filling the air. Reflecting on my own performance and the cultural codes (Henry, 2012) in the fieldwork contributed to the ethical boundary and sometimes resulted in detachment.

I addressed my research participants as *Apa/Ama*. *Apa* is the respectful term used to address many older males in the community; it literally means father. Initially, I just imitated what my translators did in the conversation; later, I discovered a strategy, the intimate semantic implication, that drew my researcher status closer to the informants. However, my continued use of this term in this dissertation suggests that my personal and scholarly identities are one, and therefore that I am discussing the people and the environment that I personally care about.

The mountain is vast, and I cannot really find my way in the forests. It has a roaring quietness, suggesting that a lot is happening, yet overall, it feels like a calm equilibrium with no speech. The rain and soil are moving agents ferociously reshaping the landscape during monsoon, and the snow pulls my leg until I dig holes in the ice marking a proceeding. The night sky in the mountains has a velvet texture. While brushing my teeth with really cold water before sleep, I could sense some lively actions of animals or others taking place not far away. Mountains are not serene, effacing all urban-derived projections and stress. Mountains are places where survival and beauty occur at the same time; killing and caring are two sides of the same coin. On this ground, I think I can communicate with my research participants; we are both realistic and vigilant, and with no ambition to conquer mountains, we surrender to the mountains.

3-8 Data analyses and writing

Binding threads

After completing five or six interviews, I began to draw out the key information that

established a pattern. This included the narration about snow, the summit glacier and the process of transhumant migration. After gaining a panoramic view of the importance and linear process of grazing, I began to ask more questions freely, seeking to clarify additional details, as well as different perceptions and experiences.

Each interview opened with a brief life story so I could know which part of their lived experience was most related to my research questions. Since I was visiting their houses in the sitting area or on the patio, there were everyday objects around us, so I would pose questions about these. Especially with objects made from animals, obtaining information about them became easier in this way, and it made the respondents more comfortable discussing hunting and trading wildlife prey with outside buyers.

I gradually learned of some 'sensitive' topics for the Monpa people; for example, *Jhum* (shifting) cultivation was a sensitive topic in much scientific research on livelihoods because it was regarded as destroying the ecology and increasing greenhouse gas emissions. However, most of the experienced agriculturalists pointed out that people gradually left farming for daily-wage jobs, and it was not a sensitive issue when acquiring people's memories and practices about it. Some studies suggest that the Monpa people are divided into the *Brokpas* (nomads) and *Umpas* (settlers) (Namsa et al., 2011), but in my fieldwork, no one mentioned that categorisation. This might be because the division of these two types of livelihood has ended, with more mobility in trading, higher education and urbanisation. I found that the way of life was greatly diverse and flexible; the migrating herding activity, the swidden farming, the trades and whole settlement relocation were strategies to cope with environmental change. People did not choose to become herders or agriculturalists; their role depended on how and where they picked up these skills and knowledge, and if these could be applicable at a given time and place.

I also noticed that the village council did not enforce a set of rules and ask people to follow them; they existed rather as a platform to signpost issues, monitor the actualisation of agreements and reconcile disputes. Most of the officers in the District Commission were from local areas or from other districts of Arunachal state.

I had three types of notes (interviews, field notes, and diary) to analyse. I did not use any

software; I coded with side notes and markers. The interview number was not too large, and the narratives had their distinctive styles; they were not like complete stories, songs, or speeches. Situational notes need to be added to comprehend some meanings; the coder's sense and sensibility were both required. Neither conventional software nor AI could do the job. I first worked out a general picture of what I knew about the daily life scene and usual activities going on in my fieldwork sites, and then coded the relevant key information from these notes. Writing pages freely helped with the work. In conversations and interviews, I learned about the local people's theory as to causes and effects. I cross-checked with other respondents to determine whether it was a unique opinion or, to some extent, a shared sense. Once confirmed as the sense shared by a few, it held social and cultural importance in constructing the research narratives.

I first produced descriptive writings from the fieldwork facts and the evidence people provided. I read them several times to decide the interpretations; research is a theory-informed engagement with facts. I was building a web of meanings while listening to my participants. In the data analysis period, I went through notes and recordings piece by piece, sensing how I might interpret them differently then and now, binding and challenging my understanding of that web of meanings. The writing steps were repeated several times and lasted until I had finally completed the storyline.

Writing ethnography

I first began by writing vignettes. I used dense descriptions to convey what I was told and what I saw, heard, felt, and intuitively connected during the interview interactions. Out of a general lack of confidence, I wrote many of these vignettes, including about myself, regarding the role I was seen and treated in, and how I reacted to others.⁶⁹ Writing, reading, and reflecting on these episodes helped me revisit the moments when the information was exchanged and allowed me to transcend them. Especially after a painful relocation and traumatic, unfulfilled fieldwork, my mind lost touch with the temperamental, place-based

⁶⁹ This has to do with the fact that I was working with translators and am not from the community I researched.

memories for a while.⁷⁰ I watched videos, listened to radio recordings, and subscribed to Monpa and Arunachal keyword-indexed Google alerts. As my mind travelled between the field (the past, my notes and diary) and the desk (moving out from the field and stepping aside to locate the facts and narratives), the researcher's stance was held. There was no fixed general impression about anything; the fieldwork data were fragments and partial facts, and my duty was to make representations.

Ethnography writing relates to the writer's perspective and sentimental space. However, I did not have prior experience of living in the Himalayan mountains; what I said was what I learned from and with my informants. I felt a lot of emotions when writing in the first year. The emotions came from the frustration of feeling that 'I did not finish my fieldwork properly,' and they also came from bereavement. Some research participants who were very close to me during my fieldwork passed away in 2020 and 2021. Back at home, both of my grandmothers had Alzheimer's disease, and they passed away in 2021. I was not satisfied with the output, but life/study had to go on. The pandemic almost turned the world upside down; questions about what the environment means and how environmental emotions matter troubled me for quite some time.⁷¹ In a way, my fieldwork and life in the Himalayan mountains were otherworldly to me. My mental health was not in normal shape during the first two years I moved back to Taiwan due to the COVID-19 outbreak in the UK.⁷² Emotions were reflected in thinking and writing. I had to rediscover myself before I could write about my research again.

Reconstruct the whole research to find the story

Although my supervisors gave me their judgment at the first post-fieldwork meeting that they thought I had gathered 'enough data for a PhD dissertation,' deep in my mind, I did not agree

⁷⁰ Delusional as it might sound, I was disturbed by thoughts of COVID-19, and I did not think I could produce work that does justice to the place without my stress-impacted perceptions.

⁷¹ It would be relevant to admit that I did read many self-help books and psychology books.

⁷² Because I was a 'newcomer' back to my own country after a decade, my Mandarin was crippled, my manners and knowledge did not keep up with others in the society, and my personal life was filled with hospital care responsibilities, family financial issues and funerals of my loved ones.

with them for a very long time. I took a long time to work out the story of this dissertation, as my mind tends to consider all situations and incidents related to the field and the people I research. Since 2020, the border conflict between China and India has gone on and off and has made global news often. This long border (part of it contains Arunachal Pradesh and the areas dwelled by the Monpa people) entails more than 2,000 miles and ecological costs to pay for that confrontation. It was rather emotionally disturbing for people who care about that area, the humans and nonhumans living there, yet I have to ‘regulate’ my emotions (Hovland, 2012). My research participants were not directly influenced by the ‘fights.’ Still, many of their family members or relatives have been employed in the Indian army and India-Tibet Border Police force. Whenever there are ‘potential events,’ the network will be shut down temporarily in all border areas.

The dissertation was not just a key part of a degree or the next step in career development. It was also a conclusion of both my efforts and those of my research participants: what we collated and contributed in trying to answer a big question: how, and in what way, should development occur in and for the Himalayas as a whole, leaving no one behind? In the end, I looked through all the data I possessed, and based on that, I adjusted the research questions and conceptual frame to the data that were relevant to the core research focus. Isolation during COVID-19 was a drag on the writing. I joined Academia Sinica⁷³ as a visiting scholar to keep my mind in the academic circle. Some insights into Buddhist philosophy, nature, and religion resulted from the discussions, seminars, off-work chats and lectures during the visiting fellowship.

In the last phase of dissertation writing, I have used Chat GBT-4o to aid the theoretical building work. I use the AI to analyse my own writing, produce matrices of my analytical sections and academic conversations. This helped me to capture what I was trying to say. AI, such as Claude and Gemini, provided a second eye for me to reflect and edit for better clarity. I have also asked them to rephrase and refine English sentences, to change the tone

⁷³ I owe many thanks to the kind senior and peer colleagues there, especially the Religion and Environment Research Cluster members of the Institute of Ethnology (Anthropology).

of language to a more academic style.⁷⁴ I use Claude AI to assist me in reading academic literature, and I used Perplexity AI to expand the potentially related fields of research that I was not aware of. As in the last phase, I was under tremendous pressure, and my mental state could not afford a large quantity of reading and note-taking work. It was a dyslexia syndrome caused by chronic stress; the conversation with LLMs helped me organise my thoughts. Furthermore, I have used Chat GPT-4o and 4.5 models and hired two proofreaders to tune the clarity, check logical sequence, and avoid grammatical mistakes after the first draft was done and before the thesis was submitted to the examiners.

I cannot say that this research represents how the Monpa people or the Himalayan herder community generally feel about the environment. However, I think the lived experiences and description of feelings provided by my research participants in Jang, Tawang, Monyul and some in New Delhi, contribute to the understanding of environmental emotions, climate change emotions, and emotional pathways in experiencing the rapid social, economic and cultural changes that the Himalayan mountain dwellers undergo as they become citizens of the country. These testimonials were largely drawn from a generation that is vanishing, but because of the talking and gathering elicited by my research, some of them will be remembered.

⁷⁴ I have asked questions such as: ‘how can I make this paragraph sound more academic in British style? I feel the current writing is too loose, and the connection to concept A is not working. Please provide me with suggestions. Do you think concept A is linked to concept B, because I think these are the reasons.’

Chapter Four

Theoretical and Conceptual Framework

4-1 Mapping the Conceptual Terrain

This chapter establishes the conceptual and theoretical foundations of the study, offering a situated framework for analysing the lived experiences of the Monpa transhumant pastoralists amid environmental, political, and epistemic change. With a focus on the community's emotional relationships with their environment, I will first describe emotion research in relevant social sciences fields, situating the said distress (or more often regarded as ecological grief and eco-anxiety) in the field of affective ecology, and then relating the meanings of these emotional responses to environmental and mental adaptations. I particularly centre the literature by anchoring the conceptual architecture for solastalgia, a term coined by Glenn Albrecht (2005) to describe the distress and longing for a home that is being transformed by environmental change. Then I discuss two major drivers and consequences of environmental change for Monpa societies: mobility and modernisation. Mobility is a distinctive feature of pastoralist life, and it suggests a bodily experience in knowing about the environment (with change). Mobility is also a highly debatable and yet to be bridged to a formal policy focus regarding climate change and migration. For modernisation, I combine the literature from development studies and anthropology and intentionally link it with Indigenous studies. Therefore, coloniality, temporality, and justice, these highly important topics for the Monpa and other ethnic minorities in the world, are included in the review.

I also worked on the place, the Himalayas, besides the people. A section to address borderland and scholarly constructions about the Himalayas/Himalayan borderland is included. By doing so, I seek to provide a reflective foundation for the readers to juxtapose the living environment from different points of view, and also understand the complexity of the ontological ruptures that I will analyse in the empirical chapters. A disenchantment and

demystification of both the Himalayas and the remote nomadic people are necessary. Monpa people are not the only or most important characters that have been causing the environmental change in this ecologically and spiritually important mountain range; greenhouse gas, geological and ecological system functions are also part of the change. And the State(s) and consolidation of borderland build on this fragile slope. The principles and laws that the Monpa abide by are as important as what modern science measures and deduces.

Before ending this chapter, I make a review of the commonly and widely used action: adaptation, and point out the problems with it. I link solastalgia with the transfiguration concept to describe the process of adaptation, meaning to open the narrative and meaning-making space to such a happening, suggesting agency and place are important factors to watch and assist the Himalayan mountain dwellers' development. In the later empirical chapters, I will unpack the details and reassemble the stems of solastalgia and transfiguration with ethnographic data.

4-2 Feel about and for the environment (while being in it)

The research on emotions and their relationship to environmental change has evolved across multiple disciplines, yet a coherent understanding of environmentally-induced distress remains fragmented. In psychology, the discussions surrounding emotions, including whether there are basic emotions, if they are 'natural', how emotions are formed, how they function in human social lives, and how they are instrumentalised in relationships with others and nature, have been influenced by various schools of thought and political agendas throughout history. In this section, we will focus on distress and stress caused by environmental factors.

The foundations for understanding environmental distress can be traced to Hans Selye's mid-20th century work on stress physiology. His General Adaptation Syndrome (GAS) defines distress as the adverse physiological response to prolonged stressor exposure, encompassing alarm, resistance, and exhaustion stages. This framework established the cornerstone of modern stress research by differentiating distress from eustress (beneficial stress) (Selye 1936, Jackson 2014). However, Selye's physiological model could not fully

capture the complex emotional dimensions of living in environments undergoing continuous change.

The emphasis on cultural and contextual differences has flourished in recent two decades, such as emotional expressions and patterns vary with cultures and personalities (Diener et al., 2003), with words carrying lived experiences and memories to pass on (Scollon et al., 2003). Therefore, when we consider environmental emotions, such as grief, anxiety, or sorrow, in response to environmental change, it is important to avoid the bias of treating emotions with similar causes as if they are the same in type or experience.

This recognition has begun to shape global health policy. The World Health Organisation (WHO) acknowledges mental health impacts of climate change in its Climate Change and Health brief (2021), calling for climate-resilient health systems that integrate psychosocial support. Concepts such as climate anxiety and ecological grief are discussed as emerging public health issues. Scholars like Cunsolo & Ellis (2018) published in *The Lancet Planetary Health* and called for concepts such as ecological grief to be included in the global health policy framework.

Aiming to impact the current framework of health or wellbeing by introducing new concepts, efforts were made in philosophy, too. Albrecht first articulated solastalgia with identity, as the pain or distress caused by the loss or lack of solace and the sense of desolation connected to the present state of one's home and territory (Albrecht 2005), drawing from empirical observations of environmental degradation in Australia's Upper Hunter Valley due to coal mining and drought. This idea was further developed in his 2019 book *Earth Emotions: New Words for a New World*, where he expanded on a vocabulary of emotional responses to ecological change and advocated for a new era of symbiotic human-environment relations. Albrecht's intellectual trajectory thus bridges place-based distress to a broader emotional ontology, with an intention to use terminology as a catalyst for rekindling affective bonds with the earth amid crises. Albrecht explicitly categorises solastalgia as a subclass of distress, emphasising that it is unlike traditional nostalgia, which involves longing for the past; it represents the immediate pain experienced due to ongoing environmental degradation.

Solastalgia has gained considerable traction in academic and public discourse since Albrecht's introduction in 2005, appearing in over 100 peer-reviewed publications, scoping reviews, and validated scales like the Brief Solastalgia Scale (BSS) (Christensen et al. 2024), with applications in climate psychology, environmental health, and PTSD research. It is not classified as a formal medical diagnosis in DSM-5 or ICD-11, but functions as a psychosocial construct for environmentally induced distress, sometimes treated akin to depression or anxiety via therapy. Solastalgia, eco-anxiety and eco-grief appear frequently in contemporary media and communications. Scholars have argued that solastalgia overlaps with but is distinct from eco-anxiety (chronic fear of future ecological collapse) and ecological grief (mourning lost species or ecosystems), focusing instead on immediate, place-based pain from observed degradation in one's home environment, from reviewing empirical research regarding these 'feelings'.

The above research intends to define the feeling's conceptual contour, yet to suggest the ways to approach such distress with a culturally-appropriate approach. Critical questions persist: what constitutes 'the environment' in varying contexts, and through what processes are environmental changes perceived and interpreted? Addressing these questions is perhaps more fundamental than merely documenting the phenomenological states of human consciousness. Emotions ought to be conceptualised as dynamic affective conditions situated within broader ecological relations, rather than reduced to simplistic victim-perpetrator narratives. And the non-human that comprises the majority of the environment should be included in the frame.

In the following section, I will use affective ecology to explain the tuning mechanism between sensing environmental change and feeling the sentiment. The importance of affective ecology lies in its challenge to traditional, rationalist models of sustainability, emphasising instead how emotional and embodied experiences influence environmental attitudes, behaviours, and policy support. Affective ecology (Tsing, 2015; Anderson, 2014) conceptualises emotion/affect as a distributed and emergent force, arising in encounters with more-than-human others whilst foregrounding the political dimensions of environmental change. Feelings are political. Stewart (2011) introduces the concept of

‘atmospheric attunements’ to describe how people become alert to emergent atmospheres that register as collective affects, intensities, and rhythms: phenomena that are at once sensory, material, and imaginative.

Rather than perceiving emotion as a state of being and emerging from situations, Stewart (2011) describes atmospheric attunements as collective moods and environmental conditions that become mutually constitutive. Attunement describes a practice of becoming sensitive to the rhythms, signals, and liveliness of more-than-human worlds, a mode of noticing and caring; even amidst precarity, phenomenological attunements to specific multispecies histories emerge (Tsing, 2015). Affect becomes a form of ecological literacy; besides living with noticing the change of the surroundings, it also includes a way of sensing degradation, violence, or transformation before it becomes measurable or named. Where does ecological literacy come from? Identity does not seem to be the source of it; experiences should matter. Doherty and Clayton (2011) emphasise the importance of promoting emotional resilience and ecological literacy in addressing climate change impacts, arguing that psychology must play a central role in helping individuals cope with climate-related distress. The question is, how does people’s affect co-change with the environment, was it existential or consequential?

Meanings and meanings of emotions might be a good venue to start understanding how affect becomes instrumental in human choices and behaviours, and the boundary between solace and distress/desolation. Cultures matter, and they have been changing, including the ‘indigenous’ cultures. Regarding the meanings of emotions and experiences of living through environmental change, the anthropological approach is powerful (Barnes et al., 2013; Crate and Nuttall, 2023); emotions are socially and culturally constructed, performed, and relationally embedded (Lutz, 1992; Lutz & White, 1992; Clough & Halley, 2007). Understanding the context could be beneficial to understand ‘why’ anxiety, grief and solastalgia. As Lutz (1985) reminds us, the task is not to universalise emotional experience, but to trace the boundaries through which distress and attachment become meaningful, situated, and politically consequential.

Recent studies reveal how environmental degradation generates new emotional registers

that exceed existing cultural categories (Konishi, 2019). In mountain regions, where environmental changes are particularly pronounced, one important contribution of anthropologists is that they documented complex emotional landscapes shaped by glacial retreat, water scarcity, disrupted seasonal patterns and people's spiritual life. Spiritual relations (including kinship with nature) are a key feature of Indigenous cultures. In the Peruvian Andes, Carey (2010) traces how Indigenous communities mourn disappearing glaciers not simply as water sources but as *apus* (mountain deities), illustrating how climate change grief encompasses the loss of more-than-human relationships.

In the Himalayas, Gagné's (2020) ethnography of Ladakhi communities reveals how climate change generates 'emotional dissonance' as sacred landscapes transform, disrupting long-standing relationships between people, deities, and glacial waters. Drew (2012) similarly demonstrates how Himalayan communities experience anxiety and uncertainty as monsoon patterns shift, affecting agricultural cycles that structure temporal and ritual life. These studies illuminate how environmental change destabilises not merely livelihoods but entire cosmological systems, generating emotional responses that interweave ecological, spiritual, and economic concerns. Sherpa (2014) documents how Sherpa communities in Nepal experience profound spiritual distress as glacial lakes form in areas previously considered pure and sacred, suggesting that environmental emotions cannot be separated from ontologies of environment.

As we have moved gradually from a micro-level emotional experience to a collective and societal dimension, it is necessary to place the environment in the perceptual frame. The concept of Anthropocene, a geological epoch marked by human impacts on global ecosystems, has been gaining acceptance and criticism along with the growing discussion about climate change. It places humans, universally, with unjustified shared responsibility at the centre of environmental degradation. Mathews (2020) thus suggests that such a concept (or maybe more similar concepts) makes us notice and analyse humans and environments in different ways, perhaps more patchy and power-sensitive. This research describes the human-environment symbiosis as 'dwelling'. Ingold (2000) describes dwelling as a way of being-in-the-world where knowledge arises through embodied engagement and

movement within the environment, rather than abstract planning; dwelling is living through, rather than upon, the land.

This not only fits the Monpa people, but also in the urban setting; not only a settled way of life, but also the dwelling concept normalises moving. And this dwelling constitutes place-based attachment. Ahmed (2004) argues that emotions flow, they are dynamic and organise collective attachments, reproduce power relations, and generate affective economies that structure who belongs and who is excluded; 'emotions circulate and 'stick' as a form of social investment, shaping bodies and spaces in ways that reflect and reproduce power' (Ahmed 2004: 119).

The human geography literature on place-based emotions also stresses the role of 'dwelling' or 'home' as more than a physical location; rather, it's a lived spatial and emotional experience that fosters belonging and ecological connection. Foundational theorists like Yi-Fu Tuan have foregrounded 'topophilia (the affective ties to place)' as central to understanding place attachment and identity formation. This affects not only personal wellbeing but also collective attachments that contribute to a sense of ecological security or biospheric stability. Emotional geography, a subfield within human geography, studies how feelings, memories, and identities are deeply spatial and interwoven with landscapes, highlighting how changes or threats to place can provoke emotional distress and jeopardise ecological security (Tuan, 1974; Massey, 1994; Davidson et al., 2005). On the other hand, disruptions to this sense of home, caused by environmental degradation or displacement, can undermine both psychological health and ecological resilience, thus tying affective experiences tightly to the sustainability of ecosystems and communities (Cresswell, 2004).

Solastalgia represents the distress that emerges when affective relationships between people and place are threatened, manifesting as a form of 'in-situ displacement' within emotional geography, where individuals experience alienation whilst remaining physically rooted in their home environment. Through distress, solastalgia articulates shifts in affective topographies, revealing how familiar landscapes become estranged through environmental degradation. Bodily experience serves as a conduit for emotionally charged

information emanating from the environment, whether through breathing polluted air, witnessing deforestation, or sensing climatic disruptions. In this sense, solastalgia functions as a litmus test, detecting and making visible the deterioration of environmental conditions rather than signaling emotional collapse. It is an adaptive sensory response that registers ecological degradation through embodied knowing, positioning human emotion not as pathology but as environmental intelligence.

From Marx's structural critiques to Simmel's concerns with urban alienation, early theorists viewed emotion as secondary or obstructive to social analysis. Yet the affective turn has since reoriented inquiry to foreground emotion as a constitutive force in political life, environmental attachment, and knowledge-making. Contemporary anthropologists argue for an approach that considers how emotions are shaped through context, practice, and intersubjectivity, including between researchers and participants (Beatty, 2005; 2019). Rather than treating emotion as a universal set of measurable states (Ekman, 1992), researchers now situate emotions within place-based, historical, and cultural worlds, including the ecological and more-than-human (Barbiero, 2014; Gorman-Murray, 2010). The subject of place-based emotions remains one of the hardest to theorise in (Russell et al., 2013; Wierzbicka, 1999), yet it has become a significant issue in the social science (amongst others, Craib, 1995; Rolls, 2005; Beatty, 2014; McKay, 2007; Anderson, 2014; Ahmed, 2013), especially across social and psychological disciplines (Sclater et al., 2009).

Back to solastalgia, more recently, it has been included in pan-mental health studies regarding environmental degradation (Wahid et al., 2025), or climate actions and strategies of different cultures and societies (López et al., 2025), and linked with justice (Galway et al., 2019). This research extends the conceptual boundary from the anthropogenic influence on feelings to a greater focus on the relationships connecting emotions and nature, encompassing 'attunement' or 'dwelling', and finding evidence in affordance change. Environmental change is not merely a physical process; it is affectively and ontologically disruptive/constitutive to the related subjectivities. This section foregrounds the emotional dimension of climate and environmental change, situating emotion not as secondary to

rational adaptation, but as constitutive of how people live through and make sense of ecological transformation. Emotions are intimately tied to values, identity, and perceptions of justice. Recognising the affective responses can deepen our evaluation of Loss and Damage⁷⁵ by revealing whose losses are acknowledged, whose suffering is rendered invisible, and how justice is felt, demanded, or denied (Cunsolo et al., 2020a; Eriksen & Bristow, 2024; Thomas & Benjamin, 2020).

4-3 Mobility

Transhumance pastoralists closely follow the seasonal changes in temperature and pasture growth. The herders and herds migrate upwards for four months to summer pasture grown from melted ice and heavy snow. When the warm weather recedes, they gradually migrate down and stay together inside or near the human settlement for two to three months of the harsh winter. Migration is the key action in this livelihood, and mobility is a part of their ontology. If the animals cannot move upwards in summer, their body systems cannot deal with the heat and may fail. Grazing routes provide enough food for the herds, with consumption of grass, tree leaves, and wildlife to sustain the herders' diet. Mobility ensures that the herds do not exhaust their resources, and suggests a non-sedentary basis of problem-solving mindset. Migration allows different groups of herders and herds to mix, exchange knowledge and crossbreed stock to strengthen the capacity and health of each animal-human team to survive and navigate the course ahead. In the mountain range, verticality provides several micro-environments, the migration spreads distances in two dimensions, and knowing how seasons change ensures the certainty of movement and preparation. Such experiences surely impact emotions besides perceptions, for example, Orlove's (2009) comparative work across mountain regions demonstrates how verticality shapes emotional experiences of environmental change differently than lowland contexts. Not being fixed in a human-built ranch, nor among a vast fenced platform, transhumance in the mountains is closer to the provision of 'wild' and 'nature', as well as tied to the

⁷⁵ The concept of 'Loss and Damage' was formalised under the UNFCCC through the Warsaw International Mechanism (WIM) and later strengthened by the establishment of the Santiago Network and a Loss and Damage Fund (UNFCCC, 2022).

anthropogenic exchange, making an interesting case to consider the mobility/migration effect with environmental change displacement.

Environmental change and displacement have a long, tangled discourse, mostly perceived as a large number of people have been ‘moving out of’ their homelands. These migration patterns are often triggered by economic reasons to soothe the loss and survival of the community, not necessarily permanent, and possibly develop into a diaspora. The theory behind this interpretation is that migration emerges as an adaptive strategy to buffer environmental shocks (Ober, 2019). Socio-economic change and human mobility are interactive processes (Castles, 2009), be it that people are moving as a way to adapt to adversity in their lives, such as poverty or climate change, or both (Black et al., 2011, Hummel et al., 2016, McLeman & Smit, 2006, Raleigh, 2011, Verner & Verner, 2010), or building instrumental relations to contribute to the material wellbeing of the production unit (usually a household). Migration helps to economically diversify the household income source and livelihoods (Wodon et al., 2014), but it also enhances the vulnerability of the moving agents (Feng et al., 2010; Gemenne, 2011; Warner et al., 2010). While migration typically refers to the demographic movement of people from one place to another, mobility also captures the shifting conditions, aspirations, and constraints that shape how people move, dwell, and relate to space and place.

The problem of justice remains a vague area with regard to these phenomena, whether it is for environmental restoration (for the environment itself) or because environmental degradation was a de facto oppression of one group of people over another. Mobility has been an indicator to sense such unjust situations, debates including environmental hazards (Drabo & Mbaye, 2015; Mbaye & Zimmermann, 2016), reduced mobility or immobile communities (Grey & Mueller, 2012), and they show that mobility is not only ‘a way out’ but also ‘the right to choose where, how, and when to stay or move’. Mobility is not only a response to crisis, but it is also an ontological condition. Thus, when extending social protection and welfare for the climate-change-induced vulnerable groups, mobility should be included. Many researchers have called for the establishment of a new category of legal protection for so-called climate refugees (Berchin 2017; Collins 2013; Johnson &

Krishnamurthy, 2010; Lister, 2014; McAdam, 2012).

The theories or theorisation of mobility reside in a gap that they are unable to provide a legitimate basis for the mobility protection that the above literature suggests. Mobility discussion was embedded in the modernisation discourse; the basic scheme suggested the development of traffic systems and roads, which released human power from rural or feudal systems. Such 'modern mobility' is highly dependent on fixed infrastructure, while the 'new mobility paradigm' argues that mobility should be regarded as the centre of social life, rather than just transportation from one place to another (Sheller and Urry, 2006). Following the thread of social relations and mobility, Scott (2009) argues that mobility functions as a deliberate political strategy used by peripheral populations to remain 'invisible' to the state and evade the constraints of sedentary grain agriculture and taxation. The conceptualisation of mobility as a hallmark of modernity often fails to account for the ontological mobility of pastoralist societies, whose movements are not a 'liberation' from land but a sophisticated form of ecological and political engagement. While mainstream mobility studies frequently focus on infrastructure-led flow, they often overlook the process by which the modern state uses administrative boundaries to alienate mobile populations from their ancestral rangelands, the 'internal territorialisation' (Vandergeest and Peluso, 1995).

Historically, the relationship between nomadic groups and the state has been defined by a structural antagonism; the state's requirement for fixed, taxable, and 'legible' subjects directly clashes with the fluid, cross-border sovereignty inherent in pastoralist life. In the context of the South Asian and Himalayan highlands, this tension is no longer merely a matter of administrative friction but has escalated into an existential crisis. The contemporary survival of mountain nomads is now caught in a pincer movement: on one side, intensified geopolitical securitisation has severed traditional transboundary migratory routes; on the other, climatic volatility, including glacial retreat and erratic monsoon patterns, has rendered traditional ecological knowledge increasingly precarious. Consequently, these populations are being transformed into 'climate refugee' within their own lands, as the rigid structures of the Westphalian state system prove incapable of

accommodating the flexible mobility required for survival in a warming world.

Such experiences resonate with many other groups in the Global South; mobility constitutes a way of being-in-the-world: a practice of sustaining relationality with land, kin, and futures. Addressing climate-related movement thus requires more than infrastructure and governance improvements (Inderberg et al., 2014); it demands a rethinking of the ontologies that underpin mobility, adaptation, and resilience. A slow but significant shift is visible in international frameworks, linking human rights, climate justice, displacement, and sustainable development in a more integrated manner (Naser, 2020). Technocratic and cybernetic approaches focus on phenomena or a set of behavioural patterns, showing eagerness to resolve the burning issues (Boas, 2017; Cai et al., 2017; Kniveton et al., 2011; Kniveton et al., 2018; Meekan, 2017); however, this also needs to be combined with an approach that thinks in more human and imperfect ways (Crane et al., 2011; Lakerveld et al., 2015; Orlove et al., 2019; Roudier et al., 2014). Others have pointed out that the view of migrants as individualistic, determined decision makers falls into the trap of neoliberalism (Felli, 2013; Felli, 2018; Bettini & Gioli, 2016).

In South Asia and the Himalayan region, there is a persistent tension among the state, fragile ecological environments, conservation movements, and the ongoing extraction of energy and minerals. This dynamic fuels increased human and material mobility, often complicating governance and sustainability efforts. Arunachal Pradesh in Northeast India exemplifies these challenges, where geopolitical border sensitivities, hydroelectric projects, and mining operations intertwine with Indigenous land rights and conservation concerns. The region's contested resource governance reveals how state interests frequently clash with local livelihoods and ecological conservation, leading to displacement and altered mobility patterns (Mitra et al., 2013; Singh & Kerven, 2023).

Placing the Himalayan pastoralists' issues in the overall pastoralist societies' knowledge map makes the understanding of 'friction' important. Many pastoralist tribes were displaced or had their access to traditional territories restricted due to wildlife conservation efforts (Casimir, 2001) and have continued to suffer from unfavourable government policies (López-i-Gelats et al., 2016). The friction between the state and pastoralist groups has

always been a point of contention, with pastoralists adapting through biopolitics and becoming more deeply integrated into state-led development projects and lowland economy-controlled markets, particularly in the case of the Eastern Himalayas. This dynamic has led to a range of different outcomes (Agrawal, 1999; Chatty & Colchester, 2002; Dong et al., 2016; Goodall, 2004; Ibrahim, 2004), which require more place-specific and time-specific investigation.

Season and border are two keywords to understand the pastoralists' development in the Eastern Himalayas. Pastoralism in the Himalayas is characterised by seasonal mobility patterns, allowing herders to utilise high-altitude pastures and adapt to harsh mountain environments (Bhasin, 2013; Bhasin, 2011). However, the complex interplay of social, political, and ecological factors continues to shape the future of Himalayan pastoralism (Sati, 2008). Traditional pastoral practices face numerous challenges, including restrictions on movement, shrinking grazing areas, and changing government policies (Dangwal, 2009) due to the reorganisation of political boundaries (borders) and huge development projects. Pastoralists have had to adapt their livelihoods, often transitioning to settled agriculture or urban occupations (Bergmann et al., 2011).

The closure of borders and political changes have significantly impacted transhumant communities (Mitra et al., 2013). Climate change, labour shortages, and declining traditional knowledge have put further stress on pastoral systems (Singh & Kerven, 2023). Border closures and political tensions have severely disrupted transhumant pastoralism in the Eastern Himalayas, particularly along the India-China border in Ladakh, where Indian military restrictions since the 2020 Galwan clash have barred herders from traditional winter pastures in 'no-man's land' areas like Rezeng La and Mukhpari, exacerbating livelihood threats. Similarly, the Food and Agriculture Organisation (FAO) documents how Nepal-China border closures have intensified grazing pressure on Nepali pastures while protecting Chinese ones, compounded by geopolitical shifts since the 1950s that enforce national boundaries on historic migration routes (FAO, 2001).

In facing these challenges, particularly the restricted mobility, some pastoralists demonstrate flexibility in their migration patterns and adapt to new economic opportunities

such as mountain tourism (Ikeda & Ono, 2004). However, such changes also endanger the traditional culture and identity of Indigenous mountain dwellers, whose ancestors have lived with their more-than-human partners for hundreds of years. Tourism, labour migration and state-led removal of pastoralists from the protected areas are threatening the existence of transhumance in the Himalayas (Singh, 2021). Transhumance was more than a livelihood; it is a relational action and an identity experience.

The Himalayan pastoralist research and environmental research also include a growing body of hazards-focused, risk assessment and explaining environmental degradation with human livelihoods literature. For example, ICIMOD reports further pressures from climate change, such as erratic snowfall and glacier retreat alongside labour shortages and eroding traditional knowledge among Kailash Sacred Landscape herders, undermining adaptive capacity in the Hindu Kush-Himalaya region (Pasakhala et al., 2021). However, this type of literature enhances the vulnerability impression yet hardly addresses the historical injustice of the development issues of these places, nor do they try to relate to the Indigenous logic of thriving and safety.

Northeast India presents a striking paradox of simultaneous out-migration and in-migration, where local youth increasingly leave the region whilst external capital, military forces, migrant workers, and development personnel flood in. This contradictory mobility pattern reflects the region's liminal position within the Indian nation-state. It is simultaneously peripheral and strategic, neglected and militarised, underdeveloped and resource-rich (Baruah, 2005; McDuie-Ra, 2012). These mobility dynamics are fundamentally shaped by histories of colonial annexation, postcolonial marginalisation, and ongoing counterinsurgency operations that construct the Northeast as both a 'frontier' zone requiring securitisation and a 'backward' region requiring development intervention (Baruah, 2020; Kikon, 2019). I will explain the colonial context further in the next two sections.

To combat the negative impacts of climate change, the government's response (Baldwin & Fornalé, 2017) is crucial, starting from the early stages of addressing disastrous effects to reducing the scale of out-migration. However, state intervention could be another driver that causes dispossession and identity problems through forcing the pastoralists to move and

settle. China's ecological migration (生态移民) policies in Tibet represent large-scale interventions ostensibly aimed at environmental protection whilst fundamentally restructuring Tibetan pastoral livelihoods and territorial control (Yeh, 2013; Brox and Bellér-Hann, 2014). Since the early 2000s, these programmes have relocated hundreds of thousands of Tibetan herders from grassland areas into newly constructed settlements, justified through discourses of grassland degradation, wildlife conservation, and poverty alleviation (Du, 2012; Rogers and Wang, 2006). However, critical scholarship reveals ecological migration as a form of state territorialisation that serves multiple strategic objectives: securitising the plateau, accessing mineral resources, and transforming pastoral populations into sedentary, governable subjects (Yeh, 2013; Ptáčková and Blažek, 2015). Bum Tsering and Gaerrang's (2017) research in Golok reveals how ecological migration impoverishes previously self-sufficient pastoralists, creating dependencies on state welfare and wage labour whilst eroding cultural practices tied to mobile pastoralism. The case of Tibet under the PRC regime provides a comparative case to other pastoralist societies living within the democratic regime: how differently these states act upon the minority pastoralists in their 'periphery'.

Emotions and affect function simultaneously as both outcomes and motivations for mobility transformations, shaping how individuals and communities navigate environmental and social change. Strong attachments to place can compel marginalised groups to endure deteriorating conditions rather than migrate, or conversely, to persist along overburdened migration pathways despite mounting costs. Solastalgia and place attachment operate as powerful affective forces that complicate rational choice models of migration, as individuals weigh emotional bonds against material hardship (Philips, 2021). In climate-vulnerable regions, this tension becomes acute: communities may remain in flood-prone or drought-stricken areas due to profound connections with ancestral lands, sacred sites, or kin networks, even as environmental degradation intensifies. In the Bengal Delta, for instance, cyclical migration patterns among Sundarbans islanders exemplify this dynamic, where profound place attachments and solastalgia from salinity intrusion, erosion, and frequent cyclones drive temporary urban outflows (e.g., to Kolkata or Dhaka) while families retain 'one foot in the village' through remittances and social capital to preserve

cultural identity and assets amid repeated displacement (Hossain et al., 2022).

4-4 Coloniality, Modernisation, and Indigenous Futures

Following the introduction of Monpa people and culture in Chapter 2, it should be reasonable to understand that Monpa villages operate different livelihoods, and have diversified methods of earning their survival resources. I chose to base my search in Jang to include the pastoralist livelihood that is significantly shrinking and transforming.

To understand the territorialisation and its colonial context of Monpa people's homeland, the place where they have dwelled in the Eastern Himalayas, the first related academic debate is how the 'state' sees it. Or broadly speaking, how have the Monpa homeland, people and history entangled in the power narratives? There are three keywords: civilisation, location, and development. The civilisation concerns written language, religious passages, beliefs of virtue and justice, and the connection with a civilisation centre: a monastery. The introduction of Tibetan religion, language and the monastic governance system can be traced back to the 14th century in Monyul. The council at the Tawang Monastery controls the border and tax collections in collaboration with Tibet's envoys. The Mon region, Monyul and Monpa were labelled as the periphery for 300 years.

Recent historians suggest a new way to label this region, in the edited volume *Flows and Frictions in Trans-Himalayan Spaces: Histories of Networking and Border Crossing* (2022), Gunnel Cederlöf, Willem van Schendel, and authors tried to redefine Northeast India, Myanmar, Yunnan, Tibet, and Bangladesh as India-China Corridor, providing narratives of how the influence of distant places (including the flow of people, goods, and ideas) has always been transforming these places. Swargajyoti Gohain's concept of 'imagined geography' on Monyul echoes this view about the Himalayan region; she further demonstrates how the local Monpa participated and allied with other ethnic minorities in Arunachal Pradesh to redefine their identity and belonging. This dynamic picture is contradictory to how the Himalayas and peoples in the Himalayas have usually been described: 'remote, periphery, underdeveloped'. And such a contradiction relates to a bigger debate about remoteness in Anthropology, as well as with the other two key words, location and development.

Anthropology has long rejected ‘remoteness’ as a static topographical descriptor but a dynamic, relational, and social construct. Edwin Ardener points out that remote areas were defined externally, by the event-density/event-richness, and ultimately this suggests a certain perception and a produced state of being (Ardener [1987] 2012), and he also discusses a little the specific feeling in ‘remote places’. Besides ‘events’, anthropologists also apply the descriptor of relatedness, and illuminate further on the effect of power (state agenda, historical negotiation and economic spatialisation) in producing the vulnerability of being in the remote, further stating that ‘remoteness’ could be at the heart of urban (Harms et al., 2014). Perhaps to strengthen the explanation about the agents that belong to the defined remote areas, their agency was described as using this ‘invisibility’ or ‘uniqueness’ to create opportunities to coexist with power and danger in marginalised lives (ibid, 2014).

This edginess seems to amplify in human rights as well as geopolitics. Because the Indo-China Corridor, in the late 19th century to early 20th century, was a target for competition between Tibet, ROC, British India and Assam. Monpa people’s homeland stands on the intersection of these cultures and ‘explorations’ with military forces, its location being the main reason. When British colonial forces extended to this area, they did not gain full control but partial control, to maintain observation and survey for resources. Being watched, stationed, and summoned (when needed) has been a common pattern to coexist with ‘powerful outsiders.’ These political infrastructures changed the characteristics of this region slowly but entirely. Coloniality impacts subjectivity, and incorporating how outsiders perceive the Self and home is a valid syndrome. In Gohain’s extensive ethnographic accounts about the political lives of Arunachali Monpa agents and organisations, the mobilisation and remaking of identity, even to become a potential leader for the Himalayan Bhutiya groups, can be seen as valid responses to this theoretical approach.

The word modernisation exists in people’s everyday language in the field, so I included the conceptual definitions and debates about it. I understand modernisation as an elevation of materialistic experiences, but modernisation is surely more than that. Especially in the interactions between the State and Indigenous groups, modernisation has been part of the instrument that legitimises the state’s intervention in people’s ways of life, as well as the

source of stigma that labels Indigenous as not modern enough, or worse.

In sociology, modernisation theory conceptualises societal transformation from 'traditional' to 'developed' societies, positing that less developed countries can progress by adopting economic and social structures similar to more developed nations (Dunn, 2013). However, critics argue that modernisation theory overemphasises Western experiences (Hout, 2016) and risks producing what Nabudere (1997) terms 'reverse modernisation' in non-Western societies. More critically, this framework obscures how marginalised communities envision forms of modernity centred on cultural continuity, autonomy, and reciprocal knowledge exchange rather than imposed development (Srinivasan, 2017). Therefore, the just baseline to understand modernity in our time is to assume that modernity is defined by context, as most probably plural.

As mentioned, modernisation, or modernity (as a perceived image by the power that designs, enforces, and implements modernisation) operates on the relationship between state and Indigenous peoples, experiencing contemporary large conflicts over natural resources. Land, river, mountains, forests, as well as the minerals are soul, rock, flora and fauna, the exploitation, extraction, proliferation and profitisation of them, the state and Indigenous societies often have different views. 'Development' has become an almost 'despicable' process in this context, for it has been used with modernisation to name the state's execution of powers to coerce the local and Indigenous to open up their reservations.

The scholarship of Indigenous researchers such as Huatse Gyal (2019) and Phurwa Gurung (2020) provides a poignant critique of how postcolonial state apparatuses replicate colonial logics of dispossession in their management of ancestral lands, forests, and mountains. Gurung (2020) illustrates how the establishment of national parks, such as the Shey Phoksundo in Nepal, functions as a form of 'fortress conservation' that delegitimises Indigenous tenure systems. By framing the 'mountains as commons' while the state imposes a rigid, exclusionary legal framework, these policies effectively criminalise traditional livelihoods, such as the harvesting of *Yartsa Gunbu* (caterpillar fungus, which is priced high for medicinal demands), and strip local communities of their ancestral resource sovereignty. Similarly, Gyal (2019, 2021) explores how the 'project economy' and state-led

environmentalism on the Tibetan Plateau enforce a narrative of 'backwardness' onto pastoralist practices. By arguing against the CCP's labelling of Indigenous land as wasteland, and pointing out that traditional knowledge is marginalised by a standardising modern education system, he suggests that state-led development often extends colonial-style control over Indigenous geographies, even though the state is considered a postcolonial state.

Infrastructure development emerges as a particularly revealing site of these tensions, most prominently in roads and water governance, but basic education and medical care can be included as well. Demenge's (2011) political ecology study of road construction in Ladakh reveals the ambivalent and uneven experiences of modernity in marginalised mountain communities, demonstrating how roads simultaneously enable and disrupt local livelihoods, environmental relations, and cultural landscapes. Gurung (2021) characterises state-dominated infrastructure projects as 'effect-driven orthodoxies' that prioritise national integration over local ecological realities. In the case of hydraulic infrastructure, the repercussions extend to transforming hydrosociality and reshaping subjectivities and imaginaries (Hommes et al., 2022). Drew's ethnographic inquiry into the Tehri Dam on the Ganga River demonstrates how massive hydroelectric projects become sites where the mutual embodiment of religion and landscape becomes entangled with development, modernisation, and modernity, revealing what she terms 'place-based affect' in borderland dynamics (Drew, 2017). Besides livelihoods, relationality, ecological realities, embodiment of religion and landscapes are spheres for observations, and in the later empirical chapters, this thesis will unpack more.

It is interesting to consider how climate change has entered this debate and perhaps shaken the power relations for some situations that climate change anxiety, grief, or apocalyptic futurism have shaped. Following thirty sessions of the United Nations Climate Change Conference, climate change has emerged as an established 'social fact'. It serves as a master narrative to explain why contemporary meteorological phenomena deviate from historical patterns, becoming a critical benchmark for evaluating a government's capacity for disaster response. Furthermore, it facilitates a nascent global financial transfer (albeit

modest in scale) and reconfigures certain variables defining contemporary global values. The nexus between climate change and modernity suggests that the methodologies of modernisation have both defined the mechanisms of climate change and sculpted its predictive models and impact assessments. Yet, climate change is not an isolated phenomenon within deep history; when viewed through Indigenous deep time, where great flood myths are ubiquitous, it raises a crucial question: Do populations who adhere to Indigenous faiths or retain traditional cosmologies experience an 'Appadurain' tension of modernity within the discourse of climate change?

There is no clear-cut of Indigenous groups v.s strong State overpowering in Arunachal Pradesh. Trying to discuss Indigenous environmental justice (IEJ) is particularly difficult because there are multiple, changing and Christianity-blending philosophies and ethics. Modernity is neither always 'owned' by the state. The entanglement of capitalism, colonialism, and IEJ often results in the erosion of Indigenous ways of life (Sakshi, 2021). Ontology of the suggested 'way of life' is being performed and reinvented in becoming, as time goes by, and it makes an outsider researcher ponder how to define IEJ in this flow of cultural dynamics. Indigenous scholar Gergan (2016) introduces the concept of 'politics of possibility' through her study of Lepchas resisting hydropower infrastructure in Sikkim, describing how Indigenous peoples both resist and rework state-led visions of modernity through people's spiritual narratives regarding the 2011 earthquake. Her works show that research could be a way of accompanying the researched people on the way to becoming.

This 'possibility' seems simultaneously affective and hopeful, yet constitutes a clear refusal of colonial-modernist logics (Gergan & McCreary, 2022). And perhaps such a refusal could be a better leverage for the Indigenous group's negotiation with the state. However, I attempt to see such contestation in a deeper and larger scope, regarding the West and non-West's debates around nature and value. Returning to the philosophical concepts of nature and value enables a critical examination of how 'modern' material and legal frameworks, inherited by postcolonial states, represent a mere re-masking of colonial legacies. Regarding land tenure, one must question whether the persistence of 'customary laws' serves as a genuine decolonial alternative or merely a continuation of colonial

categorisations (Bhandar, 2018). The definition of property rights and the commodification of land frequently lack profound decolonial reflexivity, remaining tethered to a Lockean legal philosophy that equates value with 'improvement' and 'waste' (Price, 2003; Bhandar, 2018). Furthermore, the inherent desire for order within environmental governance and the underlying logic used to define the value of nature require rigorous re-evaluation to expose its imperial roots. As Daston (2019) argues in *Against Nature*, the moral authority often attributed to 'natural order' is a human projection that frequently serves to legitimise specific social hierarchies. Beyond mere critique, however, we must ask: how can we imagine repair? Though this thesis critically examines changes, the idea of repair is at the back of my mind.

For the Monpa people on their lands, the deep entanglement, negotiations, and sometimes the uncertain state of struggle manifest in negotiations over grazing routes, compromises with development projects, and strategic engagements with state power. It is also interesting to note that temporality or the idea of time marks a different ontology of modernity and development. Quite a few North American Indigenous scholars refuse to treat climate change as a novel crisis, instead positioning it within longer trajectories of settler colonialism that have systematically disrupted Indigenous relationships with land, water, and more-than-human kin (for example, Whyte, 2017; TallBear, 2019; Todd, 2016). They draw the timeline of oppression and crisis with a context, noting the environmental change, particularly for the Indigenous subjects.

Kyle Whyte's concept of 'temporal injustice' has been particularly influential, arguing that for Indigenous peoples, climate change represents an intensification rather than inauguration of ecological crisis (Whyte, 2018). Development-wise, the old-school development theories (mainly the political economy approach) assume a linear and progressive growth model with behavioural change, as well counts on a functional state (with certain capacity) to provide welfare and defend basic human rights. Economists characterise Arunachal Pradesh's development trajectory as constrained by a persistent 'culture of dependence' on central government assistance, with over 90 per cent of state revenue derived from external transfers rather than internal resource mobilisation.

Consequently, mountainous borderlands at the margins of the state have come to embody a fragile and internally contradictory model of development. On the one hand, these regions are increasingly dependent on the state for the provision of public goods such as national education systems, healthcare, and welfare infrastructure, which are presented as markers of inclusion and modern citizenship. On the other hand, this dependence is structurally entangled with longer histories of militarisation, frontier governance, and extractive control, whereby borderlands have been governed as strategic territories to be secured, pacified, and exploited for resources rather than nurtured as autonomous social worlds. The discussion of Monpa society or Bhutiya in the Eastern Himalayas is unique, also lies in their belief about reincarnation and the self-positioning amongst the numerous coming-and-going powers.

Anthropologists have long argued that modernity should not be understood as a singular or linear trajectory, but as a set of historically and politically mediated processes through which peripheral populations are incorporated into state projects. In the case of remote ethnic minority regions, incorporation into the nation-state often entails the administrative redefinition of territory, the legibility of populations, and the enclosure and extraction of natural resources, framed through the language of development and national progress (Scott, 1998; Li, 2007). At the same time, these extractive interventions are frequently accompanied by fiscal transfers, welfare provision, and infrastructure investment from the central state, producing forms of dependency that replace locally grounded modes of subsistence and governance (Ferguson, 1994). Anthropological scholarship emphasises that such arrangements reveal a fundamental tension of modernity in the margins: while state inclusion promises citizenship and development, it also erodes local autonomy and reconfigures political relations into long-term reliance on redistributive state revenues generated elsewhere, and at times, in precarity (Tsing, 2005).

In this review, I lay more focus on the grand frameworks: laws, resources, infrastructure and development interventions. However, I also recognise that modernity impacts deeper in subjectivity and the ways of doing culture. A focus on praxis offers a potential rupture in the colonial operations of modernity. As Iralu and Kikon (2024) took a radical stance elucidating

through the 'pedagogy of love' among the Naga people, via songs (a way of home education) and collective memory. These affective sites can be reclaimed as sites of radical care and resilience against the violent abstractions of the state. I maintain a critical vigilance towards any discourse on 'care' that is tethered to gendered roles, particularly that of motherhood, as this often constitutes a 'minefield' of romanticising Indigenous cultures. Emphasising certain radical traits intrinsically linked to gender frequently precludes space for non-typical gender roles to intervene, with repercussions extending to the relationship between women and land, as well as the position of female kin regarding property inheritance within patrilineal societies (Bhandar, 2018). Furthermore, when the wisdom of elder social members can no longer effectively counter state-led development narratives (or worse, when it is co-opted to endorse the very version of modernity instilled by the state), we must rigorously re-examine the contemporary standing of these historically venerated social roles (Lock, 1993). This tension highlights the necessity of a decolonial praxis that avoids essentialism while addressing the structural precarity of the most marginalised within the community.

Alternative development models that respect Indigenous values and avoid ecological and cultural trade-offs are needed (Poelina et al., 2020). However, the transformation of policy concepts is not as simple as changing the subject; failing to understand the connotations of relationships easily leads to dogmatism. Effective agreements, equitable benefit-sharing, and partnerships between Indigenous peoples, governments, and corporations are crucial for sustainable and just resource development (Langton & Longbottom, 2012; Gilberthorpe & Hilson, 2014). These scenarios are linked to different root causes and relationship patterns among Indigenous peoples with different livelihoods and aspirations, and are also related to the political system and ethnic composition of the countries where the Indigenous peoples live.

4-5 Borderland/frontier

The conceptualisation of borderlands in the Eastern Himalayas transcends mere cartographic demarcation, revealing a profound tension between state-led territorialisation and Indigenous lived realities. As Krishna (1994) argues, postcolonial states often exhibit a

'cartographic anxiety', an obsessive need to render the body politic legible and sovereign through rigid bordering practices that frequently efface alternative, pre-colonial identities. Such anxiety may live long with basic education as the carrier, and the children and youth from the borderland areas could suffer double anxiety.

The concepts of borderland and frontier are closely related but distinct. Borderlands are regions near international boundaries characterised by cultural hybridity, intercultural interactions, and often neglect from central governments (Kolinko, 2017; Jenss, 2020; Adesina, 2019). The concept of the 'frontier' extends beyond a mere administrative boundary; it functions as a dynamic 'contact zone' where disparate cultures collide under conditions of radical inequality (Pratt, 1991). Historically, the frontier has been 'weaponised' as a cultural construct (a *terra nullius*) to justify the expansion of state sovereignty and the commodification of nature. Yet, it also possesses an ecological dimension, acting as a biological ecotone where the 'edge effect' creates both heightened biodiversity and profound systemic instability. In this sense, the frontier is not an 'empty' space but a site of intense ontological friction, where Indigenous deep history meets the invasive technopolitics of modernity. In this section of the literature review, I opted for both because these two terms have been applied to Arunachal Pradesh and Northeast India for a century. We will try to go through the ontologies of the place through several terms: remoteness, Zomia, and back to the focus of bordering.

The reconceptualisation of borderlands necessitates an engagement with the 'production' of remoteness as a political and social tool, as we discussed in the modernity section. In this section, we will focus more on 'place.' As Hussain (2015) argues in his study of the Karakoram, remoteness is not a primordial geographical condition but a deliberate product of state-led modernity; the state periodically 'discovers' or 'lifts the veil' on distant regions to justify its civilising missions and infrastructural expansion. The political ecology lens perhaps contributes the most to the theoretical evolution of remoteness. The 'infrastructural turn' is epitomised by the work of Harvey and Knox (2015), who theorise that large-scale engineering projects are not merely technical feats but the 'materialisation of the state', where the road itself becomes a site of political negotiation and sovereign visibility.

Parallel to this, Navaro-Yashin (2012) explores how state sovereignty creates specific melancholic affect in partitioned landscapes. The 'vertical turn' is most notably articulated by Elden (2013), who argues for a 'secure the volume' approach to territory, moving beyond flat cartography to account for the depth of power. Finally, the 'material turn' resonates with Bennett's (2010) theory of 'vibrant matter', which accounts for the agency of things, including the toxic persistence of synthetic waste in reshaping remote and sacred landscapes.

The above theorisation efforts provide multiple venues to observe the 'power struggle' in mountain dwellers' everyday life, and these aspects also matter in the ecological conditions of the environment. Now we will shift to the scholarly construct of this mountain region. Besides the corridor, contact zone, and NE frontier, when referring to the Asian highland, Zomia is a concept that has been repeatedly mentioned.

Within Development Studies, mountainous and borderland regions have often been treated as marginal spaces characterised by remoteness, low productivity, and limited state capacity; the topography is rarely challenged. Zomia relates to anarchism; the Zomia debate offers a critical intervention into this framing by questioning the assumption that integration into the nation-state and market economy necessarily constitutes development. When Willem van Schendel (2002) challenges the 'methodological nationalism' that often blinkers borderland studies, the Zomia concept was created to think with deep history beyond national borders and state-centred historiography. James Scott popularised the concept and described a vast highland zone extending from mainland Southeast Asia into the eastern Himalayas as a space historically shaped by strategies of evasion from state control (Scott, 2009). Research works cannot only rewrite the place with Indigenous or decolonial definition, but the State's gaze (through remoteness, low productivity, and perhaps primitive perceptions) also needs to be dealt with. Edited volumes such as *Moving Mountains* conceptualise highland livelihoods not as transitional stages awaiting modernisation but as complex survival strategies shaped by layered power relations, including states, markets, conservation regimes, and militarisation (Michaud and Forsyth, 2011). Adopting Zomia asks how much and in what way, that the local agents can escape or play in parody with the

State's gaze, and why.

Such imagination surely provokes political hope in unbounded freedom. But subsequent scholarship has complicated this narrative in ways that are directly relevant to contemporary development debates. Empirical research has shown that highland societies have not simply existed outside the state but have engaged selectively and pragmatically with state institutions, development programmes, and markets (Shneiderman, 2010; Brass, 2017). In *Entangled Lives*, the lives, or interspecies history among people-animal-planet, replaced the debatable role of State, Pachau and van Schendel (2022) reframe the Eastern Himalayas environment with an entirely grounded perspective. A similar approach is also reflected in more political-economic research, towards transregional histories of trade, labour, and ecological exchange (Wouters and Heneise, 2023).

Importantly, the Zomia debate also intersects with contemporary critiques of development knowledge production. Historical analyses of scientific exploration in the Himalayas reveal how colonial and postcolonial development rationalities have been shaped by imaginaries of mountains as unruly, fragile, or resource-rich spaces requiring external expertise and intervention (Fleetwood, 2022). These imaginaries continue to inform development and climate policy, often privileging technical solutions while marginalising Indigenous knowledge systems and affective relationships with place.

This thesis focuses on the borderland of Western Arunachal Pradesh, a politically disputed and ecologically fragile Eastern Himalayan region where Monpa transhumant pastoralists navigate intersecting pressures of climate change, militarised development, and disrupted ontologies shaped by contested sovereignties and epistemic pluralism. It is worth noting the ambivalent nature of this geography: border, frontier, or Zomia, because they do not necessarily suggest periphery or underdevelopment; rather, they are the place where the differentiation of cultures and identities begins.

Borderlands can be geographically small or large, depending on the reach of foreign influences (Jenss, 2020), yet the studies about the Himalayan borderland highlight the cultural and historical continuities instead (Gohain, 2020). They are dynamic spaces that can change over time and shape local identities (Gray, 2001), including the immigrants and

migrant workers joining the everyday life in the borderland. Despite claims of globalisation rendering borders obsolete, they remain highly relevant in international relations (Adesina, 2019). Recent research on borderland development highlights the complex interplay between global capital flows, national policies, and local dynamics in shaping these regions.

This research focuses on the Indigenous group separated by borders, therefore carrying the borderland identity associated with their ethnic identity. Borderlands are increasingly seen as sites of economic opportunity and state-building rather than remote peripheries (Chettri & Eilenberg, 2021). In the case of the Monpa people, the opportunities lie in both economies and political engagement. However, large-scale development approaches often produce mixed outcomes for local communities, particularly marginalised groups. In Northeast India, infrastructure investments, such as special economic zones, have transformed many borderlands, though small-scale traders often struggle to adapt (Rippa, 2020). This development-combined modernity, as critiqued by Escobar (2018), operates through the imposition of a single-world ontology, an extractive logic that prioritises growth, efficiency, and control. What can be seen by the borders is the dynamic of multiple-worlds ontologies, of the Indigenous groups, the development/aid workers, the state and the geopolitical. This competition of these ontologies marginalises relational and affective forms of knowing, resulting in ruptures. As Povinelli (2011) notes, infrastructure interventions often leave local communities in a state of suspended adaptation, where change is perpetual but resolution is deferred. Infrastructure thus becomes both a symbol and a mechanism of affective rupture.

On the other hand, the development of the borderland legitimised the control of territories. The success of some borderland economies depends on factors like institutional settings, local competitiveness, and access to innovation (Tykkyläinen, 2020). Engineering for development in these areas represents a paradigm shift, integrating social and technical knowledge (Robbins et al., 2019). Overall, borderlands emerge as dynamic spaces where development, governance, and transborder relations intersect in complex ways (Chan & Womack, 2016). ‘Developing borderland for whom?’ triggers the unseen rupture with the present buildings of roads and power plants. The concept of ‘borderland analytics’

emphasises the role of borders in creating relational hierarchies that underpin economic competitiveness (Ebner, 2023). In this research, I term it ‘borderline’ to highlight not only the materialist aspects being amplified by the border location, but also that border-identity is in the subjective feelings and cognitive process.

Non-human actors influence and are influenced by human political and social structures. Several studies focus on how animals challenge or reinforce border control mechanisms, such as wild boar in the Forest of Dean and its relation to the memory of land (O'Mahony, 2022). The concept of borders is expanded beyond physical boundaries to include multispecies ‘matters of care’ (De La Bellacasa, 2017) and interspecies assemblages (Youatt, 2020). Overall, these studies emphasise the need to consider non-human actors in understanding borderland dynamics and challenge anthropocentric views of international politics and border management.

4-6 Rethinking Adaptation as an Affective and Relational Process

Mainstream approaches to climate change adaptation have largely been shaped by rationalist and behaviourist paradigms that conceptualise adaptation as a technical and cognitive response to environmental risk. Within this framing, adaptation is understood as an anticipatory adjustment to climatic stressors, guided by risk assessment, behavioural change, and institutional capacity building. However, anthropological and interdisciplinary scholarship increasingly challenges this understanding, arguing that adaptation is neither a purely rational calculation nor a politically neutral process, but is deeply embedded in emotional life, historical experience, and relations of power.

Research in neuroscience and psychology demonstrates that emotional responses precede conscious cognitive appraisal, indicating that affect is foundational to how environmental change is perceived and acted upon (LeDoux, 2000; Pessoa, 2008). Emotions such as fear, grief, attachment, and longing are therefore not secondary reactions but play a constitutive role in shaping environmental perception, memory, and decision making (Barrett, 2017). This insight has significant implications for adaptation theory, particularly in contexts characterised by cumulative environmental change, slow violence, and enduring socio-political marginalisation.

One influential framework in adaptation research is the socio-cognitive model of private proactive adaptation developed by Grothmann and Patt (2005). This model explains adaptive behaviour through individual-level variables such as risk perception, perceived adaptive capacity, and self-efficacy. While analytically useful, its emphasis on individual cognition rests on assumptions of rational choice that risk depoliticising adaptation. By privileging the cognitive interiority of individuals, such models tend to obscure collective agency, structural constraints, and historical injustices that shape adaptive possibilities (Adger et al., 2009; O'Brien, 2009). Emotional responses are consequently marginalised, either framed as barriers to rational action or instrumentalised as tools for behavioural intervention.

Anthropological perspectives challenge this reduction by emphasising that emotional responses to environmental change are forms of situated knowledge rather than obstacles to adaptation. Feelings of grief, denial, fatigue, or anxiety often reflect the moral and political stakes of environmental disruption, particularly in contexts marked by uneven development and colonial legacies (Norgaard, 2011). These affective responses illuminate how adaptation is experienced as a negotiation of loss, belonging, and continuity, rather than as a discrete behavioural outcome. Adaptation interventions themselves can reconfigure social relations and subjectivities, reshaping access to resources and knowledge in ways that may reproduce inequality while simultaneously opening limited spaces for transformation (Naess et al., 2025).

Despite growing recognition of subjective and cultural dimensions, dominant policy frameworks remain largely technocratic. The Intergovernmental Panel on Climate Change defines adaptation as the process of adjustment to actual or expected climate and its effects, aimed at moderating harm or exploiting beneficial opportunities (IPCC, 2022). This definition distinguishes between autonomous and planned adaptation, as well as incremental and transformative forms, and draws on concepts such as vulnerability, resilience, and adaptive capacity. However, critics argue that the IPCC approach continues to depoliticise climate risk by prioritising managerial solutions and downplaying questions of justice, power, and coloniality (Eriksen et al., 2015; Nightingale et al., 2020). While recent

assessments acknowledge values, identity, and emotion, these dimensions remain secondary to technical governance logics.

Resilience thinking has further shaped adaptation debates by focusing on the capacity of social ecological systems to cope with disturbance while maintaining function and identity (Nelson et al., 2007; IPCC, 2022). Yet resilience is not inherently emancipatory. Emphasis on coping and persistence can obscure the uneven distribution of adaptive burdens and the affective toll of continual adjustment, particularly for communities with long histories of environmental uncertainty and marginalisation. Where adaptation and mitigation prove insufficient, the emerging discourse on Loss and Damage highlights residual economic and non-economic harms that cannot be avoided, foregrounding questions of memory, place attachment, and emotional loss (IPCC, 2018; UNFCCC, 2023).

For many Indigenous and pastoral communities, adaptation is not a new response triggered by climate change discourse but an ongoing, pragmatic process grounded in accumulated experience and relational engagement with landscape. In the case of Monpa transhumant pastoralists, adaptation unfolds across temporal horizons that extend far beyond conventional policy planning cycles. Emotional responses such as fatigue or diminished hope are therefore not signs of maladaptation, but reasonable reactions to decades of externally imposed development, environmental governance, and political exclusion.

Reconceptualising adaptation through affective and relational perspectives offers a more adequate analytical framework. Drawing on the concept of affordance, adaptation can be understood as emerging from embodied engagement with environments that offer or withdraw possibilities for action (Gibson, 1979). Building on this relational ecology, Ingold argues that perception is grounded in movement, practice, and dwelling, rather than detached observation (Ingold, 2000; Ingold, 2011). Landscapes are thus not passive settings but lived, storied, and sentient environments, animated through memory, mobility, and multispecies relations.

For pastoralists, practices of herding, care, and slaughter constitute ethical encounters that involve affective labour, responsibility, and mourning (Ingold, 1988; Nadasdy, 2007; Govindrajan, 2018). Land affords not only access to resources but also the possibility of

reciprocity, sacrifice, and loss. These affective and moral dimensions are largely absent from policy-oriented adaptation frameworks, yet they are central to how people experience environmental change and imagine continuity.

Rethinking adaptation, therefore, requires moving beyond technical adjustment towards an understanding of adaptation as an emotionally situated, relational, and historically embedded process. Such an approach retains engagement with policy concepts such as adaptation, resilience, and Loss and Damage, while critically interrogating the ideologies that underpin them. It foregrounds whose emotions are recognised, which forms of life are rendered adaptable, and how climate governance continues to reproduce colonial patterns of control in the name of sustainability.

4-7 Conclusion with transfiguration

From an affective ecological lens of mental and situational settlements in the fractured ancestral land, this conceptual frame roadmap has been knitting the theoretical pieces to wrap the empirical phenomena, both in the Monpa people's mobile subjective lived experiences and the climate change academic discourse, in full. The sections are more like patches than connected lines that combine to address one question. Rather, they were made to dig deep into the many problems or influential factors of the living scenario of Monpa people in the Eastern Himalayas. In Figure 4.1, I stack the concepts from the bottom base to the top tip, to suggest the source of solastalgia in the course of affective adaptation. The upper layer is supported by the lower base. And the size of each layer's subscribed place in the figure suggests the quantity of experiences or information. The self-judged outcome of emotional displacement does not happen with every Monpa pastoralist; people who experienced ontological rupture more often than those who struggle between colonial knowledge and traditional ecological knowledge.

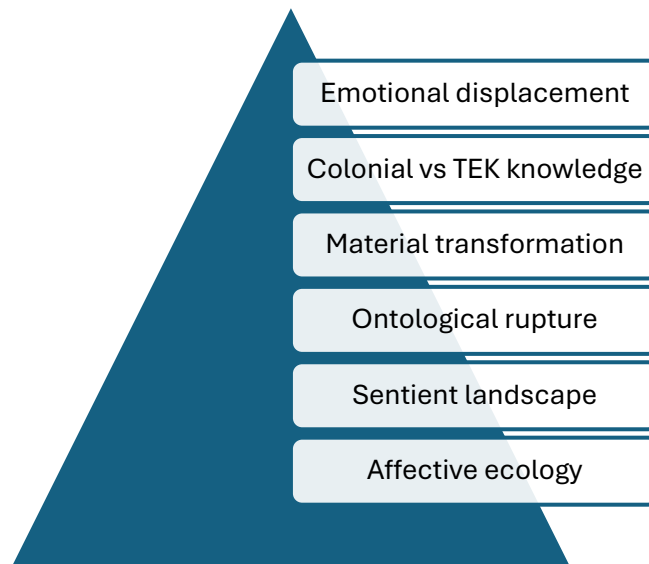


Figure 4.1 Solastalgia conception components

The attunement, dwelling, and rupture are in the moving dynamic through ritual, embodied memory, emotional sense, and spiritual improvisation. I term this change, both of the feeling subject (humans, Monpa people), relational others (landscape, environment, non-humans) as transfiguration. I use the word to refer to how bodily experiences and identities are reshaped through social practices, rituals, and interactions, emphasising the embodiment, the being there with environmental change, separated from the past being, and wishing for a better future. It is a process of reworlding that does not restore a lost past but assembles new relations through ethical labour and affective resilience.

The conceptual word ‘transfiguration’ has been utilised to understand how sociality and health are interwoven in medical anthropology before (Hadolt et al. 2020). The authors originate their choice of the word from Elias’s (1978) notion of figuration and propose to use it as a conceptual tool to address the messiness of sociality.⁷⁶ Transfiguration, as used in

⁷⁶ To differentiate the configuration of the medical anthropologists’ work with mine, their notes for using this conceptual tool is mentioned here, ‘ (1) the constantly unfolding processes of particular extended figurations encountering, affecting, and becoming enmeshed in each other; as well as (2) the (temporarily) stabilized figural arrangements emerging from these enmeshments which may provoke subtle or radical changes concerning people, their understanding of themselves, their life conditions, and other objects of anthropological interest. ‘ (Hadolt et al. 2020)
https://journals.ed.ac.uk/index.php/mat/article/view/4989/7038?utm_source=chatgpt.com (Last access: 2025/04/23)

this dissertation, refers to the ontological reconstitution of landscapes and lives under environmental change, power coercion, and development conditions, and the research provides examples from different social groups of the Monpa society to investigate the explanation. Landscape transfiguration denotes the process by which sacred, relational terrains are redefined as extractable, securitised, or governable entities within state-capitalist regimes. In contrast, the transfiguration of people refers to the restructuring of subjectivities, affective orientations, and moral attachments in response to these shifting landscapes and their new affordances or constraints. The process of living through solastalgia and transfiguration strengthens the resilience to environmental impacts and uncertainty, but the emotional trauma and spiritual loss may still enhance the vulnerability.

This chapter has outlined the theoretical and conceptual scaffolding necessary to engage with the emotional, adaptive, and relational transformations of the Monpa transhumant pastoralists. By integrating affective ecology, relational ontology, and critical perspectives on adaptation and borderland life, it has framed solastalgia not merely as a psychological reaction, but as an ontological and political condition emergent in disrupted homelands. This conceptual mapping grounds the subsequent empirical inquiry into how these frameworks unfold in the Monpa lived experiences. A renewed adaptation frame that includes emotions, relationality and justice can function better in dealing with exhaustion, negotiating loss, and sustaining relational worlds, which ultimately contributes to people and place's wellbeing. In the following chapter, I turn from conceptual groundings to the research process itself, detailing how this study navigated the methodological, political, and ethical challenges of conducting ethnographic research in a sensitive and often inaccessible Himalayan borderland.

Chapter Five

Borderline Transhumant Herders

5-1 Introduction

Transhumant pastoralism – the migration of herders and livestock to graze on different altitudes seasonally- is a long-established livelihood in mountainous areas across the world. In the Himalayas, due to the high altitude and climate, yaks and highland cattle are the most common herds. Aside from larger animals, sheep and goats are commonly raised by herders who practice smaller-scale migration. With transhumance being the main livelihood for the Indigenous mountain dwellers, the diversification of household labour and subsistence farming is organised accordingly, largely influenced by seasonal changes. Before the mountain community was brought under States' control, herding communities dealt mainly with the challenges of regular monsoon-related landslides and irregular earthquakes. Although pastoralist life involves high mobility, the practice of moving herds to higher altitude pastures during summer and guiding them back to lower settlements or semi-settlements in winter has remained a stable track of life deeply connected with the environment, its resources, and animist beliefs.

In this chapter, I will explain the development and change experienced by this particular group, using the Monpa people as an example. The Monpa people's interaction with the State government involved a unique set of concerns, primarily due to the borderland dynamics and the hydropower resources found in the Himalayas. The changes reflect in how mountain dwellers consider themselves, their community, their way of life and capacities. Border infrastructure building and global warming are visible drivers of the environmental and human dimensions of change. In this chapter, I aim to explain in detail how these drivers are entangled with the perceptions, choices and feelings of the human agents who are part of the mountain ecological system. Environmental change is a gradual process; through quotes from various interviewees, the timeline of this story of change spans from the early 1940s to the present day.

These are testimonies and accounts of several generations of the Monpa people's lived experiences, their perception of what 'environment' means, and the epistemological foundation of human and non-human relationships. These personal, subjective, emotional and descriptive data should prepare the reader to enter the mountain dwellers' lifeworld in a humane, empathetic way, which is less fixated on discussing loss and damage and aiming to reduce the gap between such remote places and the rest of the world.

Himalayan pastoralists face numerous challenges, including extreme weather, predators, and social crises (Bhasin, 2013; Bhasin, 2011). Recent stresses include labour shortages, changing youth aspirations, declining traditional knowledge, institutional conflicts, and climate change impacts on rangelands and livestock health (Singh & Kerven, 2023). Government policies play a crucial role in the condition of mountain pastoralists; conservation policies and eco-tourism in the Indian Himalayas have led to the end of pastoralism in the region (Singh et al., 2021). Research shows that climate change has significantly impacted yak pastoralists and nomadic herders in the Himalayas. Rising temperatures and altered precipitation patterns are reducing alpine pasture yield and quality, affecting yak productivity and welfare (Sapkota et al., 2022; Krishnan et al., 2016). In the Western Himalayas, herders report earlier migrations, facing challenges such as ice-covered passes and unexpected weather events (Ahmed et al., 2023). Climate change is also increasing disease risks for yaks in addition to heat stress and reduced feed availability. In Nepal, transhumant herders have observed increasing summer temperatures, decreasing winter rainfall and snowfall, faster snow melting, and unpredictable rainfall events, and these biophysical factors have implications for the transhumance system (Aryal et al., 2014). In Tawang, yak herding is declining due to factors such as modernisation, inbreeding, climate change, and shrinking grazing pastures, further complicating conservation efforts in the region (Pandey et al., 2020). These changes are affecting livestock health, milk production, and market prices of animal products (Ahmed et al., 2023). Understandably, they motivate the herders to diversify livelihoods and adapt quickly to any upcoming opportunities.

The Monpa people associate their Monpa identity with the yaks; to be Monpa is, in a cultural sense, to be a yak herder—or at least to belong to a community deeply

embedded in the practices and rhythms of yak herding in the Himalayas. Ethnologists have documented this group of people and labelled them nomadic herders in the Eastern Himalayas (Mizuno & Tempa, 2015; Nanda, 1982), with their settlements scattered in the region (see Figure 5.1). Scientists have studied the Monpa people's adaptive strategies for coping with the impact of the rising temperature and other environmental problems, including breeding, forest forage and diversifying livelihoods (Singh & Sureja, 2006; Saha et al., 2014). However, besides some random journalistic pieces in the national, regional and UNDP media outlets,⁷⁷ very few comprehensive studies have been undertaken to understand the meaning of the environment, the human-nature relationships and the herders' mental well-being while coping with the environmental issues, not directly caused by themselves.



Figure 5.1 An example of a Monpa settlement near the Bhutan border, with many in other ridges.

The decline of yak herding among the younger Monpa generations illustrates not only an economic transition but also an ontological rupture, where bodily rhythms once tied to

⁷⁷ See: <https://www.undp.org/india/happy-days-are-now-just-nostalgia> (Last access 2024/07/19)

seasonal migrations are being reoriented around sedentary infrastructures and schooling demands. Changes in traditional practices and landscapes impacted the Indigenous people's wellbeing. Most of the Monpa villages conduct herding and swidden farming⁷⁸ at the same time; both productions fulfil the household's overall needs, and whilst also contributing to cultural fulfilment. Certain special grains, mostly Indigenous millets, are important for religious rituals and ceremonial food. Some Monpa settlements in lower altitudes grow rice, but not for sale at the market. Except for the Monpa settlement, which is located near the riverbank and has easy access to river water, most agriculture is based on rain-fed irrigation.

Besides the changes in transhumant pastoralism, declining shifting-cultivation has negatively impacted psychological wellbeing, social cohesion, and food systems (Pandey et al., 2023; Pandey et al., 2022). The reasons for the *jhum* farming decline could be many: increasing population pressures and land scarcity have led to shortened fallow cycles (Schröder et al. 2023); forest conservation and agricultural modernisation have often marginalised shifting cultivation (Ray et al. 2021), and socio-economic transformation that attracts the younger generation to be more involved in wage/urban works. Through the narratives of the Monpa people, we can get a better understanding of why and how.

5-2 Transhumance from another perspective

Although the herding activity has been the main characteristic of pastoralist livelihood, other supporting factors make the resource supply sustainable and become cultural markers of a social group. Mobility is not the only important trait; reciprocal relationships, collective labour, versatile grain production (including shifting cultivation), and even engagement in cash jobs to some extent all contribute to the rhythm of transhumance.

Nyima, 65, wife of a *brokpa* and mother of one son and four daughters, explained to me how farming was done in the past. One of her daughters persuaded her to talk with me through a translator, to share her experiences of when she was a young girl and a young

⁷⁸ Locally, it's called *Jhum* cultivation, or shifting cultivation. In this dissertation, I use these three words interchangeably.

mother.

‘We did *ketti* work (farming), mostly in the forest near our home. Farming work that is not next to our house is called *gya-liang*. We formed groups, worked with friends, neighbours or relatives, mostly girls under 17, and set out to stay in the forest for two months. We had to stay by the farm we had created, removing the trees on the surface and fertilising them with ashes in order to protect them from attacks by mostly wild boars. We used wood or bamboo to build small shelters called *brang* (hut). Hard work like clearing the ground would be done with the whole family’s help. We did *gya-liang* for two purposes: to preserve the seeds, as well as to prepare some food supplies for our family. We grew barley, maize, and sometimes soya and beans. From October, we started cutting the trees (the wood is just suitable for winter firewood) and leaving the logs and soil to dry. The following year, in June and July, we burned it, and after a month, we started to plough. The land preparation is completed with the final step of receiving water from the monsoon rains. We divided the forest land into four or more parts, and every time we only did our farming on one of the parts and rotated them. So when it came to using the same part of the land, the soil had rested for at least 3-4 years. Besides making ashes with fire, we also walked carrying the cow dung and oak leaves compost from the toilets to fertilise the soil. We did it this way to keep the land fertile. In September to October, we harvested and saved the seeds for the next year, and then a new cycle began.’

Farming is important to secure the basic provision for the household’s source of food, and Monpa people have engaged in the production process and acquired the related knowledge and culture, ever since they were teenagers.

In Jang, where Nyima and her friends lived, there are not many flat, irrigable lands to secure food sustainability. Nyima and her friends, who spent years practising the Indian-termed *jhum* cultivation (swidden farming), brought in a year’s main supply of grain for their family. When she shared her farming experiences, she seemed to be in a pleasant mood, constantly apologising that it had been so many years, so some of the details she could not clearly remember. The involvement in farming also gave Nyima’s generation a sense of achievement, and fulfilled her expectations that she could contribute to the security and wellbeing of her community.

Collective farming was just one of the common labour forms in the past, and it is still present to some extent in the villages. In the Monpa culture, guests come to the host family to visit or stay, and it is extremely rude to let three or more people leave at the

same time. The more people who stay in the household, the stronger it is. According to general opinion, the villages are experiencing moral decay; free labour (collectively helping one member of the community, Figure 5.2) is considered the pride of the Monpa people. My translator called it 'free exchange' because it is reciprocal among the members of the same village. None of the other tribes in Arunachal Pradesh has this social code of behaviour, according to the Monpa people. Despite the growing number of cases of hiring workers from Assam and Nepal to build new houses, on the day a house foundation is laid, each household should send at least one person to help with the building and one person to help with the food preparation for everyone involved.



Figure 5.2 Free exchange of labour when building family houses. In modern times, paid Assamese migrant workers are involved. The exchange of free labour, or collective labour, has become symbolic.

In contemporary times, the building process has involved hired labourers from Assam. Free exchange of labour is not the main form of labour; it is more symbolic. The Monpa people insist that the younger generation should be involved in this collective activity, allowing the children to experience the collectiveness and common bonds, and to associate such activity with their ethnic identity. The collective ethos embedded in pastoralist-agriculturalist livelihoods, the rotation of group farming (*lakpar*), and the

common rule of exchange are at the core of the Monpa pastoralist way of life.

Pastoralist-related customs are retained in child-nurture ceremonies and other forms of co-rearing before children reach school age (see Figures 5.3 & 5.4). In the village, some women are considered blessed with happiness and luck. When infants cry a lot during the night, are restless and unwell, but do not appear to be physically ill, they can be taken by their mothers and female relatives to a special women's house for a ceremony. I was living with one such woman in Namazing village. During the ceremony, the child is held by their aunt, with the mother standing to one side. Elderly women in the village collect branches from a tree called *Pu*; these are tied with five-coloured flags and put on the rooftop along with *sang*.⁷⁹ The women invite all the people nearby, as many as they can, over the age of 17 or 18 years, to form a circle. The woman who conducts the ceremony will set a table with rice, butter and alcohol; she will start to say prayers, hold the sick child, feed them, caress them, and talk to them. And then, the person who travelled the furthest from the group has to pour a huge cup of milk. After the infant drinks some milk from the table, the outer circle starts to share the big cup of milk, one by one taking a small sip from it, saying something comforting to the infant, showing their willingness to share their life (some time from their lifespan) and wishing good luck to the infant.⁸⁰

⁷⁹ It is an offering to the god; pine tree leaves and small branches are burnt.

⁸⁰ I was the one who came from the furthest in the group at the time I witnessed this ceremony, and I was instructed to play the role. After passing the cup to the next person, I walked to the child, unable to converse and without a place for any translation; I wished that the child would grow up with a long life and lots of love in English. I remember the child smiling at me; it was an incredible moment. Also, it was one of the early testaments I made to be accepted by the Monpa society and I passed.



Figure 5.3 Blessing ritual for small children.



Figure 5.4 Preparation of the offerings.

While the free exchange of labour at house construction has become more symbolic, the shared life (or good luck) ritual of the child-nurture ceremony is very real. Transhumant migration has consistently involved group movement, even when the group comprised only a handful of individuals. In swidden farming, preparing the land before the rainy season takes more than one labour force, as does the consolidation of the house foundation. Modernisation and individualisation did not completely overtake Monpa society; traditions are still honoured, and social capital and cultural fulfilment are factors in the process. These relationships and practices are place-based, enhancing the environmental identity of the Monpa people and, in some ways, contributing to the sorrows that arise when the sense of place is altered.

Making a life in the mountains is hard, and one cannot survive without others' help – maybe this is the social meaning behind the sharing of free labour and lifetime/luck. Ways of gaining workforce are also important to the family. Brokpa Sang talked about his frequent trips to the village of Bongleng near the Bhutan border, which is much warmer and where one can do larger-scale farming. He also discussed the social relationships formed through barter trade and explained why he chose not to take a wife from Bongleng:

'In some villages, they can produce three times more grain than they need. They can trade with anyone; however, they will stay at *Nye-tsang* houses. *Nye-tsang* is a kind of bonded partnership playing the role of host for partners by providing food and lodging. There is no fixed duration for the stay. If they come here (Jang), they stay here for 2-3 days, and if we go there (Bongleng), then we stay for around 4-5 days. You can directly visit *Nye-tsang*'s house. And if you have many *Nye-tsang* in one village, then they will take turns to invite you for dinner. In my case, other than *Nye-tsang*, my father and grandfather had good relations with lots of people over there, so all the people were very nice to us. People also keep marriage ties with their *Nye-tsang* in some cases, but it is not necessary to hold marriage ties. In our case, they cannot work like us in this region. Actually, they are not accustomed to our livelihood. It would be very difficult for her (the prospective bride from Bongleng) to work here in the field. They use bulls for ploughing the field, whereas we do it by hand. Earlier, most of the men were *brokpa*. However, men also used to work in the field and were not engaged with the herds. The *Brokpa*'s profession was the main livelihood in this region. Earlier people used to have so many sheep and *Nor* (cattle of higher altitudes, including yak).'

The *Nye-tsang* relationships are still visible - long-lasting relationships between families

in different villages located at different altitudes and climates. According to the professors of a local college, this type of relationship can also be mobilised during the election; it is a strong tie and mutual help network to survive and thrive in the challenging environment. Going into the wild, the herders have built or inherited their *broks*; in the human and political world, they rely on *Nye-tsang*. Free exchange of labour is the way to manage the demand for labour and ignite community spirits (Figure 5.5).



Figure 5.5 Every household offers food for participants of the free labour exchange. Parties follow.

5-3 Unrest Border and constrained landscape

The Himalayan mountains, due to their formidable and challenging physical presence, have been seen as a barrier, shelter and neutral boundary between polities and tribal powers since ancient times. The imposing functionality of mountains affects local lives and livelihoods. Particularly in the homeland of the Monpa people, the way of life has been affected by state territorialisation, land encroachment and wars related to these issues since the mid-20th century.

In Arunachal Pradesh, the border between China and India has a long history of friction, while its border with Myanmar has been complicated due to the civil war in Myanmar and uncontrolled migration. Creating, consolidating, and maintaining the border have led to

significant changes in both the mountain environment and the lives of the people who have inhabited the region for centuries. As discussed in Chapter 2, border unrest is a theme cutting across many parts of the local dwellers' daily lives, including the Monpa transhumant herders. Even the territory and trespassing disputes between China, Sikkim and Bhutan, though not directly occurring in Arunachal, can be considered as border unrest between the countries, along a long and contentious invisible line in the mountains.

'There were no borders,' said the taxi driver who was hired to drop me off at Namtsering, a village close to the India-Bhutan border. In his eyes, the boundary between the different ethnic groups could not be compared to the border he saw in his everyday life now. 'Different ethnic groups of populations have their own territories. There are some groups who regularly rob their neighbours during the bad harvest years,⁸¹ but generally, transgression is not welcome.' The taxi driver showed me how they drive to Bhutan to refill the gasoline because the price was lower there: 'At the border control, we have to stop and be checked by the border police, but they allow us to do this. The India-China border is totally different; the border is highly militarised, and even the locals cannot come near.' The State-made border is different from the boundary negotiated by the tribes previously. The borderland tribes must learn how to navigate the State-made border, surrendering their mobility to it, which in turn transforms their freedom into limited agency.

Before the Indo-China War in 1962, herders' mobility was not an issue (Guyot-Réchard, 2017). The Monpa people lived at a higher altitude than most of the other groups, in scattered and small-scale settlements or semi-settlements,⁸² and trading and transhumant herding were common and popular. Mobility is a major element of survival in the mountains, and is also key to maintaining the network for emergency (Kato et al.

⁸¹ Here the taxi driver was referring to the frequent resource fight between the Lishis, Adis and sometimes Monpa peoples. I quoted them here to show how flexible and active these ethnic borders were, as opposed to the formal national border or state borders.

⁸² This means that the whole village moves out of this place at least once in a year, due to harsh weather or other circumstances

2021; IOM & Mountain Partnership 2024). Scarcity of a certain resource in one place can be compensated for by moving to another place (Hock & Rasul, 2019; Brottrager et al., 2023; Zoï Environment Network, 2024).

Sonam, 65, spoke with my translator and me during the second home visit about her childhood memories. She often joined her father, collecting herbs and wild edible plants in the mountains. She explained her botanical knowledge to us with much feeling, and we enthusiastically noted it down as if it were a lyrical song. She had been through long-term treatment for her blood sugar and eyesight impairment.

‘Before I was 20 years old, I moved with my parents and our yaks around in the mountains. *Kong, Gong, Brem, Besta, Rhu, Kyar* and *Deng*, and more,⁸³ my father taught me how to identify them and pick some of them to treat our herds, and sometimes we sold them to the businessmen in Tawang, for 60 rupees per kg. *Gongna-garb* (medicinal plants) are the best at the top of the mountain; *Kong-lan* is helpful for fevers and colds. In the right seasons, we look through all the habitats of *methok-shang* (flower bush/trees) and *methok-tsa* (flower plants). But we don’t pluck them during the flowering season; we wait. It is believed to be sinful to pluck the herbs during the flowering season; we believe that the flowers will cry like infants.’

Sonam is originally from Tingbu, the cluster of villages closer to the India-China border. And since the conflicts between India and China have never ceased, herders like Sonam’s parents, who used to travel to the Tsona/Cona side in Southern Tibet (in Today’s China) to crossbreed their cows and trade for rock salt, have had to stop. When I spoke with the faculty at Tawang College about how the border affects people’s lives, a history faculty member shared with me that she was from another smaller tribe that has a lineage with the same nation over the border. She said she could understand the demarcation and disconnection, and she had always wanted to go to China to see her possible ‘relatives’, but being an Arunachali meant that she would not be issued a travel document to enter China.

The modern State’s cartography harms the rights and livelihoods of the pastoralists

⁸³ *Kyar* and *deng* are types of radishes, the others are names of the herbal plants; Sonam had explained their appearance and usage, but I omit the original texts as they are not relevant.

(Chatty, 2001). The Indo-China border, borderland consolidation and segregation have reduced the mobility of animals and humans (Wu et al. 2016), restricting traditional barter trades and animal exchange, and compromising resource integrity and human wealth. Research works have shown curiosity in this area, yet what has been left out so far is the sensitivity about the loss of family memories and ancestral ties, and the incomplete feelings about losing mobility to the national border, as the mountains have now become a place serving a greater purpose for the country they are now part of. The herders have to make sacrifices for the other citizens of the country, even though some of them have discriminated against the herders based on their looks and their ties to China.⁸⁴

In one of the outskirts field visits,⁸⁵ I was taken to a secret Buddhist prayer hall located in a private home. Inside was a picture of the 13th Tsona Gontse Rinpoche (1967-2014), a well-respected yet widely debated monk politician. He was a very important religious and political figure in Monpa society because, in a way, he represented them. He was believed to be the reincarnation of Tsonawa Sherab Zangpo, a Tibetan Vinaya commentator who belonged to Tsona in the 13th century. The Tsona is no more; it is now called Cona (translated from the Mandarin name), a county in China. After the 13th Tsona Rinpoche died, people were not sure about how the reincarnation would occur, caught between the unstable boundaries of two rising global powers' control and a human-made, uncertain borderland.

When the State controlled the Monpa homeland, designating the mountain territory as part of the Indian security and national frontier, the government policy created institutions to formalise ownership and limited usage of land. The existence of a border brings border transpassing, as well as cross-border rent-seeking (including cheaper trade and lower-cost petrol). Following the delineation of contested borders, cross-

⁸⁴ With regards to state-making, a recent interesting publication looks at the permeable influence of this frontier area in another way, Kaustubh Deka (2024) *The old man by the waterfall: deep entanglements of culture, state-making and geopolitics in Arunachal Pradesh*.

⁸⁵ That field visit was a trial; I offered to pay for a vehicle and gasoline, and ask college students who were free to take me to spots that they could relate to in the Himalayan homeland, their real life, where they grew up and felt attached to.

border interaction was curtailed, and the hard border stopped some traditional breeding practices, meetings, and medicinal plant collection. Segregation pushes the mountain Indigenous to seek solutions from within the country. In becoming subjects of state power, the Himalayan mountain dwellers have ceded some of their land rights to the military bases. These camps are enclosed spots designated for functional work and life totally unrelated to the environment, and they perceive the mountain landscape in a totally different way than the locals. The military also legitimises its existence by protecting citizens living along the border. These entangled identifications and adaptations make up the complex and sometimes ambiguous background to the development of Arunachal.

5-4 Warming climate and unpredictable seasonality impacts

While the border has imposed restrictions on the pastoralists' life routines and livelihood, the reduction of snowfall and ice has been a challenge for both the borderland development and the herder's perception of the environment.

As stated in Chapter 2, the GHG volume in the whole of Northeast India was low, but it is rapidly accelerating. Climate change poses a significant threat to biodiversity in Arunachal Pradesh, highlighting the urgent need for management strategies focused on biodiversity conservation and adaptation to climate impacts (Bharali & Khan, 2011). These findings highlight that both biodiversity conservation and greenhouse gas emission control have emerged as critical concerns in Arunachal Pradesh; however, policy responses to address land use management for carbon stock preservation and ecosystem protection remain limited. However, for the borderland, where multiple State-led infrastructure projects have been initiated and are progressing, the conservation of biodiversity and the fragile mountain ecology have not been the top priority. Instead, highways, power plants, and economic development in the form of cash crops⁸⁶ and tourism are prioritised.

These climatic changes and uncertainties have just been part of the ongoing adversity that the Himalayan dwellers deal with (Chakraborty & Sherpa, 2021). In this section, I

⁸⁶ For example, kiwi fruit were introduced in the year 2001-2002.

aim to explain social-ecological relations and social institutions, starting from the human-nature relationship to examine the entangled factors that put stress on both human lives and the environment.

Overall, the rising temperature and reduction of snow and ice have impacted the pastoralists' grazing pasture, migration routes, and expected output from herding. From the local Monpa people's point of view, the *yangpa* (sheep herders) are more affected than the *brokpa* (yak herders) by the overall warming effect. In spring and autumn, the herders would mix tree leaves with wheat flour to make sure the large livestock had enough feed to see them through the journey; the wheat flour nowadays often comes from the government food ration system. By contrast, the *yangpa* sheep and goat herders often operate the herding trips in a comparatively precarious way; they do not invest in building broks and have a more flexible method of keeping and trading the animals. Yak herding, due to its established practices in shelter and feeding, is more resilient to changes in pasture.

From the output perspective, yak and cow herding has sustained itself longer than goat and sheep herding in Western Arunachal Pradesh, because cheese is still part of the local people's everyday food. Pastoralist activity that is associated with cultural identity also survives environmental pressure better, and the yak herder image has become a symbol of Monpa identity. Goat and sheep herding have vanished due to the import of affordable clothing from the outside.

A former *yangpa*'s life story exemplifies the adaptation process and provides a glimpse into how the environment was then and how it is now. Sange is nearly 70 years old this year; he was an acknowledged successful herder in the village. His herder life began at the age of 15 and ended at around 40. What he once saw and interacted with was a scene of peaceful movement with heavy caretaking responsibilities (see Figure 5.6); after he retired from herding, his life shifted to running a small business by the roadside of the highway and engaging in village affairs. The sheep supplied wool for the village, but when the market-supplied clothes became available there, the resources that the *yangpas* could provide were no longer needed. He sold off his sheep to numerous other herders and butchers and instead took in cows, keeping them closer to the family house; they

then set up a rural work contract business and bid for government tenders. The reduction of snow was felt two decades ago, and with the retreat of ice and snow, the quality and quantity of pasture declined too. He felt that it was wise to quit sheep and goat herding before the pasture problem arose. However, he could not provide the same quality of food for the cow herd without grazing migration. Taking up a job for wages was a substitute. He looked after his family's needs in this way until he retired 7 years ago, after his son and daughter married and established stable financial foundations for their families through government employment and small business.

The Monpa people's affective responses to environmental change often exhibit patterns of freezing, where emotional paralysis suspends overt action or resistance. In some instances, accommodation to state-led development initiatives reflects fawning behaviours: pragmatic emotional compliance in exchange for perceived security or resources. These emotional adaptations complicate linear models of resilience, suggesting that survival strategies under climate and political stress are layered, ambivalent, and often invisible.



Figure 5.6 Herds grazing.

From Sange's monologue, we begin to see into the shepherd's lifeworld: 'I was a shepherd when there were no cars in this area. Unlike the herders nowadays, they could drive small trucks or motorcycles to move easily between the herding points in the mountains and could even be at home more often. In my days, we moved with the herds on foot only. Thinking of those days now, it was so hard for us, leading sheep across the mountains. Sheep are not like yaks; yaks remember the routes and can move by themselves, and herders just follow.' Sange's adaptation process involved two key factors: the sourcing of herds from the local ecology and government provision (such as jobs and market access), which has an impact on local political ecology. He was careful to shift his investments and manage resources in the best portfolios, adapting to this entanglement, while considering the level of labour his physical condition could sustain.

Despite all the hardships, the pastoralists still live in the mountains, are close to the animals, including their own herds, they exchange with other herds, and prevent danger from the predatory wildlife. Animals are at the centre of pastoralists' care and attention, representing wealth as well as risk, and this relationship is deeply emotional. Sange continued to talk about the characteristics this type of labour cultivates in herders: 'Herding sheep makes shepherds more caring, and they have a bigger responsibility to protect them from hazards. In June and July, the shepherds would take the herds up, and then in August and September, we took them down to Senge, warmer places. Moving with sheep makes me feel *sem-kid* (heart feels good).'

Besides care, the stability of movement is another important part of herding. 'On the grazing route, which is mostly fixed, we stopped by fixed points and stayed for a few days there.' All the herders we interviewed made such emphasis. Herders rejoin crowds at these village points, have a short stopover and reconnect to other humans and animals, for example, Sang said:

'These points were often located on the land owned by the other Monpa villages, and we either stayed there or passed by; we had to pay a grazing tax to the villagers. In my case, the grazing tax was usually a few sheep from the herd; I gave them to the landowners. For the yak and cow herders, the tax could be *chur* (fresh-made or mature cheese) and *mar* (fresh butter) (see Figure 5.7).'

Reconnection with other Monpas people involves formal trades and informal relational and information exchange. ‘If the land were part of the village's communal land, we would give the tax to the village council, and they would decide how to divide it among themselves.’ The connection to another settlement boosts resilience for both; the settlers receive the dairy produce they need, and the herders secure a safe place to stay and recuperate. The residential proximity and reliance require trust. ‘These exchange relationships have usually lasted generations,’ Sange emphasised. The seemingly loose, independent and nomadic human-animal migration group is de facto supported by cross-generational investment in hardware, collaboration, and mutual understanding. It is in these settled social networks that mobility can profit, and herders have to keep high productivity and flexibility in both the end products and tax payments, completing the whole grazing route before winter sets in.



Figure 5.7 Herder makes dairy products inside the *brok*.

Yak herding activities have been adapting to environmental change over a long period of time (Wu et al., 2016). When a young herder begins the profession, they either inherit

their parents' business and relations or have to set out to establish new exchange relations, as well as organise the routes; the migration paths are practically the same every year. Fixed and stable relationships enhance trust between two (or more) parties, such as grazing taxpayers and receivers, and social relationships that can be passed down as social capital, all of which help constitute the herder's sense of place. This cumulative network reflected a predictable seasonality in the past. Transhumant herders could operate alone or team up with another 2-3 shepherds to herd hundreds of cattle.

Scientific reports state that climate change is significantly impacting the Himalayan region, with temperatures rising at 2-3 times the global average rate (Singh & Gumber, 2018). Between 1982 and 2006, annual mean temperature increased by 1.5°C, and annual precipitation rose by 163 mm (Shrestha et al., 2012). From the Monpa people's perspective, both herders and a younger generation that are no longer involved in herding, climate change has brought a changing seasonality. For herders, the loss of predictability- such as the absence of spring grass and changes in the drinking water sources along the grazing route- creates significant challenges, making it difficult to continue herding activities as usual.

Erratic rainfall, according to the Monpa people who practise agriculture, is the biggest problem. Unpredictable rain also troubles the herders because it increases the chance of landslides and the risk of sheep and cows accidentally falling and dying. Agriculturalists especially miss the snow, for the melted snow creates the main source of water for their farms. Farming sustains the household nutrition, so if the farm produce is not enough to supply the household, the demand for engaging in cash labour work increases. Generally, there are more men than women engaging in labour work if the construction is away from human settlements. However, the rainfed agriculture pattern provides almost eight months of non-agricultural months, and both men and women work at construction sites through local recruitment. Working on highway or bridge construction sites and becoming accustomed to relying on cash for food and other necessities has made agriculture less important, but the decline in land utilisation has also brought a certain degree of anxiety to local residents because the possibility of self-sufficiency has also decreased, especially for women.

This is a summary of their observations; they have been learning how to predict the new pattern. The official weather forecast is not popular among Arunachalis; instead, people watch the environment to predict the weather, rather than relying on the government forecast. The snow notice on the radio reports is the exception.

Research indicates that these changes are impacting ecosystems, with earlier starts and longer growing seasons being observed (Shrestha et al., 2012). However, the research conclusions are not always aligned with local experience. The Monpa villages in Jang and Tawang reported that the rainfall has generally been way more erratic and intense, and the growing season has not been longer. While on the lower altitude (valleys), market-driven crops (kiwis, pumpkins) and horticulture farmers stated that the rainy season has changed,

‘In the past, we could predict the patterns more accurately and follow them consistently for more than ten years. Now we have to capture new patterns every two or three years. This uncertain climate pattern is almost synchronised with introducing the market-oriented cash fruit and vegetable crops, which are relatively soil-intensive crops compared to our traditional crops.’

Perhaps it is because Arunachal is a mountainous region; microclimates in the valley, hills, and at different altitudes complicate the climate change phenomena, and it cannot be reduced to a single principle. Glaciers are mostly receding, with varying effects on river discharge (Singh & Gumber, 2018). Local observations tally with this statement; the local/pastoralist language explains how the visible ice and snow have disappeared, and how the flow of melted snow has changed a lot over the years. Changes in monsoon patterns (Chaudhary & Bawa, 2011) particularly matter in the Eastern Himalayas, for every summer rain brings broken roads and landslides. In conclusion, the Monpa people’s perception of the direct impacts of climatic change is the rising summer temperatures, colder winters (with less or no snow), unpredictable rainfall and intensity of rainfall in the monsoon season. These have increased the demand for cooling and heating resources, raised concerns about loss, and heightened worries about the water supply.

Temperature and humidity change the ecosystem of each smaller area, and the frequent travels of personnel and goods can also carry insects or viruses that have survived the changed ecosystem; for example, mosquitoes and even ticks. This has happened in Western Arunachal. From lower valleys like Chug to higher places like Jang, these two types of insects have been reported to have migrated to higher altitudes to live, causing calf deaths and health problems for people.⁸⁷ Scientists' reports also show that climate change is impacting biodiversity, agriculture, and human livelihoods, with new pests emerging and shifts in crop suitability (Singh & Gumber, 2018; Chaudhary & Bawa, 2011).

Along the route of a yak herder, there are stone-crafted *broks* built by the herders themselves, or their ancestors (see Figure 5.8). *Sos brok*, *Zyar brok*, *Ton brok* and *Goon brok* are the different huts referred to by herders as covering spring, summer, autumn and winter. Only the yak and cow herders are called brokpas because they build and own these huts in the mountains. Brokpas use these huts to prepare the main products for their own food supply and sales for livelihood– processing milk, making cheese and butter. They also use the space to store food for animals when the pasture cannot sustain the demand. This is behind the huts' stone walls to protect vulnerable members of the fellowship against harsh weather conditions. These huts are visible to everyone who passes by; therefore, they can also serve as territorial markers, and they are often considered as property as well as a legacy to be passed down.

⁸⁷ Similarly, the dengue outbreak in Nepal is believed to be associated with climate change. 'Struggling with a new dengue epidemic in Nepal' [https://www.thelancet.com/article/S1473-3099\(22\)00798-8/fulltext](https://www.thelancet.com/article/S1473-3099(22)00798-8/fulltext)



Figure 5.8 A *brok* of *brokpa*. Small huts like these are located in the mountains, established by the herders who travel the grazing route. It functions as a night shelter for safety and for storage.

By the evening fire, I interviewed a herder family; both father and son were still operating yak and cow herding despite the increasing difficulties and diminishing profits. They had just returned by car from moving their herds to a new *brok*; they had come home for some food for the herders and herds. ‘We use a lot of flour now, and this is from the government shop where we can buy it at a lower price. The monsoon is coming up, and we have to watch out more because the landscape has become more fragile. Less snow and much rain this spring, and then in this early summer, we don’t have the same amount of grass as before for the cows, and it’s harder to find suitable firewood to keep warm for the night. We have to feed cows with tree leaves mixed with flour (see Figure 5.9). Before, we had the government ration⁸⁸, and we could not do that. *Keit* (glacier) is melting; not so long ago, we knew that nutritious food might not become available as before, making it hard to keep the herd healthy’, said the father, Phuntsok, 56.

⁸⁸ Government rations generally refer to the subsidised flour, rice, and oil for the Monpa people who have ration cards due to low household incomes.

My translator entered into a discussion with the younger member by the fire, and the herder's wife handed me the traditional Monpa food– cooked dough with a bowl of strong-smelling cheese gravy. We did not want to come at dinner time, but this proved to be the only possible time to schedule an interview. A voice was suddenly raised in the background; the herder's son and cousins tried to explain a kind of *simchump* (bug) that they had never seen before. 'We collected *Tsando* (a little dose of medicinal plants) to treat our animals. The bugs bite the calves' legs and make them so weak. The little ones are vulnerable to changes in the environment. And humans, too. We have never had mosquitoes, until recently, because it's too high and cold here, but we have started to see them and get bitten. The mosquitoes have climbed up!' The subject later turned to *Yar-ke*, the word for development in Monquet.⁸⁹ *Yar-ke* and *gyu* (property) repeatedly popped up in the conversation, which I could not follow. The herders and their families continued the conversation with loud laughter as if the stress and irony could be absorbed through an accepting yet slightly defensive attitude. My young translator looked at them; I tried to read the complex emotions on his face.

⁸⁹ The Monpa people I know commonly refer to their language generally as Monquet. Since there is no standardised written form of the language, this is my own way of spelling it. Although the Monpa language has many accents and different phrases in different areas/villages, similar to Swiss German in the Swiss Alps, I use Monquet here as a general term to describe the Monpa language as it appeared in my fieldwork and interviews.



Figure 5.9 Herder collects tree leaves to supply the herd's diet.

Most of the Monpa interviewees had observed the changes in the local climate and developed their own theories about the weather. I use the English terms 'local climate' and 'weather' to mean that in this situation, climate is treated more like a predictable pattern, a series of continuous weather changes. Local climate includes the mountain-specific pattern (rains more often than on the plain, and stronger sun coupled with temperature drops) and the Himalayan area-specific (micro-climate of specific zones, glaciers and permafrost). Weather for the Monpa people refers to the meteorological phenomenon that people identify and feel daily. In the Monpa language, the word *Namsi* means weather, but not climate. Hulme (2015) suggests that climate and weather have been conceptualised in Western and non-Western discourse to prove his idea that climate is a product of cultures. The Monpa people's conceptualisation of climate and weather includes the ontology of how atmospheric phenomena have been organised – they have their origins and other values, judgments and social order, which I will explain in detail in Chapter 7.

Through the interviews, people stated that they felt the average temperature had risen, the winter had become shorter and much colder, the summer had become hotter, and winter had come earlier than before. When we went through the calendar to establish

which months belonged to which seasons, it became much more difficult as the memories began to resonate with various empirical experiences.

The informants recited the traditional principles. *Suet* (spring) was cold with heavy snow, usually from February to April; *sharth* (summer) was from May to July, and was accompanied by the monsoon rainy season from late May to early July; *tanth* (autumn) and *gunth* (winter) were the cold seasons, which usually began in September. During the translation, the informants emphasised that these categorisations are, in principle, not the present reality. The rain starts a lot earlier now, and without snowfall, the cold days feel colder for human bodies, and sometimes the coldness begins as early as August. As mentioned in Chapter 1, climatic change repeatedly happens, and the mountain microclimate is fast-changing; the absence of snow, timely rain, coldness and the related demand increase of firewood have caused embodied experiences and signify that climate variance has exceeded the usual range.

The snowfalls also impact the herders' movements. Two herders, both named Gombu, shared the view that, 'I have to go (move on) because my sheep and yaks need to go, so I have to go. I always think that less snowfall is better than more snowfall.' Herders need snow to bring abundant pasture, but too much snow will make it difficult for them to move. Lack of grass (specific kinds of grass and generally rich pasture) will lead to overgrazing and the extinction of certain species, which the herders themselves want to avoid. The herders need to protect the herds from harm when they move, but they cannot restrict their movement. The herds and herders do not have much agency in the wild to negotiate with climate change. They can only accept the change in conditions and consider changing their herding strategies to cope with their reduced capacity. This is a process that puts herders under multiple pressures and erodes their confidence. While the snowfall's role in ecology is widely recognised by the mountain dwellers, not all Monpa people see less snow as total adversity. While the rain-caused landslides are seemingly unavoidable, the reduction in heavy snowfall can lessen the deaths of cattle from the cold and accidents. Herders struggle between their personal comfort and herd needs, like their ancestors. Snowfall is not yearned for or wanted, but it plays a vital role in ecology. The dissonance between expected snowfalls and the erratic precipitation patterns disrupts traditional ecological knowledge, forcing herders to renegotiate

migration timing, ceremonial practices, and notions of cosmic balance.

The shifting seasonality and unpredictable pasture conditions have become unsustainable for the grazing route, built up over many years of interaction and trust. The scattered, migrating, network-like collaboration and mode of production, almost constituting the heritage of Monpa society and culture, has been interrupted. The uncertain environmental change has further shrunk the restricted Monpa transhumance area due to reduced feasibility. A similar study of other parts of the Hindu Kush Himalayas reflects the same diminishing pattern of transhumance (Gentle & Thwaites, 2016).

This is not solely because of global warming; there are other important elements of environmental change occurring at the same time in the Himalayas, such as infrastructure development projects. However, the emerging weather-environment issues are not being dealt with institutionally; individual herders have to try ways they know to mitigate the loss and risks, from traditional herbs to random drugs distributed by vets from the National Research Centre on Yak. The new bug problem lies beyond the scope of Indigenous knowledge because environmental change has moved far beyond what their ancestors and elders know, and it is changing rapidly.

The Monpa people's choice to leave this profession or replace seasonal herd migration with a more settled mode of production with herds has caused two significant changes. One is in the concentration of people and animals, who have become much more centred in village settlements with public provision of water and electricity, and the land around the house has had to be more intensively utilised. This will ultimately increase the stress on the environment in these locations, considering the waste generated by the increasing population and the proximity of drainage and water supply. Another change is the mental toll experienced by retired or forcibly retired herders; they have been parted from what gave them joy, tranquillity and sometimes even comfort. Transhumant pastoralism provides pleasing views of the mountains, from the green grass growing out of the snow near the summits to the vegetation and animal habitation that provide food sources and satisfy the pastoralists' aesthetic needs. According to the herders' narratives, there were pleasures in the hard journey, too. These experiences made a

herder's journey complete, '*Gawu-dug-marle-bushal* (While travelling, the journey is good),' said Sange. Indeed, when the interviews described these trips, they did not exclude the hardships and difficulties. Phuntsok said that he cried many times when something bad happened, when he was alone in the mountains caring for and moving his herds. But without prompting, the herders also discussed the bright side of their working lives. 'We are herders; we love to care for our herds. *Yur-yur-shindu* (love very much), *lose-yam-yab-shundil-sum-dir* (my body feels lighter when problems get solved and the sheep are safe)', said Wangyal, 31. He expressed the sense of achievement by carrying on the family legacy, but went on to say that this was because he did not have the chance to receive much education. Therefore, he had to pick up this livelihood and follow the tradition, and he expressed his satisfaction with the long and improvised herding experience.

Such an experience was not exclusively for the male and older herders; young daughters following their fathers to become herders, or women taking over the pastoralist profession, are not uncommon these days. Women, coupled with their husbands, conducting pastoralist work was not unusual, but with the innovation of vehicles and the reduced number of wildlife, women-led herding groups have become more common, especially in areas where herding is still thriving. The herders analysed this and explained that it was because there was less danger due to mountain wildlife attacks, and mobility could be supported by vehicles due to the roads. Technology, infrastructure, urbanisation, and state incorporation are factors that have contributed to the warming and caused the old livelihood in the Eastern Himalayas to be threatened by the climate. Overall, the scale and prevalence of pastoralism have greatly reduced, and sometimes this leads to identity confusion.

5-5 Modern material elevations and ideas of development

Like other pastoralists in South Asia, this region has had to face huge challenges from the fast-changing pasture degradation and institutional pressure to settle this issue, to modernising their 'primitive' way of life (Agrawal & Saberwal, 2004). Infrastructure such as roads and electricity provision are the signs of development that have been introduced to consolidate the border in this area. Yet these developments, which were

meant to increase the safety and connection of the region to others beyond it, carry the ambivalence of the central government tightening control of the border area whilst also benefiting the local society. What was the experience of the Indigenous and local people who lived there before the borderland was established?

The Monpa people understand that they have been living between political powers, and as a small nation without the power to protect themselves, they have had to comply with external forces and demands. Tsowang, 63, talked about the *Wula* (porter) work they used to do: 'In my childhood, we did so many porter jobs; we didn't even have the time to rest. We had to move from one place to another, from Senge to Tibet, very busy, and we got only one rupee for this.' The experiences that angered Tsowang, even today, were shared by many others who were older than her. The Monpa people, being capable pastoralists moving in the mountains, were forced to work as porters by many external powers to the area: the Tibetans, the British colonial authority extended from Assam, the Indian and Chinese armies during the 1962 war, and even later. *Wula* comes from the word for labour in the Tibetan language; it was a form of tax that they had to pay besides grains and dairy produce. The memories of *Wula* reveal the common attitude of the Monpa society when facing external command; they often found no other way but to comply.

I made development one of the subjects to be discussed in my open interviews, wishing to know how the people perceived and experienced the work of the Indian government (including the military forces), which has claimed to benefit the area. Recognising that development is a highly contested and fractured concept in critical scholarship (Ferguson, 1990; Escobar, 1995; Li, 2007), with my translator, we first identified that *yar-ke*, the word for development in the Monpa language, means positive change. We confirmed our understanding of the ambiguous nature of the English word development and chose to use *yar-ke* to communicate, yet we asked about both the positive and negative developments.

The elder Monpa interviewees listed the most significant *yar-ke* they had experienced: medical services, electricity (especially light at night), and piped water. The developments that caused mixed feelings were diet and food habits, housing and safety,

and easy access to market commodities. As for the generation that did not experience the pre-Indian government period, they counted school education, roads, and transportation facilities as being more relevant to their daily lives. In the past, development was focused on mitigating difficulties and resolving problems, whereas today, it is more ideologically framed and associated with fund-seeking endeavours.

In Jang, I repeatedly heard stories about *Dut*. This is a spirit or ghost that is believed to dwell in tall trees, deep in the forest, in hard-to-find places. The forest is a shared territory of humans (Monpa people) and *Duts*; the Monpa villages are close to the forests, and people often have to travel through them. Many people said they had bumped into *Duts* at night in the forest; a kind *Dut* would help them walk through the darkness even when they were drunk. Such stories show that darkness at night is an issue for the less capable mountain dwellers. Fire and light are usually kept in the house, and the provision of light (electricity) at night effaces some of the fear. Interestingly, *Dut* is also related to skin diseases. Some of the Men and women with ethnic knowledge of herbal medicine pointed out that prayer and offerings for *Dut* in the course of treatment are inevitable. *Dut* represents the integral health of the forestry area, which is often the watershed, the region that keeps most of the underground water supply for the settlements and animals. Skin diseases are caused by contamination or issues with drinking water, resulting in the degradation of the integral health of the forestry environment, and *Dut* is a symbol of safeguarding. It is no wonder that with the popularity of the electric poles and house water pipes, fewer and fewer people worship *Dut* or even remember this mischievous forest spirit. People showed me pinecones and said, 'We used to light up *shuo-shiang* for light at night; now, during the power cut, we still need them.' People can return to traditions at any and all times.

In addition to light and water, elderly women interviewees reported a significant positive change in their experience of using medical services at the hospitals. For example, Tsering, 67, talked about her first experience of becoming a mother: 'At 25, I gave birth to my first child, a son. I was from Lhou, a village 40 minutes' walk from here. My parents were all busy at work, but when I gave birth, they came to help with my mother-in-law's cousins. Men are not allowed to be inside the house when women give birth; after my son was born, *nye shindu shindu rai* (I was very happy). I rested for 20-30 days at home,

caring for the baby before returning to work.’ The hospitals have been in the Tawang area for nearly 50 years, but most women are like Tsering; she gave birth to six children, all at home. The Monpa people have access to medical services when they experience ‘serious’ physical symptoms; the decision is often made following the advice of the village head. ‘The first hospital is the army hospital in this area; they give free medicines and treatments, so we started to use them.’ The military’s philanthropic image was enhanced by these experiences.

When being asked about the relationships or day-to-day exchanges between the Monpa community and the military bases, the answer was that the military facilities were providers of free or cheap goods. Most Monpa shoppers have bought electric blankets, electric heaters, even milk and food from the military base shops. The shops inside these bases are open to civilians, especially the local residents.⁹⁰ These commodity outlets play an important role in the Monpa’s modern material life, as many of them first saw an electric blanket or heater in the military shops. Before the Monpa people accumulate enough cash to travel to lowland Assam and to shop, they have access to the outside world through this type of consumption. These ‘modern’ and electric appliances have modernised the Monpa people’s body experiences too, like feeling the temperature and becoming habituated with appliances. Modernity has been conveyed through sensual acceptance. And the goods at the military shops, which were originally supplies for soldiers adapting to the mountain climate, are subsidised, giving the local people a fair and affordable price. With the connection of the highway and frequently running cargo trucks, small grocery shops mushroomed in every village, and many of the Monpa people sampled different foodstuffs and bought different styles of clothes from these venues. North Indian groceries became integrated into Monpa household cooking and food consumption.

Pastoralist production once supplied both food and wool fabric to the community. Traditionally, herders would wear deer skin costumes that they made for themselves from the animals they caught while hunting (Figure 5.10). Hunting in Arunachal Pradesh

⁹⁰ Some military stations even built parks, restaurants and toilets as a service provided for the tourists and passengers.

was considered a mundane everyday work, and occasionally had ritualistic purposes. Yet, things become complicated when market demand for wild meat, hunters have been caught between traditions, market and conservation (Aiyadurai & Velho, 2018). The woollen fabric was usually handspun and woven into clothes to make outfits and blankets. In Marmang village, we sat with a 54-year-old aunt, Passang, in her kitchen, surrounded by buckets of homemade alcohol and baskets filled with preserved mushrooms and vegetables. I noticed that the traditional wooden containers had all been replaced by plastic ones. She was showing us her knitting work. We sat down and talked about knitting and her life.

‘I never had the chance to study at school like my brothers; the household always needed people to work, so I stayed and worked. I first saw these colourful woollen threads at the market; they are from Assam. We don’t have these colourful ones; ours are handmade. I worked at the highway construction sites, saved some money, and started to knit. I don’t make them for sale. They are gifts for family members and relatives, especially for the children.’

As a stay-at-home member of a pastoralist family, her parents had retired from herding life, invested in her brothers’ formal education and spared hers. I was a little surprised when she went on to talk about her travel experiences and how this little hobby had enabled her to leave the village and visit places she wanted to visit. Commodity had brought entrepreneurship, and her motivation was not always be inferior to her brothers. Most of the entrepreneurs in the villages were women.



Figure 5.10 Herder's old hunting gear. As shown in the picture, the Monpa hunters usually hunt passively, using traps to set traps rather than chasing prey.

The increased interaction with the lowland economy and governance has transformed people's diet and health; the gas supply has also greatly reduced the time people had to spend collecting firewood for cooking at the *ley-dap* (fireplace).⁹¹ The food scene provides another perspective on 'modernisation'. 96-year-old grandmother Zangmo and 63-year-old Dhrema spent two afternoons talking with me about how they used to bring food to the families. Their food sources came from farming, herding and forest collection. 'Kye-liu (red potatoes), *nas* (barley), *tsong* (onion), *charsh* (local garlic); *charsh* in particular we use quite a lot.' Discussing food appeared to be a widely accepted topic among the women, especially as the interviewees knew that I also cook. When I visited Tawang town, middle-class Monpa women showed me 'traditional Monpa' food, as did the herders in the village. Traditional food was a combination of thick cheese gravy,

⁹¹ This is the place where the fire is started every morning inside the household and the fire is only put out before people go to sleep at night. The fireplace has a sacred meaning inside the house. Yet it is a very difficult place to do the cooking.

boiled with vegetables and a fist-sized cooked dough ball of indigenous millet. The fermented cheese mixed with chillies creates the typical smell of Monpa houses. In a way, it's the smell of 'Monpa home.' When the Monpa people travel, especially on trains or buses, they usually seal the cheese with multiple rounds of tape to prevent the smell from leaking. Because non-Monpa people often complain about the smell of it, they tend to stay at places where they are allowed to cook their home food.

It cannot be said that subsistence farming and forest forage have failed to provide the Monpa people with various fresh foods, despite these methods being physically challenging. 'We also have walnuts,⁹² apples, plums, and other fruits; we collect them from the forest. We boil tree bark to make tea and some other natural sweets,' Zangmo explained with a big smile, appearing proud of past successes in gathering and improvising food and drinks from nature. 'The tea and sugar we have now only came into our community when we started to trade with the *Gya* (Indians).' Interacting with the Indians, meaning the Indian State, gradually altered the food habits of the Monpa society, as well as the barter trade. Village settlements near plum trees preserve plums to trade with village settlements close to clusters of radishes; since the climate does not allow vegetables to grow all year round, many foraged items are dried or marinated to be kept for a long time.

Is swidden farming (*jhum* cultivation) harmful in terms of generating greenhouse gases and warming the environment? While continuous *jhum* cultivation can lead to soil organic carbon (SOC) loss and degradation (Mishra et al., 2020; Paul et al., 2017), proper management can mitigate these effects. Extending fallow periods and incorporating secondary succession can reduce SOC decrease compared to continuous cultivation (Mishra et al., 2020). Contrary to common belief, traditional *jhum* practices, when managed with appropriate fallow cycles and Indigenous ecological knowledge, can sustain soil carbon stocks, maintain soil health, and preserve biodiversity (Lalramnghaki et al., 2022; Dutta et al., 2024). Improved cultivation techniques, such as mulching and crop management, can significantly increase crop yields, biomass production, and soil

⁹² They also explained there are two types of walnuts, *gori* and *gai*; one is hard and one soft. The Monpa people like to talk about food.

quality from the soil, nutrient, water erosion and biodiversity loss caused by traditional methods (Kanwat, 2012). However, shortened *jhum* cycles due to population pressure have negatively impacted forests and soil erosion (Paul et al., 2017). To address these challenges, alternative land uses that incorporate the agroforestry methods like tea gardens and rubber plantations have been proposed, with tea gardens showing potential for long-term SOC storage (Mishra et al., 2019). However, labour might be the biggest issue, as the school-age and young generation of local society members tend to migrate out for education and professional training.

Meat was traditionally used for festivals. 'We used to eat meat only once a year during *Losar*. Yaks and cows mate and breed once a year during summer; they give birth to 1-2 calves. We keep the calf for a few months to use the cow's milk. But after the productive months, we slaughter the male cattle and preserve them as dried meat. Cheese can be kept in the stomach or hand-stitched skin bags (see Figure 5.11) and kept in the house as delicacies for special occasions,' Pema added. Their meat consumption has increased since the regular connection to the lowland market. The Monpa people almost never eat fish for religious reasons, but they have started eating more chicken.

The change of diet, shifting from all-natural yet hard-to-get items to market-supplied and easy-to-buy items, has become popular, and cash buying power has also increased since people started to obtain employment in road-building. Sancho, 53, suffers from diabetes and cannot bear to do any labour either at the house or on the farm. She asked her relative's daughter to move in; she grew mustard leaves, marigolds and onions in her kitchen garden. 'Most of the food can be purchased with little money, at a low price, so people only grow some indigenous millet and vegetables in the gardens near their houses. I desire Indian flavoured food, more deep-fried items with masala spices, strong flavours, and a better taste.' Sancho was not the only one who realised that her diet change had, to some extent, caused her health issues. For this reason, some families pay more attention to diversifying the source of vegetable foods that have been passed on from the older generation; they believe that eating wild and diversified foods can keep them healthier. However, food with Indian masala flavours wins over many palates, as much younger generations have developed a strong preference for the Indian style of food.



Figure 5.11 *Chur*, or cheese, made by the Monpa herders.

‘Modernisation’ was the subtext of my interviewees’ narratives when we discussed change and development. Modernisation theory posits that as societies develop, moving from traditional to modern structures (Chaudhary, 2013). Modernisation and dependency theory were important theoretical bases of international development in the mid-20th century. Modernisation, in this 20th-century trend of conceptualisation, refers to the processes of transformation from traditional or underdeveloped societies to modern societies, envisaging a process of change toward those types of social, economic, and political systems that have developed in Western Europe and North America. Yet in this context, the concept of modernisation merely means something new and seemingly better; there is not a fixed image of modernisation or Western-oriented intention.

Modernity was experienced by the senses. Modernity, unlike the normative assumptions embedded in classical modernisation theory, does not unfold linearly toward a singular ideal. Rather, it is plural, contingent, and locally reinterpreted (Gaonkar, 2001; Tsing, 2005). In the Monpa context, modernity was less about mimicking a distant model and more about selectively engaging with available innovations, infusing them with place-based meanings and aspirations. It constituted a sensory and experiential project - a pragmatics of improvement rather than a teleology of Westernisation. The Monpa people chose the best they could afford for the development of their material experiences, from

housing to their children's education. I often wondered what their ultimate goal was. Was it to attain the city, rich, or white, Western styles and choices that they could see in the media and online? It was not. What I observed was a collective experiment of trying every contemporary material available in the accessible markets, paired with a curious mindset and a willingness to take risks.

Anthropological critiques of development (Escobar, 1995; Mosse, 2006) and engagements with plural modernities (Gaonkar, 2001; Tsing, 2005) suggest that processes of change are less about linear transitions and more about locally negotiated experiments. Agency, thus, emerges not only in overt resistance but in the quiet pragmatics of selective adaptation (Ortner, 2006; Li, 2007). Recent anthropological scholarship (Bear, 2015; Escobar, 2018) suggests that development and modernity are no longer teleological processes but fragmented, affectively charged, and often experimental engagements. The Monpa encounters with material change embody such pluriversal, relational, and emotionally mediated transformations.

As pastoralists, they could move their settlement along as new roads or schools were built. A flat-surfaced terrace made with shop-supplied concrete and river sand could be completed in a day; the baby could safely crawl on the floor by the following week. What differentiates the Monpa transhumant pastoralists from others may be their power to make decisions by themselves. Whether the negotiation was with the Indians or the capitalist market, they managed to find their way, like making individual grazing routes. And there was surely some joy on the way, a sense of liberation for indignant minds, affection for what they had created, a sense of agency and a strong pastoralist character.

The decrease in herding activities has had an impact on the social hierarchy and material culture. The old way of evaluating wealth was through the number of cattle and resources that could be mobilised during times of danger and risk. 86 years old, well-travelled and experienced *brokpa* Sang explained to us, 'If you have milk products, then you will get everything you need; people from neighbouring villages like Bonglang⁹³ come to our village to get these products. They barter with grains (mainly wheat and rice).

⁹³ A border village between Bhutan and India.

Every year, during *Chu-pa* (the 10th month of the Tibetan Calendar). But, these days, they don't come much like in the earlier days'. He had been in the *brokpa* profession since he was 17-18 years old and continued until he was 70. 'We used to sell 1kg *Mar* for 7 rupees (to the locals) and 10 rupees to outsiders (for example, the Nepalese)'. The cost of *Chur* was also 1 kg for 7 rupees. 1 kg=7 *Shr-rang*, 1 brey = 1 *Shr-rang*.' The old herder showed me the old containers that were used to trade. I wonder if it was like when he first learned about kilogrammes, curious about what shifting the parameter means to them.

'Regarding bartering, 1 *Shr-rang* of *Chur/Mar* is exchanged for 1 *Brey* of grains (wheat, rice, millet). If they come here, then we only get 7 *Brey* of grains for 7 *Shr-rang* (1kg) of *mar/chur*. However, if you go to Bonglang for the exchange, we get 2 *Breys* for grains for 1 *Shr-rang* of *Mar/Chur*. The quantity of the exchanges differs from village to village depending on the distance they have travelled from their home', continued the old herder.

Sang's intricate knowledge and experience were not relevant to the challenges and endeavours of his children. While we were doing the interviews, they laughed and assisted in showing items from the warehouse, but they were not interested in this profession: 'it's too hard a life.' The younger generation has moved on to another pattern of migration to pursue another type of achievement; twice a year, they move to residential schools or colleges in other states. They bring back new things they have discovered from 'outside'. Sonam's herbal medicine knowledge has not been appreciated since they have been going to these places, and the existence of these plants is rare nowadays; the facts have turned into myths. In three generations, the local society has gone through a transition to become marketised, and the people are Indigenous living alongside Nepali migrant workers and central government officers, yet they are still state citizens. With the changes in values, ethics, and social atmosphere, the sense of place- home, the mountains, Monyul, or the Himalayan borderland- is closely tied to feelings of security, settlement, and the drive for development and mobility.

The push toward market-oriented diversification, though often framed as resilience, also signals the commodification of formerly relational ecosystems, exacerbating non-economic losses in community identity and land-based ethics. The sense of place

changes along with the Monpa livelihoods and perceptions of the mountain homeland they have been living in. Defining these changes in terms of the categories created by them helps to understand the boundaries of the environment and the place that they have considered home, which they feel is gradually fading away.

5-6 Mourning for the past

The Monpa people have focused on breeding the yak and *Kot*⁹⁴ mixed breeds called *dzo* and *dzomo* for a long time. When I broached the subject, the herders gave me more details. For the Monpa people, yaks supply high-quality meat and dairy products; yak hair is a strong natural fibre that can be woven for tents. Meanwhile, *kot* and other highland cattle provide the main supply of meat, butter, and cheese, which are the core elements of the Monpa people's daily diet. In their appearance, the *dzo* and *dzomo* are much smaller than the yaks and more docile, and have higher productivity in terms of milk. Moreover, the *dzo* and *dzomo* can survive at higher altitudes than the *Kot*, making them more adaptable for transhumance pastoralism. The *Dzo* is the male; it is a hybrid and sterile, often becoming the food source. The *dzomo* is the female, whose numbers have rapidly increased. The *dzomo* can be seen as the product of the Monpa people's adaptation to the warming climate in the Himalayas (See Figure 5.12). However, the academic literature also states that the identity of the Monpa people is inseparable from yaks (Bora et al. 2014; Choephel 2019). And I wonder how that identity has changed or if it has become another type of hybridity of Monpa identity and nature. One thing I am sure of is that the Monpa identity now includes environmental engineers, educators, interlocutors between resources and governance; it is more fluid and versatile, yet the attachment to the mountainous home and domestic animals remains.

⁹⁴ Cows brought from the lower land that have been trained to adapt to a higher altitude and climate.



Figure 5.12 Dzo and yak.

‘Where are the yaks?’ When we sat on the terrace of Tashi and Pema’s house, the old couple put away their mantra that they were reciting and talked with us. Tashi opened his box and told us about his yak herding life. ‘We set them free. We used to take the yaks to Sela, the highest mountain pass in the area, for three months. Yaks have thick hair covering their whole bodies; they cannot stand the warmer weather. Therefore, we had to check the weather and take them and let them wander to higher altitude areas. When the weather got cold, we would go and find them and take them back near our house for the heavy snow season. We fed them salt and millet from our farms; they were with us, and we survived the winter together.’ There was always a special attachment to yaks among the Monpa herders. Monpa shepherds use dogs to help them gather their flocks of sheep, and they use horses to carry their lifesaving substances. However, they do not have the same feelings they have towards yaks for these helper animals. ‘They (the yaks) have been here for a long, maybe longer than us,’ Tashi said with a long pause, looking around. Yak herders, called *brokpa*, have the highest status among the different kinds of herders. Among all the animals that they keep and breed, yaks hold a prestigious position, and the Monpa people, particularly experienced herders, feel deep affection for them.

The herders felt that the average temperature in the Himalayas had increased in the past decade; many of them reported that they had released their yaks into the wild for the animals' well-being. A motorcycle-sized black fuzzy animal approached us. Stomping its thin and elegant feet like a pair of delicate boots. Four puppies were crawling on the ground, playing. 'That is a baby yak, one-month-old,' Pema saw my surprised face and smiled. The baby yak seemed to have realised its weight for the first time when it stepped on one of the puppies, and the puppy barked angrily at it. Rarely have the yaks been kept close to the village settlements; this old couple had perhaps missed their company a great deal and were keeping the baby yak as a pet.

It is rather hard to explain what pets are to a village where everything exists for a purpose, and everyone plays a role in keeping life moving forward. Overbred dogs and cats are not cherished but are fed because of Buddhist compassion. The eyes of the yak reminded me of my feelings when I asked how people felt about the seemingly irreversible changes to the environment. In the worst silences during the interviews, when I could feel their pain even without word-for-word translation, I paused and asked if we could have some tea.

Herding activities are more common in the villages where there is limited farming land and fewer employment opportunities provided by the highway and other infrastructure development. With the integration of the Indian state, the diversification of livelihoods and multiple connections with the land institutions have become a common economic feature in every village. In Northeast and East India, livestock and agricultural land use diversification is influenced by factors such as urbanisation, education, farm size, and soil type (Kumar & Singh, 2012). There has been a similar impact in the mountainous region, though less than the impact of fallow land. New employment opportunities at the township, continuity of formal education, and the farming supplies provided by the government have influenced the local decisions regarding land usage. Conflicts between continuing traditional transhumance practices and adapting to other government-led environmental policies are common throughout the Himalayas – for example, Sikkim (Chakrabarti, 2011), Nanda Devi (Nautiyal et al., 2003), and Changtang (Bhasin, 2011).

The pastoralist products in Monyul have never been made commodities for trade in the cash market, and with the diverse sources of food supply that now exist, each village can sustain its needs with just 2-3 pastoralists continuing their work. Rarely do people eat yak meat nowadays, and handicraft souvenirs made from yak hair are sold to tourists for between 4,000 and 5,000 rupees in Tawang town. Although people know that the yaks are alive and living far away, they have now been removed from the Monpa people's daily life. Yaks appear to be becoming ghosts, sad symbols to observe from a distance, or shadows of past traditions that, regretfully, no longer seem suited for the future.

I visited the Yak research centre⁹⁵ in Dirang, where yaks are bred in small numbers for scientific purposes. I saw that yaks were mated, bred, and kept in a fenced, separated ranch the size of a football stadium, resembling a form of condensed animal farming. One scientist who knew that my research was related to climate change voluntarily came to talk with me about the relations between yaks and greenhouse gases: 'Actually, they (yaks) count only a small part of it; they almost don't matter in the overall global warming', he whispered in a low voice. This aligns with Scoones' (2023) argument about the flaws in global assessment, that it is the industrial rather than subsistence livestock contributes to carbon emissions. And such assessment results in a categorical defamation of pastoralists, in their responsibility for GHG emissions. Historically, although without reference to concrete data or figures, the greenhouse gas emissions produced by transhumant herders in the Himalayas did not contribute to the melting of glaciers. Transhumant sheep farms in Turkey were found to produce lower emissions per kg of output (46.2 kg CO₂e) compared to semi-intensive farms (56.5 kg CO₂e) (Yetişgin et al., 2022). Similarly, in Mediterranean systems, transhumant sheep farms had lower carbon footprints than sedentary farms, especially when accounting for natural baseline emissions (Pardo et al., 2023). The Monpa herders, in their gradual shift from transhumant to sedentary patterns, still at a very small scale, would in all probability not have caused a major change in regional or even global warming. However, the researcher's subdued comments, alongside the settlement patterns associated with

⁹⁵ It has been part of the Indian Council of Agricultural Research since 1989. <https://nrcy.icar.gov.in/> (Last access: 2025/04/07)

livestock keeping, point to a deep sense of injustice in narratives that indiscriminately cast all herders or meat consumers as enemies of climate action. More likely is that the sedentary form of livestock-keeping would have caused greater stress on the soil and water conditions near human settlements where the animals are kept.

Understanding that my concern was about the herders' adaptation to climate change, the researcher's whispered reminder revealed a hint of insecurity about the moral standpoint of this lone yak research centre in India, one of the very few in the world. I did not hear any experiences of similar 'moral attacks' from the Monpa herders themselves, but the herders often expressed their concerns about over-grazing. Across the world, climate politics and associated consumer movements have imposed pressure on livestock farmers, and in this case, perhaps the researchers too. This yak research centre does not exist solely for conservation purposes (which might seem more justifiable within the environmental ethics we are familiar with) but also to help the pastoralists in this area address production-related issues. There have been movements that promote vegan or vegetarian diets for the climate movement; the anti-cow herding industry mindset seems to have spread to this little, secluded research centre in the Himalayan mountains via social media. Meat eaters have been the minority in India, at least nominally. As cows are considered sacred animals in mainstream Hindu culture, the emotions of the researcher (and perhaps more people like him) might emanate from complex sources, all related to different ethics and situations. Globalisation leads to friction and resource frontiers (Tsing, 2003) and the consequences of industrialised animal farming in the global north, which could trigger anxiety in self-sustaining herding communities and related researchers in the global south; this seems to me like a form of coercion. The pastoralists in Arunachal Pradesh, whether their livestock product has been marketised, also face the challenge of another trend from global climate change mitigation, which is the government plan to institutionalise carbon sinks. This creates a unique scenario for the Arunachalis, as they hold land use rights over vast areas containing forests, with animal herding being central to their cultural fulfilment⁹⁶.

⁹⁶ As far as I know, no formal discussion about carbon credits has been conducted. Nevertheless, it is possible that the pattern of land rights in Arunachal could make a nuance in the profit-making regime.

Meanwhile, as the State and capitalist market make moral and at times economic appeals to concede the lands for 'higher purposes, what then should the Indigenous mountain dweller choose?

On the other hand, while the military bases, transportation facilities, hydropower dam projects and numerous administration and hospitality developments have taken the original forestry lands, the herding activities have reduced in size and numbers. Is it fair for the yak herder's identity to be attacked by the global-north-centred environmental ethics? Local adaptation does not just take place under local environmental conditions; it intersects historical relations, State-border dynamics, cultural debates and knowledge production. Perhaps the mourning of herders and the stress of non-local researchers are not just about their perceptions of the issues, but a nostalgic longing for the state of mind they had before confronting the growing chorus now.

5-6-1 Finding reasons for the change and adaptations

The concerns about environmental change from the local community were diverse. Most people thought that the increasing temperature, rather than cow herding, led to deforestation, and that this temperature rise was due to the major expansion of highways and buildings. The logic seems to be inferred in reverse: part of the reason for rising temperatures is the loss of forests, and the main reasons for the loss of forests are land acquisition for public works and the reduction of snow water, which in turn is caused by rising temperatures. Studies have reported alarming rates of forest loss, with projections suggesting that up to 50% of the state's 1988 forest cover could be lost by 2021 (Menon et al., 2001). Recent research found a 5% decline in forest area over just four years in a state-managed Reserved Forest (Sheth et al., 2019). Illegal logging, population growth, and resource use are identified as primary drivers of deforestation (Sheth et al., 2019; Menon et al., 2001). In terms of the fast deforestation phenomenon in the Monpa area, the Divisional Forest Officer in Tawang defended the situation with reference to the reforestation programme he had tried to promote: 'We tried to plant more trees, but all the lands are private.' He expressed the dilemma between the forest department and the local community in terms of the ownership of timber. Local people were not against the planting of more trees, even on their lands, as long as this was a gift from the government.

But from the government's perspective, they were not giving away small trees; they wanted to collect the timber after 15 to 20 years. Although both parties understood that the reforestation programme was to compensate for the loss of trees due to the building of public projects like highways, tunnels and airports, the dispute over the ownership of these growing trees led to the programme being halted. The forest department's explanation revealed that both the government and the local people consider trees (after giving them space to grow over a long period) to be tradable goods, and tree-planting can be a profitable business. Though not directly speaking about the reforestation program, the Monpa interviewees generally regarded letting government property grow on their private land could lead to government encroachment of their ownership. Because traditionally, it is believed that everything on the ground, including vegetation (but not water), belongs to the landowner. Moreover, when the government extends its hand to private land for the public interest, and the boundary between public and private forest resources is unclear, it is reasonable to guess that the government's next step is to control the land. They are more than willing to accept small trees (regardless of the type) for conservation purposes, but as the demand for timber increases with the growing population, they are unwilling to allow valuable timber to be harvested by the government and possibly sold to local consumers. In fact, many locals view the Forest Department more as a business enterprise than a purely state-run institution.

For the Arunachal government, horticulture and conservation of biodiversity serve as a brand for governance; there has never been a baseline negotiated between the government and society regarding the use of forest resources. When I asked about this, the civil society group that aims to protect the environment told me about the lack of coordination regarding environmental protection between the government and the local people. Enthusiasts from these groups often organise voluntary actions to clean up garbage, and call for less river and air pollution. They travel frequently through rural areas and monitor the environmental changes taking place. In their opinion, the most serious damage to the fragile mountain ecology is from the military. Due to the secret nature of military bases, the large number of military personnel stationed in the mountain ranges and the sometimes fragile ecological zones, civil society groups suspect that sewage and other kinds of waste have not been dealt with in an environmentally sensitive way.

They pointed out their concerns about untreated wastewater directly released to lakes and rivers. However, they cannot provide any proof for their suspicion.

Withholding information from the talks with government officers and NGO members, I spoke to the villagers about their concerns regarding deforestation. Younger generations in their 20s and early 30s expressed their worries but felt there was nothing they could do. Middle-aged people responded to the issue with less immediate affirmations; they thought that deforestation was the government's responsibility. Research suggests that the Monpa people rely heavily on forest resources, with firewood collection for heating responsible for significant forest degradation (Tsering et al., 2017). The region faces threats to important plant species like rhododendron and oak. Population growth has been identified as the main adverse factor in the deforestation of the Himalayas. In India's Arunachal Pradesh, a researcher took the Pakke Tiger Reserve as a sample and concluded that a 32 km² forest cover reduction was observed between 2013 and 2017, under the state-managed Protected Area scheme, primarily due to illegal logging (Sheth et al., 2019). The above research shows a clear picture of humans and forests competing for adequate space to survive. While firewood is still the main source of heating in the mountains, and the national border security construction is still ongoing, the cutting down of more trees is inevitable. The grandmother and mother of the house where I lodged commented on this with a neutral voice: 'The forest grows. There was a time when we didn't live here; the forest was here. When we move to another place, the forest will come back'. The government, army, and civil society do not seem to find common ground in dealing with the issues that have been impacting everyone.

The deforestation issue in the Himalayas is a complex issue. In recent years, many studies have been published that aimed to find solutions to the global warming and deforestation issues in this area, and some of them suggested that anthropogenic disturbances such as illegal timber felling, forest fires, *jhum* cultivation, and hydroelectric projects have worsened the climate change effect (Saika et al., 2020). Contrary to the popular belief that population growth and local fuelwood collection are primary causes, studies suggest that commercial harvesting and government mismanagement are more significant factors (Ali et al, 2004).

Deforestation in the Himalayas has been a subject of concern and debate for decades. The conventional wisdom linking Himalayan deforestation to increased flooding in Bangladesh and northern India has also been challenged (Ives, 1989). Noticeably, there have been recent research calls to transform multi-scalar governance of natural resources into emancipatory politics that enhance resilience (Satyal et al., 2017). I did not conduct data collection directly on any issues related to the Forest Act. My understanding from the interviewees' expressions suggests that there has been a growing concern about less forest cover, but urbanisation is necessary. However, these situations related to forest resources need to be continuously monitored. A study published by the National Law School of India (2025)⁹⁷ found that the shift towards state 'governmentality' has reduced the 'commoning' practices of the Monpa. As younger generations move towards settled livelihoods, the mobile herders who remain lack the political leverage to defend their 'pasture rights' against state-enforced forest classifications.

Other scholars, specifically criticising the IPCC Himalaya agenda (IPCC 2019, 2022), ask to involve more marginalised stories of climate-society relations and emphasise justice in policy and development (Chakraborty & Sherpa, 2021). However, in the case of borderland and Indigenous autonomous regions, with the lack of discussion about property rights, different perceptions are struggling to find common ground, causing environmental issues to worsen in a state of adverse stagnation.

5-6-2 Herders miss the quietness of being in the mountains

Duth began his life as a boy born into a brokpa family in Marmang village, which indicates that he likely learnt to gain his place in society through his father's path. Marmang is on the right side of the riverbank. The village benefits from a direct channel of snow water to drink, but the lack of well-irrigated farms makes the pastoralist's livelihood vulnerable. The village has an open view of a few nearby villages across the Tawang Chu. Marmang sits directly under the hilly areas and often suffers from landslides. However, there are

⁹⁷ Dutta, P.K. (2025) 'Shifting grounds of accountability: how governmentality reduces the commoning practices of the Monpa community in Arunachal Pradesh', *Journal of Law and Public Policy*, 9(1), Article 6. Available at: <https://repository.nls.ac.in/jlpp/vol9/iss1/6/> (Last accessed: 2025/12/25)

many wood and stone-built family houses that are over two hundred years old; they were the only type of house where Duth grew up. Young Duth began his lifelong work with livestock at the age of 6. Children learned to care for animals of a smaller size at the beginning, so as a shepherd, he worked alongside his older male family members. Duth was recognised as a *brokpa* when he was 17-18 years old. He married about 10 years later. Upon his wedding, his family built a new house, as his parents' house was inherited by his older brother. Year after year, he spent more than half a year moving between the peak zone and the lower valleys. He returned to his wife and children twice a year, from winter to *Losar* (New Year) and had a brief homecoming in late spring while on the way up. Duth practised this one and only livelihood he knew until he retired at the age of 70.

'The grazing trip mostly involves being alone', explained Duth. 'Since retirement, I miss the quietness in the mountains the most. No sound from humans or vehicles, only the mere bells when the herd moves'. Duth was not the only *brokpa* who spent time in the interviews describing the sensual satisfaction he gained while doing the hard work of transhumant herding. To give a clearer view of it, I include an excerpt from my fieldnotes:

Sonam⁹⁸ assigned one of her students to take me and another as my translator to drive as far as possible to find the herders on the move. Depending on their local knowledge, we stopped by the village called Nyukmadung. It was afternoon, and the village looked half-empty. A middle-aged woman told us that the herder group had already left – they started their journey after *Losar*, moved gradually to the mountaintop, and then moved downwards when they sensed the weather was becoming cold. Following her rough instructions, we drove for about 40 minutes and kept looking at both sides of the highway for the herder's *brok*. Here is the excerpt of my fieldnotes:

We encountered one herder and his cattle.⁹⁹ We stayed with them for a few hours; the herder's life is solitary and quiet. All of us sat down for a while to chat. During the day, the herder has to watch over the eating of animals and guard them from any possible danger. At night, the herder would gather the animals near the *brok*, take the calves

⁹⁸ She taught in the local college and was one of the first contacts I had in Monyul.

⁹⁹ Before then, I had interviewed another group: a father and a 17-year-old daughter and their *Dzos* and *Kots*.

inside the stone-made shelter, and keep vigilant while sleeping, always paying attention to things happening around. The herder did not talk much with us; he was constantly busy. He asked us some questions to figure out why we came to find them, and he smiled when he heard my questions about his emotions. I guess this is the benefit of this theme: it gives an impression to strangers that I care, regardless of how I really feel about the people and situations.

The herders warned us not to be close to the animals immediately; some cows came near us and faced us like they were observing us. And then, they lost interest and then continued doing what they were doing. The yaks didn't come close, and the herders let them wander further than other cows in the herd. Yaks seem to be more independent and intelligent; according to the herders, they can remember the route and the herder, and they will hardly get lost. I was told that most of the time, yaks (if there are some in the group) are the leaders, and the herders are more like caretakers and labourers who produce butter and cheese and sometimes hunt for their own food. It feels like a harmonious collaboration, routinely repeating the practice year after year.

The herder's speech was slow and soft, not confrontational, always paying attention to what was happening around him while he spoke. I watched them speak to the animals in their code to stop, to call, and sometimes pamper them. I could hear the wind, and I felt some activity in the forests near and far. My driver decided to play a charade by riding one of the cows, like in some movie. The translator played with them. I walked around, watching this herder and his cattle, imagining he did not speak a word to anyone the whole day, listening to what I was listening to, looking at what I was looking at. This group moves alone in the mountains for 8 to 9 months a year and is seldom in contact with village life and other groups except for paying the grazing tax. What a lonely life, I thought. Before I left, I took a few pictures inside and outside of the *brok*, and I met the lone herder again without my companions. He smiled at me. Earlier, the questions I asked made him smile the same way a few times.

Understanding their different life experiences matters when I am trying to understand the herders' feelings and perspectives.¹⁰⁰ Having been raised in a radically different background, I related the herders' care for the animals to my experiences with my family, and their solitude to my academic research. My laptop and books are my mountains to stay in. With the accidental, similar loneliness I encountered in the field, I empathised

¹⁰⁰ I reflected upon the choice of moving along with the herders in some excerpts from my notes: I did not know how to situate myself in the routine of this group. I sat in the *brok* watching the herder boiling milk to make dairy produce, and I observed them collecting firewood and wild edible plants. Most of the time it was quiet; the senses were working and reacting and there were not so many conversations. I understood that without a companion who could translate for me and care for me, my joining this group would become a burden; I didn't want to be another animal that this hardworking herder needed to take care of. So, I chose to stay as a visitor, a naïve friendly outsider, and the herders let me freely roam in their area, learn about what they do, and ask bizarre questions about how they felt and what they had seen.

with the herders' desire for quietness. And seeing the labouring position of the herder and the yak, and the importance of herding to the community's food security in the past, I can see why yaks and *brokpas* have such strong cultural meanings.

Many herders expressed the same major source of joy in their lives: 'My happiness is seeing the cows are eating and keeping well.' The nurturing aspects of this sense are tied to the work of transhumant pastoralists in the Himalayas, where the herders do not see their animals purely as resources to survive and commodities to sell. The Monpa herders' experiences are based on the praxis, the sensual experience of being in the environment, not against pre-existing beliefs. In this case, the bond between humans and non-humans is formed through interactions that cannot be passed on without the actual bodily experiences of undergoing a similar process.

5-6-3 Sense of place in the Eastern Himalayan borderland

In the Indian Western Himalayas, Anja Wagner wrote about how the Gaddis, by walking and visiting the deities in circular pilgrimage trips, made sense of the mountains as their place (Wagner, 2013). The Monpa people's ontology of the mountains draws on a different system. Deities are not the extension of a major religion, nor do they have a motherly nature embodying fertility or powerful acts of nature. In Wagner's documentation, the Gaddis show a dynamic place-making mentality regarding beliefs and moral codes, and these are included in a pan-Hindu belief system. Comparatively, in addition to living in the mountains, the Monpa people see nature as a multiple entity of sacred beings; each entity has its own trail of beings, and the Monpa people live side by side with them. This difference subtly highlights the diverse epistemologies about human-nature relations in the Himalayas. It also tells of the position of humankind and nature as a mutually inclusive system or otherwise. These ontologies of nature, or sense of place, held by the Himalayans regarding their life worlds could be seen as what Descola (2014) calls the 'imaginary receptacle.' It reflects how subjects identify, interpret, and process their relationship with ecology and resource use. This is akin to the Marxist concept of 'metabolising nature,' where human societies transform the environment into resources for production, shaping their perceptions of reality and the world they inhabit. The Gaddi and the Monpa peoples both saw themselves as being pushed to live at a

higher altitude and on the margins of political power. Their ontologies shed light on development studies by showing how the sense of place can influence their perception of what the place should be, beyond just its function as their homeland.

Phu and *Dha* (two mountain deities) were one of my favourite interview subjects with the informants.¹⁰¹ In general, *Phu* appeared more often than *Dha*. For some, *Phu* and *Dha* were the same kind of mountain deity. *Phu* are believed to be the ones who dwell at the mountain top; sometimes, they are the mountain itself. Every summit has a name for its *Phu*, which guards every village located on that mountain. *Phus* have relationships among themselves, as sometimes people believe that the *Phus* travel, socialise, and even relate to each other. *Phu* watches over every doing of humans and other non-human doings in their guarded territory, and punishes them when they do wrong. They are generally described as fierce, intimidating, just and respectable beings; their status lies between the animist ghosts/spirits and Buddhist gods (Figure 5.13).



Figure 5.13 Example of where *Phu* lives.

¹⁰¹ They are my favourite because these subjects showcase the imagination of the mountain dwellers, and they often seem fun for the informants to talk about, too. I suppose the fun comes from that gossiping about deities might be considered as offending a taboo. However, such interviews always take more time to translate and get the details right.

Dha is also a guardian deity derived from the mountain, yet dwelling nearer to the human settlements. *Dhas* generally stay on the edge of the wild, where the wild nature of the mountains ends, and village life begins. In some stories about the *Phu* and *Dha*, they are described as a couple; they meet at night and part at dawn, together overlooking the lifeworld of the Monpa people. All the beings in the mountains are associated because they are under the responsibility of the same deities. Deities look after them.

Despite the Monpa people owning all the lands in the mountains by law, in the dominant cultural sense, the mountains do not really belong to them. The mountains belong to *Phu* and *Dha*; the highest, hard-to-reach, difficult-to-define places are dedicated to them. The Monpa people avoid places that are ascribed to the dwelling of deities, ghosts, spirits and gods (even their temporary accommodation); these places should be left alone and not transformed by any kind of development. For example, in *Chusko*, the annual harvest celebration (Figure 5.14), the regional monastery leader and the village leader head a long line composed of representatives from each household, walking by the boundary of the villages. The procession of people also symbolises the human-place relationship and reaffirms the taboo places in the village. At the spot, the monk and leaders perform rituals to tame the evil spirits again.



Figure 5.14 Chusco procession, before harvest.

The lands, in the context of agriculture, are not equal to the mountains. Regarding the lands that crops grow on, and the soil that brings the possibility of yields, the land is not considered in a motherly or female reproductive way. Two male village council members tried to explain the Monpa people's idea about land to me. Gombu and Dakpa, who were in their late 50s to early 60s, were searching for words to lecture, perhaps for the first time, my translator and me. 'Sa means soil; it is the most important thing about land. Sa is the provider of food, it nourishes human beings, and *shab-ju-du* (respect) to our mother is the most similar emotion we have towards it.' Interestingly, a woman farmer in Namtsering, where farming work thrives, described Sa as a neutral ground where the food is sourced: 'We have a separate ceremony to pray for the fertility of the land before the planting starts, we pray for the spirits dwelling on the land to give us a good harvest.' Demonstration of the emotion of awe and avoidance of *Sa-nia* (land losing fertility) are the ultimate goals of the interaction between the Monpa farmers and the land. But when the Monpa people decide that a piece of land is losing its ability to produce higher yields

due to a lack of rain or snowfall, they explain it with the philosophy of *Sa-char, Nam-char*.

Sa-char, Nam-char is a phrase that describes the origin of soil and water. No one knows where or what the origin is, but the Monpa people believe these elements of life have a source. The source does not exist elsewhere; it is in the mountains where the Monpa people live, with other associated non-human and spiritual beings. In this system, there are some principles that guide how the environment performs and reacts, without certain characters (definitely not humans) dominating. The mountains, given the possibility of danger and harm, absence and affluence, are the space where the Monpa people are living in and with. The Monpa people believe in reincarnation, whereby life shifts forms, and different forms suggest different deeds being done. Following this belief, the decisions made for oneself and others become important because at the end of this life, when the next one begins, all the consequences of the choices and behaviours come back to decide the starting point of the next life. This circular view of life, shared by the Monpa and other Buddhists, offers a different perspective on the individual's lifetime and the existence of the human species within their lifeworld.

Grandmother Choten said that she was three years older than the 14th Dalai Lama and stated that the unexplainable weather and climate change were due to *Dui-gyur*. This, according to grandmothers, grandfathers and some lamas, means the change of time. Perhaps similar to the idea of fate, fortune or destiny, it describes a doomsday¹⁰² scenario that is bound to happen, but the essence of it is about change. Choten said with a serious face while my translator looked on in disbelief, 'We knew that one day, we would speak a different language, there would be fewer birds in the sky, we would all wear different types of clothes, and there would be a change between devastation and rebirth... told by our ancestors.' To my translator, grandmother Choten was on the way to becoming one of her ancestors. I asked my translator whether she believed in these hypotheses or stories. She said she only believed things that happened in front of her eyes. And I think that law applies to Choten as well¹⁰³. Whether there is a fixed script

¹⁰² This word has its cultural meaning in Christian and English culture, I am using it just for the 'endgame' meaning.

¹⁰³ And in some ways, I feel it is convincing. To me, I think if I believe that only change is a definite and

about these changes or not, whether there is an authority to define which change belongs to darkness and which to hope, the belief in change and change of time is intrinsic to the Monpa people.

Phu, Dha, Sa-char, Nam-char and Dui-gyur; these terms are not well known among the younger generation of the Monpa people. I acquired these concepts and ideas from older people, who also stated that they had witnessed the drastic change in the environment in the Himalayas since the Indian State had asserted its considerable influence over Western Arunachal. The sense of place is not a fixed ontology; it is an integral part of the living culture of the community. Ecosystem changes and development-induced shifts both play significant roles in shaping its current form.

5-6-4 They blame themselves – relation between affordance and affect

The livelihood and emotional loss caused by environmental change resulting in greenhouse gases accumulating in the earth's system cannot be dealt with by mere denial or acceptance. Every year, numerous bilateral and global climate meetings, the UN Climate Change Conference in particular, discuss climate actions. Reports of these proceedings reveal discursive wars surrounding liability, mitigation and restorative justice. However, the language of climate change knowledge and many concepts growing in the climate change debate are not accessible to the people whose lives are impacted by this complex phenomenon. In those high-cost meetings, most ideas were shared, but the actual issues remained unresolved.

Who is at fault for what, and what needs to be done to compensate the developing nations' potential loss in agreeing to 'unequal' historical greenhouse gas emissions for the Carbon Zero goal? This is a political and environmental justice issue. Yet we lack the tools to implement such justice. The winds from the West, shaped by existing international geopolitical dynamics and amplified through media platforms, make it difficult to compete with the West-dominated, technology-centred approach.

Bhutan and Arunachal Pradesh, Sikkim and Ladakh are similar regions in the Himalayas,

stable truth, perhaps the experiences of extreme weather will be easier to accept.

so when the Bhutanese delegates' talk showed climate diplomacy skills in a TED talk,¹⁰⁴ it raised my curiosity. The demonstration presented the Bhutan case as an alternative in many ways, highlighting the association between economic growth and happiness, as well as adopting the 'carbon negative' label to emphasise the unfairness of countries like Bhutan having to disproportionately bear the consequences of global warming.

This performance, similar to that of many other delegates from the Himalayan countries (except for India and China) at UNFCCC, shows the 'manner of the minority': there is rarely a direct accusation, only subtle expressions of difference and an unwillingness to take control of the situation.

I wrote down my perspective on this performance because I can see a clear connection between this public appearance and the Indigenous people's attitude towards climate responsibility. The loss and damage talk relates mostly to 'measurable things'; however, the development of the 'manner of the minority' and other diplomatic performances may depend on the unmeasurable items.

In my fieldwork, after hearing about all the adversity caused by the changing weather, I asked the Monpa people to identify the loss and the responsible parties. 'We blame ourselves,' was the only answer.¹⁰⁵ Self-blame refers to the belief that the reason for these adversities is human actions; the Monpa people and the people behind huge infrastructures are responsible. Monpa interviewees believe that people living in the mountains should constantly observe, adapt and make changes to cope with the ever-changing weather. However, the current weather changes are beyond their expectations based on past life experiences, which makes them feel confused and uneasy. The infrastructure and military camps representing the country are another human force that changes the environment, besides the Monpa people themselves. The changes in the landscape, uncertain climates, and the increase in the frequency of landslides and

¹⁰⁴ Here is the link of the talk delivered by the Bhutanese delegate, https://www.ted.com/talks/tshering_tobgay_this_country_isn_t_just_carbon_neutral_it_s_carbon_negative?subtitle=en (Last access: 2025/04/10)

¹⁰⁵ This had a big emotional impact on me. It was sometimes painful to stop myself from loudly saying 'No!' to these explanations, but I had simply to listen to them, listen to the whole story.

forest fires are happening at the same time, which also strengthens the Indigenous people's hesitation between trust and distrust of the country. In the next chapter, I will further elaborate on this distance between the Indigenous people's behaviours and the State policies on environmental governance.

This self-blame of the Indigenous people regarding climate change stems from local ontologies that view weather as a phenomenon rewarding or punishing human actions (Schnegg et al., 2021). In the Marshall Islands, grassroots communities favour guilt and atonement over outrage, interpreting climate change through existing narratives of cultural decline (Rudiak-Gould, 2014). This self-blame can be understood as a local appropriation of climate change discourse within existing cultural narratives, potentially carrying empowering and counterhegemonic implications (Rudiak-Gould, 2014). These perspectives show a common human tendency to explain why problems happen and suggest ways to solve them, not merely fatalism. With powerful narration, Whyte (2018) argues that the reality was already dystopian for Indigenous peoples who experienced colonial violence. This contrasts with non-Indigenous narratives that often position themselves as saviours, potentially hindering coalition-building efforts (Whyte, 2018). In the case of Monpa people, expressing self-blame is a way to vent stress with the feeling of shame, because, whether in terms of ability or morality, they believe that they should be able to deal with crises just like the past Monpa groups dealt with environmental changes. They are often reluctant to talk about their feelings of incompetence, but instead talk about the actions they have taken after accepting the propaganda of protecting the environment, and their attitude seems to ask me to confirm (as a somewhat external expert) that what they are doing will be effective.

The Monpa informants, regardless of their professions, chose a surprisingly small scope to respond to addressing the blame. They counted their deeds of burning trash, tossing garbage, and any other such behaviours as damaging to the environment. The capacity to process waste and the ability to recognise the eroding chemicals in the soil and water were not developed alongside the consumption experiences within the capitalist market. Therefore, the situation makes them repeat the behaviours they know to be bad for the environment and their own health. In this process, the feeling of guilt, sometimes accompanied by the shutting down of emotions, needs to take place. I was surprised by

the retrospective attitude and further enquired if they understood the impact global warming can have. Among them, the younger ones with smartphones and internet networks answered positively but commented, 'It is in the air; what can we do?' It was one of the hardest moments of my fieldwork because I saw the helplessness of these people who were proud of their capacity to adapt and survive. But the Monpa people, being herders and shifting cultivation growers, seem to know about change, be in better acquainted with change than me. Vulnerability and resilience were both displayed at the same time and space; they were not looking for saviours, nor to become saviours themselves, yet they had no clue as to how to save themselves. Believing in change and watching how the forest regenerates itself had become a persuasive symbol of strength. In the Monpa worldview, humans are always part of the ecosystem. The faces and voices of the minority tell more truth in their homeland.

5-7 Conclusion

The Monpa people dwelling in Western Arunachal Pradesh have experienced both ontological changes and physical changes in the environment. The three major factors leading the change are: incorporation into the state-dominated borderland development, accelerated incorporation into a seller-controlled lowland market-driven commodity world, and global warming, causing temperature and precipitation changes. In this chapter, I have quoted many testimonies and memory vignettes, particularly from the elder members of the Monpa society, to show a picture of what has been lost and gained, and what the current concerns of the local residents are. Through the lived experiences and emotional expressions, I have provided an account of the Himalayan borderland as a place for the Monpa people and explained that the Monpa people's sense of place, besides their livelihoods and right to develop, is also under threat. I have juxtaposed the yaks and the transhumant pastoralists in my narrative to convey more than just a decline in activities and numbers. I have questioned whether the dependence on government provision and employment in unskilled cash-in-hand jobs are positive development for the Monpa community.

Transhumance among the Monpa people is not simply a pastoral practice, but a lifeworld constituted through mobility, interdependence, and a distinct moral economy. It rests on

seasonal rhythms, reciprocal labour, and multispecies relations that have historically enabled both ecological sustainability and social cohesion in a challenging high-altitude environment. Yet this mode of life is now under siege, not only from climate change, but from intensified militarisation, state-led development, and the erosion of customary institutions. The Indian state's assertion of territorial sovereignty through infrastructure, border control, and market expansion has fundamentally altered the spatial and political conditions of mobility. These interventions have not only restricted physical movement across historically fluid routes but have also severed cross-border kinship ties and exchanges that once sustained social and ecological resilience. The remaking of the Monpa homeland as a national border zone has redefined movement as risk, rather than a necessary condition for survival.

Environmental transformation, especially the loss of predictable seasonality, degradation of pastures, and declining snowfall, has further destabilised transhumance. Herders are forced to make pragmatic shifts, from diversification of livestock to strategic withdrawal from pastoralism altogether. These adaptive choices, while often framed in development discourse as individual resilience, in fact reflect structural precarity and the narrowing of viable futures. They mark not only an ecological crisis but an ontological one: what it means to be Monpa is itself in transition.

At stake is more than livelihood; it is the reconfiguration of sovereignty, agency, and place-making in a region where development, security, and ecological fragility intersect. The Monpa experience challenges dominant framings of adaptation and mobility as apolitical or technocratic processes. Instead, it foregrounds the contested terrain on which Indigenous futures are being negotiated. What endures in the cracks of these transformations are residual solidarities, ritual care, shared labour, and mountain memory, that point to the unfinished struggle over how to inhabit and defend a way of life under conditions of profound constraint.

Chapter Six

Adapting in Crises

6-1 Introduction

The Monpa pastoralists in former Monyul, in the Eastern Himalayas, have gone through a relatively rapid adaptation process reacting to the change in territorial and citizenship status, the immigration of soldiers and labourers, and the climatic change that affects water and snow conditions. In this dissertation, adaptation is understood following the IPCC (2022) as the adjustment to actual or expected climatic stimuli, aimed at moderating harm or exploiting beneficial opportunities. However, moving beyond technocratic framings, adaptation is also conceptualised as an emotionally situated, relational, and historically embedded process, shaped by affective experiences, social memory, and lived relations with changing environments.

In Arunachal Pradesh, particularly in the two districts where the Monpa people are the majority, they are politically active, and the dependence on the Indian State is rapidly affecting village-level politics. District and village-level governance is mostly about managing resources, from land-giving to building more infrastructure, such as roads and energy, to the distribution of the village community's forestry resources. This is directly related to the quality of life for the mountain dwellers, and in many cases, it involves money- and business-related negotiations while the mountain dweller's sense of self is going through changes in the process. The boundary question arises in these transformations: the divide between Indigenous traditional territory and the concessions made for national development, the boundary between human welfare and ecological health, and the potential boundary separating the remote from global crises, among others.

A wide range of research has pointed out the urgent need to improve adaptation and environmental management in the Himalayas, as global warming is taking effect to change the ecological system and human vulnerability much quicker in the Himalayas

than in general (Mishra et al., 2019; Nyaupane, 2022; Sultan et al., 2022; Sharma & Masiwal, 2024). While many science and physical geography researchers have built up a strong overview of environmental change and risks as the foundation for analysis, recent calls to reflect on the human impacts on the Himalayas have shown that inequality (Chakraborty et al., 2023) and exploration of the social-ecological interconnected challenges (Yadav & Singh, 2024) are fundamental. I use this chapter to process the interesting data about the everyday human-nature (or material metabolising ¹⁰⁶) interactions of the culturally pro-environment migrating agents (the Monpa people) in the ecosystem to deepen the understanding of the ‘crisis, or Himalaya crisis.’ The Indigenous crisis management system of the Monpa community was in place long before the current climate crisis, with an inclusive approach that emphasised living in harmony with nature animates.

What do the Indigenous learn between crises, to improve the community’s capabilities (Eriksson & Hallberg, 2022)? The COVID-19 pandemic highlighted the need for more inclusive and equitable crisis response frameworks (Ghiberdic & Dobrea, 2024). With high and evolving uncertainty caused by both climate change and Covid-19, which broader political and economic exogenous factors (Mehta et al., 2021) and endogenetic adaptive capacity factors, such as place attachment (Mortreux & Barnett, 2017), hinder the process of transformation?

6-2 The living substance in the Himalayas

Army trucks were stopped by half-drunk males wearing bright ribbons on a borderland highway. A wedding was going on, and the bride’s father was inviting an army officer he knew for a drink to celebrate. Before dawn, the bride had been escorted by the groom’s family to her new home. The transition to her main domain of everyday life was marked with a perfect symbol outside the groom’s house– a handful of rope-tied wood and a whole bucket of water.

Water and wood are essential substances for surviving in the mountains, and the slow

¹⁰⁶ Understanding how the material flows and transforms, also the added value was attributed and subsumed by whom.

onset of global warming also compromises them. A safe drinking water source secures the lives of humans, livestock and wildlife. It usually comes from natural springs underground or running creeks fed by melted snow. When the water dries out or is polluted, people rely more on erratic rainfall and external assistance with water treatment. The mountains in Arunachal are mostly off-grid, the solar panel system is not really sustainable for electrical appliances like heaters, and gas heating is not affordable for ordinary people. Firewood is the most economical and practical material because the trees are always readily available. Every morning, the house firepit is lit by the mother or father, and the warmth accompanies the family until everyone sleeps. The fireplace has a sacred status, and the traditional house needs to be kept warm. As with the firepit in the household, the Monpa settlement is always situated near a running water source. As urbanisation took off with rural development works, households made various decisions to access a direct pipeline to their homes.

Recognising the situated, institutional nature of local knowledge (Naess, 2013) is essential for understanding how Monpa adaptive strategies emerge within, and sometimes despite, broader development interventions. Researchers argue that Indigenous Himalayan communities have a deep, kincentric relationship with nature, viewing themselves as part of an extended ecological family (Salmón, 2000). Non-human beings, including sentient (animals) and non-sentient (vegetation and soil, water, rock, etc.) beings, tend to carry social meanings for the Monpa people, which are projected in different ways by different generations, constituting a significant part of everyday ethics. The elder generation commonly believes that there are spirits and divinity attached to trees and water, so it is hard for them to perceive water and firewood solely as consumable materials. They are also the social group that upholds the boundaries of taboos and ethical rules when utilising these resources. The generation that has gained a diverse range of knowledge through a combination of Indigenous and formal education, along with extensive market transaction experience, no longer feels the same attachment to water and wood as if they were extended kin.

What is still valid in the Monpa community is the boundary between sentient and non-sentient beings, as the local ethics are still infused with Buddhism, and ‘compassion’ is

still a valued rule of thumb. The Buddhist religion empathises with all sentient beings, though beings that do not appear to have feelings, such as plants, water, and soil, are not included.¹⁰⁷ However, the non-sentient beings are not treated as lifeless. The animist belief they practice endows the materials and beings with a voice, an animate, which is often the figuration of a god, goddess or spirit. The voices of these holy, spiritual beings can be sensed by humans, not as a dialogue, but from the conditions of human and animal bodies, highlighting the connectedness of environmental conditions and health. This ‘being together’ is not grounded in a framework of equal rights but rather on the health considerations that emphasise the connection between humans and non-humans. In another sense, it is a self-protective measure.

6-3 Water, flowing common

Linking the Himalayan mountains with crisis narratives has long been common in media reports and, at times, features prominently in advocacy-led academic publications. However, other scholarly interventions have sought to reframe the discourse toward a more nuanced developmental agenda. Notably, Jack Ives and Bruno Messerli’s influential work *The Himalayan Dilemma* (1989) critically challenged prevailing assumptions of widespread anthropogenic degradation. They argued that environmental deterioration in the Himalayas was frequently exaggerated, and that traditional agricultural practices such as *jhum* (shifting cultivation) were often unfairly blamed without sufficient empirical evidence. While acknowledging that certain forms of shifting

¹⁰⁷ This inclusivity is general, and it would be helpful to explain it further. The *Anūnatvāpūrṇatva-nirdeśa*, one of the most important Buddhist scripts that explains the Buddhist worldview, states that the linkage between humans and non-human sentient beings is bounded in the cycle of life of incarnation. The reincarnation, the repeated life and death, understood as suffering, is a cycle in which the being’s next form of living will be decided by the accumulated deeds done. For example, I could be a horse, a sentient being, and could feel and do. And what I did, in the form of a dog in my past life, in combination with my other doings in other lives, resulted in me being born in the form of a human in this life. And in the next life, I could be a cat. As we (humans) and animals, our beings are bound in this cycle of life; in a way, we share an inter-subjectivity. More recently, there has been new research suggesting that in practice, inclusivity has moved beyond the sentient boundary to include non-sentient beings, for example, Colin H. Simonds (2023) ‘Expanding Sentience: Tibetan Buddhism and the Possibility of Plant, Bacteria, and AI Sentience’ *Canadian Journal of Buddhist Studies*, vol.18, 71 – 115. However, in Western Arunachal Pradesh, my fieldwork site, the Monpa people still abide by the sentience boundary and exclude beings such as insects, plants and rocks.

cultivation could become unsustainable under population pressure and shortened fallow cycles, they insisted that simplistic attributions of environmental decline to Indigenous livelihoods obscured the broader political-economic drivers of vulnerability. Ives and Messerli emphasised that poverty alleviation among Indigenous and local communities was central to any meaningful vision of sustainability. In his subsequent volume, *Himalayan Perceptions: Environmental Change and the Well-Being of Mountain Peoples* (2006), Ives expanded this argument, drawing extensively on case studies from Nepal and Bangladesh to propose development pathways attentive to local knowledge systems and socio-ecological realities. Their work significantly reshaped environmental governance debates by challenging technocratic and top-down conservation models, and by insisting on context-specific, socially just approaches. However, this genre of scholarship also reveals enduring tensions: while resisting alarmist narratives, it struggled to fully account for the diversity of political, cultural, and ecological conditions across the Himalayan borderlands. Defining sustainability proved elusive, as competing imperatives, economic growth, conservation, and social justice, often clashed both within academic debates and in policy arenas. The ‘Himalayan dilemma,’ therefore, was not only about the environment but also about the difficulty of reconciling multiple, and often contradictory, visions of mountain futures.

The way a substance is named reflects its importance to the speakers. In the Monpa language, *chu* means running water and forms part of the name of all rivers. During the fieldwork, while washing with the women in the village and discussing the drainage flowing through the village fields and houses, they used the word ‘Chu’. Chu refers to flowing water, defining its characteristics, and whoever sees it can have access to it. In the customary Monpa law, the land is divided into parcels. It belongs to different property holdings, but the flowing water passing through the land is not owned by anyone exclusively.

There are two sub-categories of *chu*: *garbu chu* (underground flow/spring) and *kyuk chu* (river), and they are the main sources for household usage and field irrigation. When I was a guest at my host family’s extended family homes, my companion Lhamo walked me around the building and garden field, pointing to a spring near the old house boundary's entrance. Lhamo is the second daughter in the family; she studied history

and, like many first-generation scholars, has been exploring the path of a single woman's rise in the social hierarchy. Owning a garbu chu in the private plot was no small matter; the household was obliged to share the water, thus giving access to the neighbours. Lhamo feels the same way about knowledge now.

Garbu-chu was the deciding factor when choosing the location of settlements and houses. The Monpa settlement is not permanent; given the risks of landslides and heavy snow, and the accessibility of water sources, the location should be safe and convenient. The Kharsa village, where I stayed for part of my fieldwork, was initially located near a running creek; then some households were relocated higher up to where the spring was found, which was enough to sustain their needs. The families that were moved share the underground water, as it is in the garden in front of the house, and it is easy to transport the water. The shifting residence turns the family house(s) into a shared shelter as well. Houses are shared among relatives, and extensions are often built to accommodate guests during festivals.

After the shared spring water system had been in place for over a dozen years, the PhED (Public Health Engineering Department) department provided facilities to build water pipes connecting to individual households (Figure 6.1), which changed how people approached choosing the location of their housing. The provision of piped water in Arunachal Pradesh and other rural areas of India remains a challenge. As of 2020, only 18.33% of households in India had a piped water supply, falling short of government targets (Parsai & Rokade, 2020). However, in the villages where piped water is available, it facilitates a more closed-off, individual house lifestyle and reduces the everyday atmosphere of sharing resources.



Figure 6.1 Representation of responsible environmental behaviour.

Kyuk chu, as a river (or small creek) in the mountains, serves the settlements and the pastoralist group in different ways (Figure 6.2). Both running water and still water can be drinking sources for transhumant groups on the move, but a *kyuk chu* is always preferred. Traditionally, the Monpa people release deceased people's bodies into the river to let them become food for other sentient beings. The Monpa people, therefore, do not eat river fish or any other creature from the river ecology.¹⁰⁸ Rivers are considered to be places of purification. For the settlement, the size of the river determines how much its rainfed agriculture can produce because the river water can often alleviate dry periods. Monpa society contains communities that have adopted more agricultural livelihoods than transhuman pastoralist ones, in warmer and lower places where pastoralism is not the most viable option.

¹⁰⁸ This is a common belief, and I am still told so by local Monpa. However, in historical archives I have seen documents of Mon people building boats and fishing in the Eastern Himalayas.



Figure 6.2 Women resting by the river stone extraction site.

As people experienced the reduction in snow and the drying up of underground water, they began to realise that the water supply was diminishing. They reflected on its cause. Snowfalls are not attributed to specific areas; people count on the glacier summit that never melts. As explained in Chapter 5, snowfalls are expected to come after November and reach their heaviest around late February. However, the general impression of Monpa people is that the snowfalls have greatly reduced, and the glaciers receded. Since the snowfall reduced and the snow-capped mountaintop vanished, *Tsi*, which was once completely clean and safe for drinking, began to contain more sediment.

The subjective need for water can be reflected in another form as well as in its name. The Monpa people, particularly the mothers and grandmothers in the house, keep an offering for the water spirit. The water spirit *Lü* is placed in some small decorated colourful flags or butter-covered pieces of cloth close to the kitchen sink (Figures 6.3 & 6.4). This water spirit is part of a widely practised belief system related to water in the Himalayan region

and some parts of North India.¹⁰⁹ The snake- or dragon-like figure of godly property is believed to live in the underground water. As the human settlements are usually built near rich drinking water sources, villagers identify clean surfaces on the rocks near the house as the habitat of *Lü*. The small colourful flags comprise blue, white, red, green, and yellow, which denote the five elements: sky, air, fire, water, and earth. These colourful flags are common symbols used with prayers across the entire Himalayan Buddhist region to express respect and treasure.¹¹⁰



Figure 6.3 and 6.4 Worship of *Lü*

To maintain a good relationship with the water god, the residents (mostly women in the

¹⁰⁹ *Lü* is a popular animist faith that has been included in Bon and other folk traditions, and is believed to derived or connected to the *Naga* belief of the early Hindu faith.

¹¹⁰ The five-colour flags with mantra written on them are called *Lungta* in Tibetan language. They were an invention for the faithful (and possibly illiterate) Buddhists to tie on sacred spots, to let the wind continuously recite the mantra to accumulate good karma. The usage of the five colours as denoting the basic elements of earth has a longer history than *Lungtas*. Thesedays, because the *Lungtas* and smaller pure colour flags have been industrially produced, and are easy to purchase from the market, the Monpa people have stopped making these flags themselves. They used to produce papers by themselves, and the main purpose was for these flags to be used for rituals.

house) clean the habitat site regularly and prepare offerings to Lü. Reflecting the concerns about securing a clean source of drinking water and preventing waterborne diseases, small rituals are performed regularly and become part of daily life, sometimes with the assistance of lamas.¹¹¹ Lü has been worshipped as a ‘backdoor god’ out of practical and intimate concerns and wistful actions. It is also closely attached to land, soil and place; it does not exist without nature, and is part of the ecosystem. Its mysterious and sometimes frightening form shapes how people perceive the water flowing underground and its connection to the hydrogen in the air and the precipitation on the ground. Interestingly, the offerings made to such godly beings are the job of the people who offer food and drinks in the family house.

6-3-1 Humans and Water

Water as a connected system and shared resource is reflected in the linguistic construct. The word *tsi* refers to water consumed for hydration, and people commonly identify the source of *tsi* as being from the high-altitude snow. *Nam* is generally used to express where *tsi* assumes its form, at the source of the waters. Figuratively, *Nam* refers to the mist in the air, suggesting it is invisible and floating in fullness. *Nam* significantly affects the weather, taking effect in *Namdung* (the sky). The linguistic construct around *Tsi* and *Nam* reflects broader Indigenous ontologies where water exists across visible and invisible forms, embodying relationality, agency, and socio-ecological significance (Strang, 2015; de la Cadena, 2018; Wilson, 2008).

I spoke to people about their observations and concerns regarding the deteriorating drinking water source at their homes, as well as with some district government officers during public village functions. Personal experiences and trust in authority influence the differences in the Monpa people’s attitudes. The people who are independent from authority and religious institutions have paid more attention to the situation; water is no longer a free, high-quality gift from the mountains but a commodity to monitor for quality

¹¹¹ Lama is a vernacular way to name priests that perform rituals and ceremonies in this area. Lamas live as laypeople; they are not monks living in the monastery. In contrast to its original meaning of a knowledgeable monk, the lama is more like a profession in the rural Himalayan areas that I have visited, and people usually call on the lamas or the monks to perform rituals for them.

decline. The local authority has warned people to change their behaviour when using water; they should boil the water before drinking it. Water pollution creates additional challenges and stress. For example, middle-aged men and women have made adjustments in the household to invest in water tanks and sedimentation facilities.

When it comes to a substance essential for the survival of both humans and animals- so important that it can influence the relocation of settlements- people interact with its nature in various ways, and with a clear generational divide. An active worship relationship highlights the emotional dimension, and the funeral ritual incorporates water as an active element to consume and assist in offering the final remains of the human body, evoking strong emotions about water. Those Monpa who believe that god or goddess-like beings are associated with water provision are generally older than 80. In the same process of reflection and evaluation of how environmental change has affected people's lives, the older generation has sought a way to communicate with the spirits, identify the cause, and take action.

An unwelcome lack of rainfall, or indeed excessive rainfall, is a climatic phenomenon that has not occurred only recently. The crucial issue of water supply has arisen several times during their lifetime, yet the intensifying decline in snowfall is comparatively recent. In the interviews with the eldest generation of the village community, many shared their memories of how they had adapted and tried to change the local climate. Thupten, 82, is an old *brokpa* who demonstrated to my translator and me that he was a well-travelled and knowledgeable person. He explained how building materials had changed due to the sudden disappearance of the bamboo bush,

'There was a serious drought that happened before; all the bamboo died. They made great protectors of the family house and formed the main structure of the mud-attached walls. We consulted the lamas and referred to the holy books and calendars. But some think it is because of overgrazing. In some years, there was too much snow, in some years, too little; it has always been like this in this way. *Nam-tso* (rain falls), *nam-mo-tso* (rain doesn't fall) (the current climatic change is not exceptional).'

This accepting attitude, eased by the existing authority linked to Buddhist mantras and ritual knowledge, was shared by other elderly informants in interviews. Perhaps the

Monpa people's traditional knowledge of interpreting mist, snowfall, and river behaviour is built to handle normal variability such as seasonal shifts, occasional droughts, slight changes in snowmelt timing, etc.¹¹² But current climate change is pushing beyond their historically manageable range, which suggests a grafting point of expanding knowledge and perhaps incorporating explanations from paradigms other than traditions. The paradigms that are sensitive to the timely power relations, therefore perceptions about change, climate change must have generational differences. In the mountains, sometimes things disappear; they might appear again, but the change is understood as not permanent. The understanding of rainfall shares the same philosophy. Nevertheless, water is irreplaceable.

For the pre-war generation, human intervention in climate change is not considered impossible. The high mountain lake is generally considered a sacred place for the Monpa people because it is the home of *Lhamo* (a goddess).¹¹³ People rarely go there and cause disturbance to the goddess because she might change the weather as a punishment. This knowledge can be used to precisely induce small-scale rain when the crops are facing a critical situation. Thupten shared a personal experience of his in creating small-scale rain by performing certain 'tricks' at the high mountain lakes.

'Two old male herders identified themselves as culprits who intruded on the goddess's terrain for the need of water.' Thupten shared his 'heroic' endeavour, pointing out that he was one of the herders. His wife, Yangchen, who had been quietly listening to our long and repetitive dialogue, suddenly smiled. I realised then that the bond between humans and godly beings could be transgressed for legitimate purposes. Before this, as many *brokpas* and *yangpas* told me, the territory of the gods, such as the mountain summits, did not tolerate any human visits.

Negotiation is needed between humans and gods to alter the climate, scarcity could be socially constructed, politically instrumentalised, and emotionally amplified (Mehta

¹¹² I do not have a direct quote or statements directly suggesting that, therefore I used perhaps twice.

¹¹³ In some way, whether *Lhamo* is a goddess is debatable. In some way, they are similar to fairies. But this is due to the different cosmology attached to different languages, I use the word goddess in trying to express the sacred status of such a being in the Monpa people's minds.

2012) According to the herders and their wives, when the drought persists, and the village lives in fear that a bad harvest might deplete their resources for surviving the harsh winter, the village council will call a meeting to recruit brave individuals to go up to the lake and perform some 'illicit tricks'. The brave ones are always *brokpas*, for they have more experience migrating to higher altitudes and are familiar with the topography of the high mountain environment and the lake. The difficulty of this job lies in its offensive nature; the trick itself is simple and straightforward. Some fear the unfortunate consequences of disturbing the residence of the gods.

Thupten struggled to find the right words to describe his actions, so he used his narrative as a herder and, without much reflective interpretation, simply explained how he applied his pastoralist knowledge to make it happen: he collected herbal plants that were mildly poisonous and that could produce the colours for dye, and then he crushed, mixed and released them into the pure, serene lake water. It is believed that this small level of contamination will cause turmoil in the goddess's mind, and when *Lhamo* is angered, the sky rains as a consequence. My young interpreter and I were intrigued when hearing this. I thought if *Lhamo* were present, the goddess might hear our talk. Four of us showed half surprise and half interest, and all of us were (perhaps inappropriately) smiling. Thupten was, of course, praised by his fellow villagers, and they honoured his achievement as an honour. My translator, who was in her early twenties, said she had never heard such stories in detail because it is considered taboo to interfere with godly beings. And as I mention this narrative to others, very few people are aware that such things have happened before¹¹⁴.

The pureness of the environment is a boundary set between humans and nature/nature-animate. In the folklore of *Gangri* (or *Gorichen*, a name given by the government geographical survey), the *Sa Nga Phu* (guardian of the *Gangri*) were angered by the battle between a killer beast and the Monpa people, spilling blood on its territory; rainstorms claimed the lives of the Monpa hunters who had hunted the killer beast. Similar taboos

¹¹⁴ Thupten lives in Marmang, it is the furthest village I went among the household visits. I did not have the chance to stay in the exact village longer to gather how others perceive such a 'hero' like Thupten now.

were spread throughout the area to prevent herders and hunters from killing wildlife or burning smelly things. Thupten then spoke of further ‘tricks’ that people had used to disturb the tranquillity of the legendary goddess, including making loud noises and throwing things into the lake to make a huge splash that could shatter the calm atmosphere. The laws of physics state that you can use sound waves to cause vibrations in the air.¹¹⁵ If the humidity at the top of a mountain is very high, the air vibrations caused by sound waves can cause water vapour to condense into rain. I did not think that fifty years ago, the herders took classes in physics; therefore, the tricks must have come from careful observation of the environment to understand the mechanism linking acoustic waves with other effects of precipitation in the high mountain zone.

‘So it did rain?’ I asked.

‘Yes, but not every time. Even if it does rain, it will not be a heavy and long rain shower. But the sprouts of plants need that little mercy, while humans and animals can move to find the water.’

‘I guess some goddesses have a more tolerant temperament.’

Rather than interact with a sacred figure, people believed could deliver what they wanted, the generation that grew up under the Indian government tended to seek solutions from this new power- the government. Thinley, 63, a small grocery shop owner and one of the village leaders in Jang, is known for being a kind person who agrees to most requests and devotes his services to his fellow villagers. Being the village leader means he must be the mediator between village life and government policy; he reports issues, helps implement policies, and facilitates the reconciliation of disputes. ‘This is what we understand: the water flow coming from the mountains has reduced, and less snowfall might be the reason. The younger generation is used to the existence of water pipes, and they might not notice. I submitted a notice to the RWD¹¹⁶ office because I can see the problem will get worse in the future.’ Thinley’s viewpoint suggests two intentions. One intention shows

¹¹⁵ Sound waves are longitudinal waves that travel through a material medium by creating a series of compressions and rarefactions, which are essentially vibrations of the air molecules. See Halliday, D., Resnick, R. and Walker, J. (2014). *Fundamentals of physics*. 10th edn. Hoboken, NJ: Wiley.

¹¹⁶ Rural Work Development unit, main development agent (especially regarding roads and drainage) in the rural areas.

his awareness of coming from the ‘middle generation’ that has failed to bridge their parents’ cosmological beliefs with their children’s school-centred understanding of the environment.¹¹⁷ They (the generation aged between their 40s and 60s) are the transitional generation. The second intention is to view the government as the primary source of resources for addressing any issues, ranging from environmental concerns to infrastructure.

Therefore, the ability to negotiate, in other words, to communicate with nature, has been transformed into communicating with the officials, which has in turn increased the importance of school education and compliance with the state-led ideology – speaking the same language as the people in power.

Protecting the water source for the household involves another power-related negotiation. In the household, the water politics is not about who fetches the water, but the material question of how to preserve and contain the water. Fetching water is vital for the household; the mother is usually the monitor of the water storage in the house, and she has the power to mobilise all hands in the household to fetch it. My host family comprised a single mum, her two sons, and, with the help of her niece, the two boys would follow their mother’s example in monitoring the water storage at home.

Every house had a huge plastic water tank and three to four mid-size buckets inside the house (Figure 6.5) filled with water shared by all family members. As the water point is central to the location of settlements, the distance from home to waterpoint will not be far. The plastic tank provides extra security for the household. As explained in the previous chapter, the changes in precipitation are directly linked to changes in people’s diets, choices in animal herding, and attitudes towards wildlife conservation. Comparing the old and new settlements, the old rely on rain for farming and underground water for drinking, and the new rely on piped water for both of these. In terms of the water flowing into the house, which is used in cleaning and cooking, the picture is an example

¹¹⁷ As mentioned in the previous chapter, the acculturation and socialisation process has changed a lot since the formal education system was introduced to this area. Children grew up without being side by side with their parents and other family members, and lost touch with pastoralist livelihood skills and worldview.

related to the erratic rainfall or reduction in snow. Water constitutes a sense of security in family houses and people's homes. The investment in water security, including tanks and kettles, is made by households that seek to reduce the risk of contamination or unexpected issues with drought.



Figure 6.5 Water storage inside the house.

During my fieldwork, I joined the women cultivating the kitchen garden near their houses (Figure 6.6). Women work, wait for the rain to come and let their hard work flourish. Gender has been seen as essential in managing resources and conservation in the Himalayan region (Singh, 2015), including in research on traditional ecological knowledge of the Monpa community (Singh & Sureja, 2006), showing that showing how women collectively challenged gender-based vulnerability, such as in the famous Chipko movement (Shiva, 1988) and anti-dam movement in Darjeeling (Drew, 2014). Research also shows that gender is not the only factor influencing the division and understanding of obstacles; class, caste, and ethnicity also play significant roles (Dickin & Caretta, 2022), and women are often underrepresented in development discourses (Drew, 2014; Joshi & Ghimire, 2024). As women are often left in charge of farming and

animal mending, their quality of life is strongly related to access to water and land resources, and their mobility is considered less important.

What I saw in the Jang village cluster fits the scenario, plus women seemed to be keener than men to work in farming near the home to strengthen food security. The newly created farm or kitchen garden, typically used for maize, squash, or potatoes, is located near the household. Women farmers joined forces to manage the hilly farming area and involved their daughters in the process. The men in the family first cleared the land, and then departed, leaving the women to hand-plough the soil and remove grass, roots and other weeds. In this sense, the agricultural cycle functions as an extension of social reproduction, where women's labour simultaneously nurtures both the land and the next generation.



Figure 6.6 Women cultivating together during the COVID-19 lockdown.

6-3-2 Institutionalised water

Despite the frequent adaptive measures and efforts to link agency resources to mitigate upcoming difficulties, some meanings and functions contributing to Monpa identity or

the well-being of mountain dwellers have been lost. Nostalgic feelings are often expressed in relation to the absence of water, with complaints arising from forgetfulness attributed to non-human beings or spirits.

As discussed in the previous chapter, the feelings imbued in this mourning for environmental change are relatively new to the capable mountain dwellers. The abandonment of water-related facilities due to technological change also represents the dark side of the 'modernisation' process of the mountain village experience, leading to isolation and potentially anomie due to the rapid changes in the social order.

In a focus group that met at the Buddhist higher education centre in Dirang, a student kindly shared an opinion based on his father's memories about the changes he had noticed in the environment. 'The water taken from *Dongyur Mani* (water point) was considered the best quality. The water there was warm in winter, and in summer, it was cold. We never had any issues drinking water from there. The *Dongyur Mani* used to be the village meeting hub, too; people had conversations frequently when fetching water, exchanging news, and talking and discussing their daily lives. This was before the government connected water pipes to households. Now my father, or people like him, feel lonely when there are no regular meet-ups by the water points.' Having the water pipe, like the electricity, is a positive development. However, the older people feel that they miss the spontaneous gatherings by the waterpoint and a collective expression of morality. Elderly people are no longer as active and respected as before. The village council members have changed to a middle-aged male group experienced in dealing with the government and even running successful businesses based on securing government tenders.

The negotiation surrounding the uncertainty and fear of a lack of clean drinking water, securing a source of food and welfare for all, including the animals, leads to a more complex understanding of power dynamics. The materialist question becomes more complicated when water is assigned a price that must be paid in cash. Water is no longer free if it comes from government pipes. Piped water costs households 500 rupees each year, payable to the PhED; otherwise, they are only allowed to use the water from the public pipes by the roadside.

Mani (decorative rolls engraved with Buddhist mantra), an important symbol of such morality, were set up using village funds. The space was designed to resemble a small shrine in honour of its magnificence. The artefacts used to be the pride of a village. But virtually no one turns the *mani* (mantra roll and water wheel) by the water point now, and no one is there to clean the shrine and keep the water wheel (Figures 6.7 and 6.8) running.



Figures 6.7 and 6.8 A luxurious version of a water wheel in a village, it provides usage for supplying running clean water, paying for, and small gatherings.

Roads have replaced water as the flow of humans to vehicles, human voices have faded, and only the soil, water and wild grass remain.

6-4 Trees, regenerating wealth and dilemma

I first visited Tawang in 2019. On the night I arrived in Tawang, I moved into a small flat with a lovely couple who were both working in educational institutions. The first thing I noticed was the firewood pile covering the whole of the outside wall of their building. I had only seen this in the forests of North America. The first thing I learned to survive the winter in Tawang was how to start a fire in the traditional local fireplace. The cold season in Monyul generally lasts from mid-September to late April, and households in the rural

area own private woodland¹¹⁸ next to the homestead, pasture and farms. It was easy to collect smaller branches or logs to meet their warmth needs. If the land had been appropriated for infrastructure such as roads or trails, or more family houses had been built, each household would have had equal access to the village's common forest. The village households would take turns cutting down selected, approved, and sizable trees for personal use or sale.

Traditional ecological knowledge, or Indigenous knowledge, has drawn academic attention for nearly six decades. Taking into account the rapid changes in lifestyle, ethnic, biological and ethnobotanical works have documented certain Monpa customs related to identifying and utilising plants (for example, Brokensha et al. 1980; Wisner et al. 1994; Singh & Sureja, 2006). Arunachal Pradesh is famous for being a biodiversity treasure, and the discovery of special species of animals and fauna has boosted Indian national pride. Travelling in the Indian Himalayas, especially from Ladakh to Arunachal, posts put up by the government promoting wildlife and forest conservation are common sights along the highway. But for the residents, especially those unable to read the English content of these posts, the existence of the painted boards and concrete plates is somewhat absurd.

The Indigenous and local knowledge of the Monpa people is mainly about plants, particularly medicinal plants that have been used to improve animal and human health. In the Traditional Ecological Knowledge workshops that I conducted in Tawang College with the students, undergraduates drew charts showing how the villagers from their birthplace mobilised plant resources in their everyday lives. And the household interviews suggested the same pattern. Oak trees are the source of tree leaf collection for the elevated toilet attached to the households. Men and women, carrying large baskets on their backs, collect the leaves to add to the human waste, and wait for the decomposition for several months before distributing the mixture onto the farm and mixing it in with the soil.

¹¹⁸ Private woodland is called *mang-sa* in the Monpa language (could vary in different locations). However, nowadays not all households own a *mang-sa*; the woodland could have been sold or used for building more houses.

Firewood collection is also common and essential for life in the mountains (Figure 6.9). It is considered low-intensity and household-based labour; consequently, those assigned to the job are usually young women and girls. A good piece of firewood burns for longer and produces less smoke. Since the fireplace is usually located at the centre of the house, as the collectors wish to keep the place clean and tidy, they select certain, cleaner types of firewood over others; oak and pine are usually the most popular choices.



Figure 6.9 Chopping and gathering firewood stock; the log was from the community-owned land and allocated by rotation.

Land-use transitions in Arunachal Pradesh exert a profound influence on regional carbon sequestration potential, as dense primary forests maintain significantly higher above-ground biomass than anthropogenic landscapes such as jhum (shifting cultivation) (Kumar et al., 2023). The conversion of these forests to jhum plots results in a substantial carbon deficit, with losses reaching up to 84% (Kumar et al., 2023). While the integration of trees into the broader landscape remains a cost-effective strategy for carbon mitigation (Mihriemate et al., 2020), this sequestration potential is inextricably linked to the community's reliance on firewood. For the Monpa, wood is not merely a carbon sink but the primary thermal energy source required to survive the high-altitude climate. Consequently, the 'sequestration' measured by scientists is, in practice, a living

inventory of fuel that must be managed. This utilitarian necessity, however, is balanced by a deeper ontological layer: for the Monpa, the tree is more than timber or fuel; it is a central pillar of their spiritual and social cosmologies.

Trees are generally called *shang* in the Monpa language. Trees of different shapes and uses are given different names. Trees and bushes are planted to divide private farms and roads, and are also used for decorative purposes. Children have been taught to identify these plants while working with the family, doing collection activities. Trees used to be seen mainly for their practical value, such as producing paper and long-lasting building materials, and were occasionally combined with medicinal plants to produce incense for religious use. Nowadays, more tree/wood products are imported into the area. The relationship between humans and trees has shifted gradually from resource extraction to appreciating the aesthetic value of the plants. People have begun to invest time and money in their gardens, seeing flowers as a beautiful offering to the gods.

While staying in the Monpa village, I was invited to a few women's gatherings at their houses. At the gatherings, besides sharing the experiences of caring for their children, exchanging information about the food market and village news, the sharing and trading of flowering plants was a popular conversation topic among members. A woman born outside of the village to a Monpa mother and an Assamese father had moved back to the community after her second marriage to a village youth. She was accepted back into the community due to the common interests in cultivating flowering *Rhododendron* plants and sometimes earning extra cash income by selling pots from her garden.

Trading plants in pots was a relatively new concept to the local villagers when I was there from 2019 to 2020. The Monpa women have a long-standing relationship with the plants and vegetation in the forest due to their traditional roles of collecting edible items from foraging activities (Chakraborty et al., 2017; Singh & Srivastava, 2010). The herders, most of them male, also possess knowledge and can identify edible and medicinal plants in the wild to support their own nutrition and the health of their herds. As seasoned foragers, they are familiar with charts of where to go and what to find depending on the time of the year. The appearance of the trees and flower blossoms and the smell of fruit used to provide pleasure, but were not as important as their practical use. After the Monpa

people no longer had to rely on the natural vegetation for food and began to buy food from the market, the beauty of plants began to emerge as a valuable asset to be sold by the people. Norbu, who was in his late twenties, commented on this trend angrily, referring to the criticisms of the monks that he had come across:

‘The monks said people used to give their beautiful house plants for free. When walking past someone’s house and spotting a beautiful plant, one would feel comfortable asking for a part of the plant to grow in one’s own home. But nowadays, people charge money.’

The critique made by the monk suggests a moral decline, calling for a return from a free-exchange traditions of the Monpa culture. This perception of trading plants as commodities stems from their experience of trading with outside buyers or has come from observing how nursery markets operate in the nearby city. For the mountain dwellers, who used to take the trees and plants for granted or as gifts from the environment (see Figure 6.10), things have changed.



Figure 6.10 After a forest forage trip, women gather to prepare vegetables.

6-4-1 Plant as a commodity

The Forest Department has also played a role in changing the understanding of trees and plants. For example, the rhododendron tree species in Western Arunachal Pradesh has been a standout (Paul et al., 2005; Paul et al., 2018). The district office published a book on the officer's research and set up a garden in Tawang, as I mentioned before, conservation and promoting biodiversity comprise part of the governmental legitimacy. But beneath this flowery outlook lies the colonial history of forestry resources in Northeast India and its connection to current forest management policy. Monyul, the Western Arunachal Pradesh, was the least influenced among the Northeast states in colonial times, due to being the farthest place from Bengal and Assam. During that period, the tea plantation and a degree of forest reservation were the main development focus. However, after 1952, when the Indian government retained some of the colonial authority's approach to managing Indian forests, the newly established administration became a new power force, competing with traditional forest usage by implementing timber sales.

Tiplut Nongbri (1999) wrote, 'It is interesting to note that what constitutes 'national interest' basically includes, besides communications and defence, the needs of industry and the revenue department. ... The National Commission for Agriculture, set up by the Government of India in 1976, gave a further boost to the commercialisation of forests. Openly urging for a shift from conservation-oriented forestry to the more dynamic programme of production forestry, it stressed that future programmes should concentrate on clear felling of mixed forest and inaccessible hardwood forest and substitute these with fast-growing species that would yield higher returns for the state' (p.22-23).

In the Monpa areas, the forest department's operation of a timber 'business' is an open secret. I have explained the land ownership issues in Chapter 2 and slightly mentioned the tree property right claim in Chapter 5. The historical process of land acquisition by the Forest Department and the subsequent silvicultural choices made on those lands remain sites of intense political contestation. By situating the commodification of timber within this genealogical framework, it becomes evident that state governance across

both the British colonial era and the post-independence Indian administration has been the primary architect of market-driven forestry. This long-term administrative trajectory introduced and implemented the conceptualisation of trees as trade items rather than communal assets. Consequently, the contemporary reliance of the Monpa people on firewood, which often manifests as illegal felling or poaching, should be understood as a survival strategy necessitated by the state's systematic enclosure of ancestral resources (Peluso, 1992). In this light, the state bears a degree of structural responsibility for the informal extraction patterns that emerged as traditional rights were delegitimised by official forestry legislation (Saikia, 2011).

Between 2013 and 2023, Arunachal Pradesh recorded a reduction of 6,539 square kilometres of forest land, marking the highest loss among Indian states during this period (India State of Forest Report, 2023).¹¹⁹ State-managed reserves and national parks are the main forces for conservation, and traditional and community-based conservation practices also figure prominently. Regarding the border conflict-impacted areas, setting the forest conservation and reforestation agenda is also the responsibility of the forest department, yet with the expansion of military services in this region and the increase in border clashes in recent years, progress has been difficult to achieve. However, the district forest officer pointed out that the problem lay in the difficulty of communicating with the tribal people, including the Monpa people, over property rights. This has not been revealed in previous studies.

As mentioned in Chapter 2, in Arunachal Pradesh, people 'own' their lands. In Arunachal Pradesh, people own their lands through customary and community-based systems. As for the issue of timber and firewood, the village council judges this based on land; they manage the village's communal land and forest or the transfer of woodland rights¹²⁰ among the villagers. Despite the nationwide applicability of the Forest Rights Act of 2006, the Government of Arunachal Pradesh has opted not to implement the Act within the

¹¹⁹ Report released in December 2024, see https://pib.gov.in/PressReleasePage.aspx?PRID=2086742&utm_source=chatgpt.com (Last access: 2025/04/10)

¹²⁰ For example, permitting your neighbor to collect leaves on your wood land.

state. The official rationale is that the majority of land in Arunachal is traditionally governed under customary tribal ownership, with communities exercising collective rights over forests and resources through Indigenous institutions. Authorities argue that applying the Forest Rights Act may interfere with these customary arrangements and create administrative overlaps. However, critics point out that the absence of implementation leaves local communities vulnerable in the face of expanding infrastructure projects and other forest clearance actions due to a lack of recognition.¹²¹

Research suggests that Illegal logging, land-use pressure (for example, housing), hunting and habitat degradation in high-altitude and community lands are key reasons for forest land loss (Mishra et al., 2006; Sheth et al., 2020). Arunachal is a well-known, biodiversity-rich area; however, over-extraction and unsustainable resource use also affect the habitats of fragile and protected flora and fauna species. Firewood trade is not one of the council's duties, nor the Forest Department's. This growing business is mediating the uncertainty and risks caused by climatic change, yet the price to be paid has been underestimated. This can be understood as shifting cultural attitudes undermining traditional practices such as maintaining sacred groves.¹²² However, with a changed housing style and cash commodity culture now more prevalent, the need for firewood has become a heated issue (Figures 6.11 & 6.12).

¹²¹ See <https://india.mongabay.com/2024/04/more-than-15-years-on-implementation-of-forest-right-act-is-lagging-new-report-finds/> (Last access:2025/04/22)

¹²² I did not include sacred groves in my interviews. However, one of my translators mentioned it and took me to one of them near the Ugyaling monastery. Sacred groves are usually located near monasteries. I am aware of them, but I did not directly make data collection about them.



Figures 6.11 & 6.12. Making and storing sufficient firewood is a constant need for mountain dwellers.

6-4-2 Moral challenges

While government offices and higher-end residences can afford gas heaters and thus avoid burning wood, firewood consumption remains a major concern for the local Indigenous population and for those who cannot afford alternative fuels. Although formal and comprehensive statistics on this division or inequality are lacking, the disparity is widely observed in the area. In schools and hospitals, open fireplaces are also avoided for health and safety reasons, including the risk of carbon monoxide poisoning. By contrast, most Monpa houses, particularly traditional wooden structures, are not fully sealed, allowing for greater air circulation that reduces such risks. To understand the behaviour of the local Monpa people in terms of their choices regarding logging and firewood consumption, the negotiation between the Monpa village residents and the forest ghost might serve to explain this. For the Monpa people, land use needs to be negotiated with other living beings or non-human entities possessing the same rights as humans. I mentioned *Dut* in the previous chapter, and *Dut-tsan*, *Dut*'s home, is a sizable part of the forest that is forbidden to enter. So for the Monpa people, the natural, wild or dense forest may be regarded as a *dut-tsan*, and people should limit their access

to it, let alone fell trees there. My informants did not always explain that the *Dut-tsan* overlapped with the main watershed of the area. *Dut-tsans* create unique territories in and around the village domain; they are marked and recalled in people's memories and rumours, leaving an impression that the forest is and will be protected by some unwelcome yet responsive animate. From a conservation point of view, this prevents certain areas of the mountains from being developed for human residences and roads. Areas like these are likely to preserve the integrity of the environment and wildlife health, whilst also benefiting water and soil stability. Beliefs and science converge here, yet this does not always guarantee the participation of the Indigenous and locals in resource management policy-making (David-Chavez & Gavin, 2018).

Contrary to what I had been told, there are signs of fast-growing timber plantations in many areas of the mountains. The herders can recognise them by the appearance of the landscape. Many checkpoints set up by the forest department are located at multiple crossroads, and local people are hired to do the checking due to the growth of illegal logging. But the local Monpa people are not sure which tree felling is legal, and which is illegal, and who decides this. It is estimated that every year, each household burns at least two fully mature trees to keep their houses warm (Tsering et al., 2019). When the heavy snow blocks the way of pastoralist migration and trade vehicles, the price of firewood rockets. Rarely do people check that the firewood they are buying is from rightful private ownership, as long as it is not sourced from the local forest. There have been notorious scandals about poaching and felling trees secretly to earn quick cash that have spread widely. I asked people whether this had to do with climate change, and their answer was in the affirmative: 'Without the snow, winter feels even colder.'

In this time of climate change and carbon-zero targets, forests have acquired added value in terms of carbon. The community's traditional swidden farming (*jhum* cultivation) has been targeted again for invading carbon stock and soil safety. The Northeast forest is back at the policy crossroads, as it has been identified as India's biggest carbon stock (Kalita, 2021). Along with the development of carbon levies and the carbon trade, the forests can be commodified under the political agenda of climate-change-concern ethical production, potentially further eroding the rights of the local Indigenous people.

6-4-3 The paradox of heating

Coming back to the issue of how to reduce the consumption of firewood and, therefore, greenhouse gases, it is interesting to reflect on some technical changes to fires and wood burning among the Monpa people. About 20 years ago, traders from Bhutan brought a kind of tin-made fireplace with a chimney to Tawang and sold it to the local dwellers. People in Monyul have been accustomed to purchasing crafts and fabrics from Bhutan. The Bhutanese, including the Bhutanese Monpa, were well-known wooden bowl and cup makers in the past. The traditional weaving, ceremonies and colour-dye techniques were preserved well and commercialised in Eastern Bhutan, and thus they supplied goods and priests to the nearby areas. The tribal people in the Western Arunachal mountains call the Bhutanese fireplace the *Bhukhari*. The traditional open fire pit creates lots of smoke inside the house (see Figure 6.13); in the *Bhukhari*, the fire is contained and heats the cooking utensils more efficiently. Now this kind of fireplace has become a standard setting inside any house.

Trees are converted to firewood and go through a process of cutting, drying, and dismembering. When they enter the *Bhukhari*, they are on their way to becoming ashes to be used to reduce the odour of the traditional toilet and fertilise the vegetable garden. The Monpa people collect fallen leaves and use them as toilet paper and manure covering. Every step of their consumption goes back to where it comes from, following the *jhum* principle. Water resists the flames burning inside a forest, a *Bhukhari* secures the boundary between warmth and smokiness, and the forest grows back through trees in the space from which humans retreat; thus, humans contribute to the cycle of material life.



Figure 6.13 Imported fireplace on the traditional sacred fire pit, a typical family scene.

‘Things’ are made from other beings, which seems to be common sense to the Monpa people. During the Covid lockdown, I went to work with the local women and watched them grow corn. I followed them, but they broke up the dried human manure and spread it in the upturned soil, making jokes about the grubworms. ‘Do you know we can eat them too?’ the women farmers asked me. I held their children asleep in my arms, and a warm BBQ soon flashed through my mind, and I said yes. They laughed and said they were happy with the coming of the indigenous red potato season. Due to the roadblock and lockdown, the boundary between the edible and the inedible had been redefined. Plants that contained mere ‘poison’¹²³ could be consumed, and tree bark that gave a taste like tea was rediscovered, but as for the grubworms, the farmers decided to leave them alone.

6-5 Technocratic fix and moral attachment to things

During the transhumance journey, the herders usually wake up at 5 am, feed their herds

¹²³ The word poison could be alerting to some readers, but in the Monpa ontology every plant has its quality and can cause different effect on the human bodies. The key is to understand the appropriate amount of intake.

and collect milk. Then, the next thing is to fetch water and firewood, which are scarce at higher altitudes. With a home in motion, these everyday movements facilitate emotional and behavioural assurance of their safety and continuity. The herders' small lodges on the grazing routes are often made of rocks, but the family house that they allow their children to inherit also tells of the fortune and status of certain households and is made of wood. Wood-built houses suit this earthquake-prone region; with appropriate maintenance, the family house can easily last for 200 years.

With firewood becoming a prosperous business, there is no good news for house owners. The house management regimes were set to comply with construction regulations set by the government. On the other hand, the 'modernising' consumption house venue offers more references to potential styles and designs. For the mountain dwellers, it has become unaffordable to build a pure wooden house; they have to consider alternative building materials, which are cheap, easy to obtain, and usually from suppliers in Assam. It is a sight to behold the architecture in the mountain villages. Looking at the wooden houses and their interiors, one gets a sense of the lifestyle and how different members of the household carry out their daily tasks in different spaces. A little way from the old cluster of houses, a mushrooming of bamboo or concrete homes appears neglected, with iron or metal sheets labelled with brand names. These homes give the impression that they could be found anywhere in India.

It is even more interesting to see the households that have built more than two homes; due to landslides that easily destroyed the cheaply built concrete houses, they rapidly built other houses some distance away.

Rock-made *brok* and wood-made homes are not for comfort. Inside, it is usually dark. When I asked people about what they considered to be changes in the environment, most would mention the architecture of homes. 'The walls used to be made of bamboo structure plus sand, soil and plywood; the natural materials could store the heat inside the house in winter and ventilate in summer. Rock sheets, roofs and strong wooden doors and windows are now mostly replaced by CG sheets, foundations in iron bars and cement. We do not know the new materials; therefore, we must hire builders from Assam, who do the design and building' (Figure 6.14 – 6.17).





Figures 6.14, 6.15, 6.16, 6.17 Three types of architecture in Seru village; the houses have become less of a lasting heritage, and more of a disposable shelter.

The new houses look like ordinary cheap houses; you can see them everywhere around the world; they don't look like Monpa houses anymore.' We stood by the roadside with an ex-local government officer talking about his previous house and his current one; the son explained his father's regret as being the price paid for 'modernisation.' The old house, which was built entirely by the hands of village men, was a memorial to the old-fashioned community's free labour exchange model, and it was sacrificed to build a wider road that connects the rural and urban spaces more quickly. Houses are living spaces of humans

in the mountains; they are a place of safety and a space for union. Losing not just the style but also the warmth, as well as the pride and knowledge of building the Monpa houses and abandoning the building materials that could be entirely recycled back into the environment, is a tremendous loss.

In terms of day-to-day labour, cutting firewood, carrying it home using handmade straps, and bending and placing it carefully to keep the flame burning, all contributed to the relationship with the material. Logging, no doubt, is hard work; the mobilisation of human power is a must. Like dominoes, one demand links to another; any favours must be returned, even when they come from nature. Environmental change is the exogenous force causing the Monpa people to change, while the things and objects that are part of the Monpa people's everyday life are changes that mediate their perceptions about life. These are endogenous forces; the sense of living in the mountains is not an exogenous, but an endogenous factor.

The Forest Department's deployment of the rhetoric of 'love' within conservation propaganda, often articulated in English signs urging the protection of flora and fauna, reveals a profound discursive and philosophical disconnect. This attempt at persuasion operates through a linguistic and conceptual framework that remains alien to the local population, for whom the forest is a site of lived subsistence rather than an abstract object of affection. Ultimately, the state's 'policy machine' speaks a foreign language, imposing a romanticised, Westernised environmentalism that fails to translate into the Indigenous epistemologies or the socio-economic realities of the Monpa. I am familiar with the language because it reads like the narrative in my schoolbooks. Still, it overlooks the fact that everyone has their own way of building a relationship with the environment and nature on their own terms. Imposing a certain style of ethics, an ideology, does not resolve disputes unless it stops recognising that knowledge is diverse and seeks the 'one truth'. The Himalayan region is a mountain range that sits on a long, connected borderland traversing many countries. Sometimes, the conceptualisations of mountain issues are reflections of the competing geopolitical problems of states (Blaike & Muldavin, 2004; Ehlers & Kreutzmann, 2000), suggesting that this is because of a lack of a particular methodology carried out in the high mountains. The mountain range was

‘discovered’ and ‘named’ in the Western world and studied because of what has been understood about its importance in the Earth’s system. However, the definition of its nature or essence has never been widely understood from the perspective of the local dwellers.’ The states that claim part of it as their territory have prioritised the ‘national interest’ over local voices.

The International Centre for Integrated Mountain Development, a regional intergovernmental organisation established in 1983, was founded with the goal of creating an institution focused on development in the HKH region. In addition to research work, they also represent the voices from the Himalayas at the UN platform, including participating in the IPCC and the UN Climate Change conference. However, in resolving the subjectivity of representing the mountains themselves, the voices are represented based on national territories. The parameters and scope of addressing the issues, focusing on the resources to be shared by the parties involved in the discourse, still lack a solid foundation representing the mountains as a cohesive entity.

While promoting greater local community participation in sustainable resource management and development policy-making, the ideology overlooks the possibility that humans adopting a uniform ontological or epistemological approach may not necessarily serve the best interests of the mountains themselves. The forest loss in Arunachal Pradesh reflects the shortcomings in combining Indigenous knowledge with expert knowledge, the democratic process of involving local voices alongside national interests, and a practical approach to addressing the need for heating resources and biodiversity protection.

6-6 Virus, test of connectivity

The changes that the Monpa mountain dwellers have gradually adapted to, such as the rising temperature, melting glaciers, reduced snowfall, receding forest line, expanding militarisation, non-stop road works, forest wildfires, etc., are events regarding which individuals and the community have enough time to ponder, reflect, explain and justify in different ways. As described earlier in this chapter, these slow-onset environmental changes, blending with the borderland's volatile political situation as well as social and

economic change, can create an epistemological shift. The COVID-19 pandemic, as a rapidly unfolding public health crisis, overshadowed the whole situation and brought to light some hidden issues.

The COVID-19 pandemic emerged as a crisis, spreading through media and hearsay. Today in Arunachal Pradesh, tourism is the only industry in most places. Along with the tourists and the cash income they bring, Arunachal has drawn Bengali and Muslim businesspeople to open restaurants and shops in towns and by the highway. In the early stages, when news of an unidentified epidemic appeared on TV and in WhatsApp messages, the leaders from the four villages in Jang called a meeting. They decided to refuse any travellers for a stopover and restrict incoming goods trucks. Tourism has been an important source of cash income to the community, in addition to the daily-wage jobs provided by government road construction. The tourism business created jobs such as taxi drivers, restaurant cooks, service and hotel staff and travel guides. Some rich Monpa families in the township tried to run bed & breakfasts and shops selling clothing and souvenirs. On the village side, some of the grocery shops and diners were run by locals. A sizable number of Bengali Indians moved up to Arunachal; they spread across the region and ran shops and fast-food restaurants for truck drivers and military personnel. These business owners were the first to suffer a loss of income due to the suspended logistics during the pandemic.

Inside the village, mobility was not restricted until the All-India National Lockdown was announced officially on the night of March 22nd 2020, when people were asked to stay at home. As logistics were controlled quite early on, and there was no positive case until mid-April, the greatest concern for ordinary households was the food supply. As the climate change and conservation agenda had caused households to give up the larger farmland and they had begun to rely on market trade for dairy foods, this made them more vulnerable to price changes and stock shortages. The market trade had developed to such an extent that the wholesalers from Assam would send trucks up to purchase the season's harvest (e.g. of indigenous potatoes), while the vegetables at the Tawang market and small groceries all came from lowland dealers. After the Covid outbreak, people believed the virus could live on the surface of vegetables and packaged foods. Thus, the highland-lowland trade system (including fresh and packaged foods) failed to

function. The lockdown incentivised the Monpa people to return to edible wild plants, similar to what other studies have observed with the Indigenous community in Chittagong Hills (Garai & Ku, 2023) and elsewhere (Townsend, 2020; Vimal, 2022). Growing indigenous edible wild grass became a trend when the lockdown was extended, and the district government organised free delivery of these green ‘vegetables’ for the inhabitants of the township. For the people who lived in the villages, regardless of the government’s ‘stay-at-home’ policy, they continued with their seasonal agricultural activities in the fields near their homes.

During the pandemic, the mountain environment and community were treated the same as the lowland and urban areas. Posters explaining the public health risks were printed in English and pasted on streets where cows were the only pedestrians. Social/physical distance was not an issue in the mountainous area; the absurdity of some government rules became a joke during this particularly stressful time. The small team of police officers began to station themselves in the bazaar area and sometimes used violence to prevent people from gathering or coming to make a purchase at the wrong time. The unusual epidemic governance created a doomsday-like atmosphere; every day, people were busy exchanging information, mostly rumours and conspiracy theories, via WhatsApp and telephone about the causes and consequences of the epidemic.

I began to keep a diary online and in my fieldwork reflection notebook. And being confined to my host’s family home, I began to document my reactions and those of the people around me. Most of the time, my host family would not openly speak of what they had seen or heard outside; in a protective manner, they were still trying to understand what was going on. So, the police brutality, or private transportation of food from Guwahati, slammed as illegal, was information that I caught up on while listening to them talk. A fascinating episode for me occurred at the beginning of the ‘*Junta* curfew (big curfew)’; two police officers came from the station to pay a house visit and ensure that I would be safe staying with my host family. It was in the early stages when all outside persons and things were suspected of being carriers of the COVID-19 virus. One of the police officers said to me in English, ‘These people are villagers; they are ignorant.’ I was surprised by the open attitude of labelling and stereotyping, which demonstrated the mindset of how the law enforcement institution handled the local issue.

6-6-1 Local responses in the borderland

Listening to people's conversations at that time, topics that seemed very distant, like those at NASA or the White House, entered the discussions of villagers; globalisation felt more present than ever.

But when the COVID-19 virus was labelled the 'Chinese virus,' the Arunachalis felt slightly uncomfortable because of living on the Indo-China border and the discrimination they had been through; they felt that they had been put back in 'their place'. The different district and sub-district governments received volunteer groups that organised disaster relief resources. These volunteer groups consisted of active individuals who had previously been involved in trade, logistics, or philanthropic activities before the pandemic. They quickly formed a rapid response network to address the needs of the people. While government vehicles were occupied with transporting patients and key workers, the volunteers distributed staple food, emergency funds, and prevention materials such as masks. In Jang, villages have a tradition of collecting staple food and storing it in a common storage for emergencies like droughts or floods. This practice relieved local concerns about hunger. By the time the central government's uniform rural relief plan reached the area, the people had already managed to meet their basic needs.

Despite the distance due to the mountainous terrain, the local institutions have always been active, well-connected and survived together. During the pandemic, each village *tsorgen* was responsible for phoning every household to convey the latest policy change in terms of rules and provisions. The information and relief network did not forget the migrant workers and immigrants, showing the egalitarian characteristics of this society. Migrant workers from Nepal and Assam are very common in Arunachal Pradesh compared to the local Monpa people; the border road construction employer finds them easier to control. Some Nepalis who have settled in Assam and obtained citizenship have chosen to marry the Monpa people to secure their resident status in Arunachal Pradesh.¹²⁴ Such a method is commonly used by immigrants to consolidate land

¹²⁴ Migrant workers and immigrants are not entitled to own the land unless they marry the locals and co-

ownership in Northeast India. Neither the village council nor the state government have forbidden the practice. Bengali and Muslim businessmen tend to bring their own families, and for religious and language reasons, they rarely mingle with the local people. Their main customers are traders and passengers from North India. According to what I learned from the district office, no one was discriminated against or left behind in the relief work due to their remote location or ethnic identity.

6-6-2 Transplanting pastoralist experiences

In the past, neighbours and friends called on each other's houses. It was fairly common to see retirees sharing some *Chang* (homemade alcohol) and chatting on the porch at around 10 am. Calling acquaintances to do cooking, washing, carpentry and stonework was a small extension of the free exchange of labour practice. Men and women worked in groups for farm cultivation or firewood collection, often taking their extended family with them. 'Community life is the core of the tribal society,' local college Monpa teachers told me. The way the community members socialised and interacted changed due to the measures put in place to contain the epidemic; it became more information-driven, focused on one-on-one bonds, and dominated by risk-avoidance. However, within the same lineal family, where they lived in the same compound, maintaining a certain level of mobility was permitted. The 9 pm salutation and candlelight events launched by the government were popular rituals developed to calm people's minds during the lockdown. The local people had never paid so much attention to the Prime Minister's talk or central government policies before. Besides these, groups of the elderly spontaneously began mass prayer sessions in the village temples. All these collective efforts were meant to return the situation to 'normal' (Figure 6.18). Nevertheless, some of the mountain dwellers found it safer to be completely detached from the group.

own the property. The relationship with the land is deeply bounded by identity, and land has not been a complete commodity in Arunachal.



Figure 6.18 During the lockdown, only the cows moved around, including on the street.

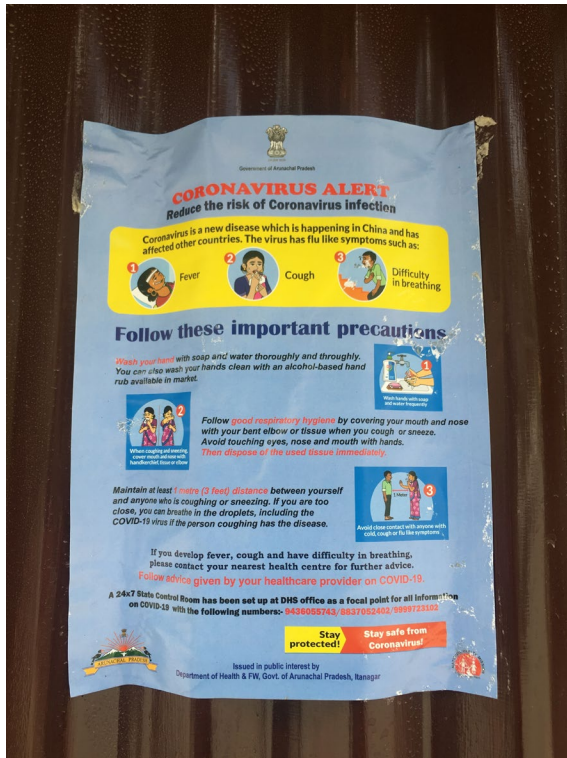
A student from the traditional ecological knowledge workshop I organised¹²⁵ sent me pictures of a group of people moving towards the forest. He told me that many families from his village, where the pastoralist livelihood was still viable, had chosen to leave the settlement and live in the wild. ‘To them, being in the wild is safer, to be away from all the others. And this is not an unusual experience; herders are used to living their lives in that way,’ he added.

I checked with other villages I came across during that time, and other people confirmed that such a phenomenon (returning to the forest) was growing. Isolation is an effective

¹²⁵ In total, I organised two traditional ecological knowledge workshops at state colleges for students between 18 and 21 years old. Sharing the conceptual definition of ‘traditional ecological knowledge’ with them was an inspiring experience, for exploring what is ‘tradition vs. modernity’, ‘ecological concerns for whom’, and ‘what counts as knowledge’ are open questions for us to discuss. We used ‘rivers of life’ and ecological roadmaps in villages to share lived experiences and stories. From the participants’ and teachers’ feedback, the most impressive thing was that the activity provided a new route to approach the articulation of knowledge and challenged the usual power structure of knowledge.

method used by the Indian State government to suppress people's gatherings; the electricity and mobile network supply are often absent, and mountain dwellers are used to being alone. For convenience and proximity to economic opportunities, households have been using vehicle roads more and more and leaving the nomadic lifestyle behind. But they are mentally alienated. The herders' abilities and skills are still preserved in the community, and as long as some risks trigger it, people are ready to revert to the hunting and gathering life and readapt to living in the wild.

Mountains with abundant resources are only available to those who can recognise them. During the pandemic, when the *nas* (barley) and potatoes were still growing in the fields, women collected *mang* (spring onions), *mrepdang* (a kind of herb) and tree peppers for cooking. Fresh greens growing close to the watershed were welcome ingredients in the cheese gravy, too. A small group of foragers ventured into the forest daily, searching for edible resources. Some of the plants were considered mildly poisonous (for example, they could cause facial paralysis if too much was consumed), and some needed special treatment of the leaves or juice to facilitate eating. People spent more time collecting, cooking and preserving food, just as their ancestors had since the market was not available or at least not as before (Figures 6.19 & 6.20).



Figures 6.19 & 6.20. No one can understand the English-written government poster, and the social distancing line in front of the shop in the village centre.

When observing the Monpa people's way of life, the line between the 'wild' and human settlements is thin. The village lands comprise the locations of houses, the woods, farms, and the forest. Walking from each settlement for about 20 minutes, people can penetrate deep into the woods. Because of the pandemic, the area of domestication expanded and included what was seen as traditional and unfit for modernising life. Due to the crisis, the demand for transmission of Indigenous and local increased. The pandemic experience and the 'crisis' atmosphere seemed to break the usual order – the values of being and engaging were re-examined. As we set out on foraging trips, the elders would share stories about the environment we were heading to, teaching the younger ones (and me) about the sacred markers in the mountain range and the names of the mountain gods.

6-6-3 Materialisation as the means of adaptation

The mountains provide resources, but they are not the assets of human inhabitants; rather, they are a place to share with all the other beings and home belongings. The

representation of mountains has been shaped and recognised as that of mountain gods. The figurations in these stories tell about the origins of mountain gods or how the characterisation of each god came into being, unlike in Buddhism. By ‘figuration,’ I mean the selection of a form to visualise natural landscapes or substances existing in the environment; I also use ‘animate’ to refer to these visualised results. Why does the atmosphere on a mountaintop become sacred? Why does the mud on the edge of a village simultaneously represent feminine divinity? I suspect the underlying logic comes from the imagination of sensory experience, because we cannot find a corresponding logic in Buddhist scriptures or dogma. The gods/animates have been defined by the shape of the landscape, and their personalities shaped by the human experiences in the mountains. The environment remains a central figure in these scenarios; mountains, in particular, transcend materialistic understanding and take part in the grand narrative of life. Three different things intertwined in my mind about the Monpa’s relationship with nature and environmental change. One was the home repair work by my host family, another was the story of *Khandrol Ma* in the crop fields, and the third was the Monpa’s understanding of the virus.

‘*Ngrok lumpa ka dö mone* (our village and our area are poison-free)’. When I watched Aunt Tam burn a plastic bag and turn it into glue to fix the hunting knife, I thought of this slang shared by one Monpa respondent. Aunt Tam was the breadwinner of the family; her husband passed away in 2009, and her brother-in-law managed to get her a job at the Women and Children Welfare office as a bookkeeper for the family nutrition records. Other things were waiting to be burned in her yard when she cooked the ingredients to make *Chang*, a daily alcoholic drink made from grains or rice, and when she prepared hot water for the shower, she used all kinds of fuel. Although the scale was tiny, the contrast of logic confused me when I interviewed people about the global warming caused by greenhouse gases, while at the same time seeing them generate more greenhouse gases due to the lack of a proper waste management system. All the villages have been flooded with packaged foods, and the shiny wrappings all end up either in flames or in soil. The knife and the handle failed to attach; they came apart again at the end. Aunt Tam sighed and sought help from experienced men.

Aunt Tam had just recently come across plastic material in the form of plastic bags. She had probably never been told that the smoke from burning the plastic could be harmful to human health. She observed how the plastic melted in the fire and its texture, and imagined that the material could glue things together. Substances transform through chemical effects, which is a common understanding based on life experiences in the Monpa way of life, for example, recycling human waste and ashes to be used as farm fertilisers. Aluminium, dyed wool yarn, cotton and petrochemical fabrics, similar to the threads in the hand-weaving loom, came to be used. The waste did not originate in the Himalayan environment, yet they have joined the cycle of finding their usefulness.

Monpa people's adaptation to environmental change has involved more than adjustments in livelihood or infrastructure; it has required a re-sensing of their surroundings, an attuned experimentation with new materials and relations of use. The uptake of state-distributed goods, reconfigured agricultural practices, and even household modifications during crises all point to a process of learning through affordances, where materials are not only utilised but reinterpreted within the shifting ecological and moral terrain. These shifts underscore how adaptation unfolds not in opposition to change but through engagements that remain anchored in everyday ethics. Rather than resisting transformation, cultural continuity emerges through acts of meaningful recomposition. Weaving, during the COVID-19 pandemic, offers a poignant metaphor for this process. As women gathered cloth scraps, repurposed threads, and woven knowledge across generations, they also wove a world that held grief and uncertainty without unravelling.

Weaving was identified by Nanda (1982) as the cornerstone of the Monpa domestic economy in the 1970s, a sphere dominated by women who transform raw sheep and yak wool into essential cultural assets. Using traditional back-strap looms and organic dyes like madder (*Rubia cordifolia*), women produced the distinctive maroon fabric and intricate blankets that historically served as vital commodities in trans-Himalayan trade. Nanda suggested this craft is not merely a survival activity but a profound manifestation of cultural identity and communal cohesion, as the process of spinning and weaving binds the social fabric of the village together (ibid, p.40).

Weaving entails repetitive and rhythmic bodily labour. Based on a study of knitting, Riley et al. (2013) argue that such sustained hand movements can generate calming and mood-regulating effects, potentially associated with the activation of dopamine and serotonin pathways. Rather than functioning as a direct biomedical intervention, repetitive craft practices may operate as embodied techniques that support emotional regulation and mental well-being in everyday life.

I find the meanings of weaving are more than the above suggestions. Figures 6.21 & 6.22 show two types of weaving activities that happened in the household where I stayed during the COVID lockdown. The mother (older woman) set up the loom using the old bamboo sticks, which she collected, and they can be multi-purpose. By assembling these sticks in the right composition, with the thread intricated in the right form, looming became possible. The daughter instead tailored a fixed loom using finely ground wood strips, after consulting her mother. These two looms are different in size, versatility and functionality. The mother used her 'mobile loom' to make a belt for the young mother in the family who was expecting a baby. The daughter prepared finely dyed threads, and she made an even finer baby wrap for her niece. The women were weaving fabrics for other women, and the ability to produce the token of care empowered them. Weaving here is not only material labour but affective labour: a practice through which the brokenness of the present is rendered endurable, even beautiful, through intimate acts of care, remembrance, and ethical reinvention.

The brokenness certainly did not come only from the COVID-19 pandemic. As I mentioned, the customary system of land inheritance of the Monpa tribe and the sense of deprivation, the 'empowerment' cannot exceed the structural frustration. Weaving was revived and regularly conducted by middle-aged and older women; the younger women were curious about weaving, on the basis of the skills and design that are deeply associated with the Monpa identity. This reminds me of the popular cultural representation of the rural Monpa women, the *Aji Lhamu*, in Monpa drama and dance.



Figures 6.21& 6.22. Weaving revived again during the pandemic.

Aji Lhamu is a theatrical performance that does not require language expressions. The drama was told by the performers' physical movement and facial expression (including the wooden masks they wear). Niranjan Sarkar documented the Aji Lhamu of Jang village in the 1970s not merely as a festive enactment, but as a complex semiotic landscape where Buddhist hagiography and local biocultural realities converge. Sarkar called this masked dance a type of 'pantomime' and suggests that it reveals a profound dualism in the representation of the feminine, bifurcated between the celestial and the terrestrial. On one hand, the central protagonist, the *Lhamu* (supposedly meaning goddess, or women from the sky and associated with water), embodies an ethereal, transcendent femininity; her movements are governed by a slow, ritualistic grace that adheres to the soteriological ideals of Vajrayana Buddhism. Conversely, the figure of *Moging*, the elderly female attendant of Lhamu, serves as a site of radical ethnographic realism (Sarkar, 1975). The Monpa Moging mask was frequently carved with a pronounced goitre, a pathological feature that mirrored the endemic iodine deficiency prevalent amongst the Monpa women of the Jang region during that period.



Figure 6.23 Phoging and Moging masks of Monpa drama. Phoging is the male elder representation.

Source: Verrier Elwin (1959) *The Art of the North-East Frontier of India*, p.91.

I do not have further empirical data that speaks to the feminine images of Aji Lhamu and Moding because the notes and observations about weaving were an ‘unexpected gathering’ to me. However, the behaviours of women of different generations and these two representations intrigued me deeply. The daughter in Figure 6.21 named her second eldest daughter Lhamu, and she was my translator, now a PhD candidate in History.

In Vajrayana Buddhism, *tantra* is regarded as the core of spiritual practice. The term derives from the Sanskrit root *tan*, meaning to ‘stretch’ or ‘extend’; in its most ancient sense, *tantra* refers to a loom or the warp (Kramrisch, 1946; Eliade, 1958). This stands in contrast to *sutra*, which literally means a ‘thread’. As many Indologists have noted, while a *sutra* represents a single thread of theory, *tantra* signifies the process and framework of weaving multiple threads into a fabric, representing the ‘integration’ of fragmented knowledge into an organic whole (Padoux, 2017).

Within the *Vedas* and subsequent Tantric literature, the cosmos is frequently depicted as a woven cloth (White, 2000). The central metaphor in the Vajrayana tradition is the interlacing of ‘wisdom’ (*prajñā*, feminine) and ‘method’ (*upāya*, masculine). Much like the warp and the weft, both are indispensable; without their intersection, the cloth of enlightenment cannot be formed (Dasgupta, 1958). In the tantric worldview, no single thread exists in isolation; the vibration of any individual strand resonates throughout the entire structure of the fabric. Therefore, from using plastic as a glue and weaving during the time of great pandemic uncertainty, the Monpa femininity showed a beautiful turnaround in front of my eyes by the women I lived with in that household in Jang.

This interconnectedness of the ‘woven’ social and physical body is exemplified by the historical experience of the Monpa. The suffering caused by iodine deficiency, traditionally reflected in Monpa masks depicting goitre, suggests a biological reality woven into their cultural expression. According to observations by Kingdon-Ward (1941), goitre in the region was caused by the extreme lack of iodine in local soil and water. The remediation of this condition began in the 1960s, when the Indian government launched the National Goitre Control Programme (NGCP), a state-led intervention that sought to ‘rewire’ the physiological health of Himalayan borderland communities (Rah et al, 2015). Our Lhamu is luckier than her elder sister Pema, her human development path is closely

linked with the Indian state, from public health, education and now scholarship that supports her to become an Indigenous scholar in the near future.

Pema is the mother of two children who married an Assamese man. She had witnessed her father suffer from unemployment and being injured in road construction work, and she became an alcoholic and abusive towards her mother. One day, when we were making the *mang momos* (chive dumplings), she shared a story about the spirits in the field at night. To begin with, I was amazed at women encountering an entity glittering in the dark, only showing herself in the farming field and protecting the woman (and her children) from stepping into the field ditch by accident. And then I realised that she was telling the story of women running from domestic violence and seeking refuge on the farm, where they cultivated during the day and were familiar with the earth.

Whether the kind spirit exists is not the main point of the story; the focus is on the presence of an 'other', which might appear as a faint blue light at night or take another form, existing alongside humans. There was a quiet pause when she finished telling the story, and some of the other women shared that they, too, had witnessed such spirits. Pema told me that they call the spirit *Khandrol Ma*, which is believed to be closely related to the name of the goddess of compassion. Embodied in words and understanding, some spirits are meant to offer the Monpa people comfort and hope. Although the eldest daughter is more static, woven, like her mother and grandmother, into the enduring patterns of Monpa social structure, she transfixed me with a vernacular of goodness that glows in the dark, a reflection of her own quiet light. Beyond the role of the researcher, I found myself re-threaded into this intricate social fabric, where the boundaries between the observer and the observed dissolved into a shared resonance of the Himalayan night.

6-7 Ethical revelation: feels right (about using resources)

The effect that emerged during the herders' movement and the farmers' work in the mountains, as they extracted resources from the environment, was accompanied by a sense of shame regarding the overuse of these resources and an overemphasis on maintaining unchanged realities. Ingold (2018), in conversation with Keane, discussed whether mediation is necessary for humans to form meaningful relationships with non-

humans. The affordance, in this context, was meant to be something in the process of creation or ethics. I frame this question within the context of the Monpa people's resource extraction and management practices in the mountains, arguing that the role of emotions explains how both processes—turning nature into usable resources – coexist.

The relationship between Indigenous resource management, emotions, and morality centres on debates about relational ontology, emotional stewardship, and reciprocal care frameworks, contrasting with Western conservation approaches. Studies emphasise that emotional engagement is not simply an affective response but a foundation for social and environmental stewardship (Seton & Bradley, 2004; Muir et al., 2010). In parallel, accounts of Indigenous resource management reveal moral frameworks rooted in reciprocity and care, as well as contributing to self-sufficiency and self-determination in Northeast India (Aier & Changkija, 2003). For example, Nursey-Bray (2006) illustrates how ethical commitments to cultural survival and balanced ecosystem management can conflict with dominant conservation paradigms. Finally, several authors (Ens et al., 2012; Muller et al., 2019) document debates around integrating Indigenous and Western approaches to environmental management, highlighting both tensions and opportunities for cross-cultural dialogue. In Arunachal Pradesh, or particularly in Monyul, an approach that could accommodate a platform to integrate or reconcile the conflicting interests is needed, although I am not sure whether climate change could be the trigger.

I find, in the Monpa people's case, that emotions are like permeable frames that allow the stimuli and affect to come through, and they enable and consolidate humans' changing perceptions and changing environments together through animates, the figuration of nature, narrating the boundary of what humans can do and take, as well as why transgression is needed in a specific situation. Emotional responses to environmental change come from past experiences and memories, as well as showing intention and imagination in moving forward into the future. It is not a difficult side effect of the adaptation, but a way the human communicates with the Self, finding (or feeling the need for) momentum. Emotions reinstate the intimate, home-bound relationship between the Monpa and their places, and it is not how the environment makes them feel

but specific feelings associated with the place in the environment that inform them about where they are. Emotions, the composed meaningful assortment of affect, motions and memories, are the mediation of affordance. The state entered the human and non-human relationships and brought a new set of power structures and definitions. Environmental change, which is uncontrollable and unpredictable, deprives the anticipation of the affordance, which promises merit and connective experiences of people's identities. Mourning and grieving follow.

6-8 Conclusion

In this chapter, I have shifted the focus from humans to things, discussing the Monpa people's sociality with water, forest/trees and viruses. I examined the multidimensional processes through which the Monpa people of Western Arunachal Pradesh experience and enact adaptation in response to the entangled pressures of climate change, state-driven infrastructural transformation, and broader political-economic reconfigurations. Rather than viewing adaptation through technocratic or universalist lenses, the findings presented here underscore its embeddedness in locally situated, embodied, and relational practices.

The Monpa adaptation strategies are deeply tied to their understanding of 'living materials' such as water and wood, which are not merely ecological resources but culturally and spiritually saturated entities. This orientation reflects a syncretic epistemology wherein Buddhist compassion, animist reverence, and pragmatic household routines coalesce into environmental ethics. In the case of water, this vital resource was identified as an object controlled by the goddess, with its source remaining intact despite the highly varied rainfall experiences. In the case of the forest, trees and plants have gradually, through the state-dominant regime, become commodities to trade. Despite knowing that deforestation harms the environment and increases the danger of landslides, the Monpa people chose to contest taboos and comply with the market rules to survive the cold season. Yet there are no other alternatives for them. A crisis narrative flows through these relational changes, yet the non-human beings (particularly the non-sentient beings) were conveniently missed out in the consideration

of life.

The contrast between the State's grand narrative about energy potential and the local society's challenges manifests most in water. The initiation, planning and management of hydropower extraction have little participation from the locally impacted communities and no representation from the women, whose daily life is influenced more than men regarding the water supply. The situation pushed the villagers to negotiate the refusal of the mega power plant and land acquisition by speaking the language of commodity and market, while land and water mean more than just a material to utilise for them. The value and sociality of humans and water in Himalayan ecology are disregarded.

A fierce struggle for the meaning of firewood acquisition and sales is intersected by cultural faith, the consciousness about forest conservation, and the loophole of commodifying nature. Climate change, in terms of temperature drops and carbon market development, exacerbates the hold-tight moral dilemma. Trees embody the Indigenous philosophy of co-living with other types of beings (nature animates or beyond) in the mountain environment; losing the equilibrium of logging and consumption poses a threat to meaningful relationships. Rapid loss of forest in Arunachal inevitably relates to higher vulnerability to landslides during the monsoon season in the Eastern Himalayas. The state and village councils lack a collaborative strategy to manage forest loss.

The 'virus' appeared to be a new concept to the Monpa people at that time, unlike any animation in the Monpa belief. This invisible material showcases the mountain dwellers' adaptive capacity and their ability to use mobility as a risk-avoidance tool. However, the uneven health facilities in remote areas result in higher casualties when society is hit by an epidemic. The public health measures and government control also show that there is a lack of intercultural understanding about risk communication, even discrimination against the rural population. The pandemic situation highlights the benefit of the Himalayan Indigenous being a part of a modern state, to be included in the nationwide vaccine and treatment policy. At the same time, adaptation emerges as contested terrain. The transition from shared resource governance toward individualised piped water access symbolises broader shifts from communitarian practices to infrastructural modernity. This shift not only changes material conditions but also alters sensory and

affective relationships to the environment. The transformation of water from an animate, sacred flow to a managed commodity mediated by tanks and taps has profound implications for emotional ecologies, especially for women, who continue to shoulder the burden of resource maintenance within households.

Moreover, generational shifts further complicate the landscape of adaptation. While elders invoke ritual knowledge and cosmological explanations for environmental anomalies, middle-aged actors like Thinley bridge traditional beliefs and institutional logics, positioning the state as the primary source of solutions. Younger generations, increasingly educated in state curricula and socialised into technocratic epistemologies, often experience a disconnect from older forms of ecological intimacy. This generational dissonance suggests that adaptation is not only a response to climate change but also to epistemological transformation, producing emotional and political frictions across age, gender, and class.

What emerges, therefore, is not a singular narrative of resilience but a layered landscape of adaptation marked by ambivalence, negotiation, and uneven access to power. Crises are not discrete events to be mitigated through linear interventions, but ongoing conditions that reveal the moral economies, infrastructural vulnerabilities, and affective entanglements of Himalayan life. In this sense, adaptation is less about coping with change and more about navigating a deep ontological reordering of human–nonhuman relationships, collective memory, and future imaginaries.

The crisis of water, as emblematic in this chapter, points not only to hydrological scarcity but to a broader unsettlement in the moral and symbolic ordering of the world. Whether through invoking deities at sacred lakes to induce rain, managing household tanks, or shifting land-use patterns in response to glacier melt, Monpa adaptation is best understood as a situated cultural practice rather than a universalist policy category. It is in the minutiae of ritual, household labour, and narrative memory that the political becomes intimate, and the ecological becomes existential, which makes for a confluence of emotions.

Chapter Seven

From Worry to Solastalgia

7-1 Introduction

‘*Na Gali Nigulo* (Did it rain)?’ *Apa* Dorjee, 89, asked me when I arrived with my young translator at his doorstep. He was living with his granddaughter, who looked to be in her mid-twenties to early thirties. *Apa* Dorjee was asking about the weather on my way over from the UK, somewhere he had never heard of, via Assam, which he had visited for medical reasons. We were affected by global weather changes, and his question made me realise how science connects different worlds that may not always align in understanding. And his words included a touch of caring warmth, judging by the way he looked at me. Building on that shared perspective, our conversations will begin the process of bridging the gap.

This was the third month of my mingling with the local community; I realised that a simple question could mean a lot, thanks to my translator, and I became used to being represented by my translators, conveying my good intentions more through body language and the way I asked questions. Language barriers can sometimes act as a shield, absorbing the stress of not understanding. After all, the interviewees had agreed to participate in the research to open up about their feelings; these are things not often discussed in daily life, and ways of talking vary across gender and identity. I asked *Apa* about the local weather over the past 20 to 30 years, or as far back as he could remember, to open his thoughts and share his views so that I could begin to understand his perspective. I asked *ama*¹²⁶s, young people, women and men. People’s responses varied, but the tone of their speech about the changing climate, the transformation of the landscape, the shift in temperature, the loss of predictable futures, and the disconnection from their belongings was aligned.

¹²⁶ Originally means mother in the Monpa language, but commonly used to address elder women.

Their tones were uniformly a mix of surprise and loss, regardless of whether they expressed vulnerability with courage or regret in their following words. The reduction of snow was the most frequently mentioned phenomenon, as it had impacted agriculture and increased the need for resources to stay warm; it also reflected a sense of nostalgia for the familiar seasonality, which carried a lot of social and cultural meaning for the Monpa people.

Environmental change triggers animals' physiological systems, and humans are no exception; the physiological responses are the adaptive ability to cope with the changes in the environment, 'fight-or-flight' being the basic model for understanding this physiological mechanism (Cannon, 1915). Lazarus (1994) instead sees the occurrence of stress as the product of human-environment interactions, normalising the feeling of stress and providing a social interpretation of the distress to further understand the relational dimension of the human-environment or human-and-nonhuman interactions. This research adopted the latter hypothesis. Recent studies of trauma and affect suggest that emotional responses to overwhelming disruption often take the form of 'freeze' or 'fawn' states (van der Kolk, 2014; Walker, 2013). While solastalgia has been primarily conceptualised through mourning and grief, this research proposes that environmental distress may also manifest as affective freezing (emotional and cognitive immobilisation), or as fawning, the emotional appeasement and compliance with dominant powers. Recognising freeze and fawn as solastalgic responses broadens the understanding of adaptation, highlighting that emotional survival in contexts of environmental loss often involves not only visible mourning but also invisible suspension or strategic accommodation. These models, while useful for identifying emotional indicators, tend to abstract emotions from their socio-political and ecological contexts.

Additional physiological studies further suggest that certain parts in the human body, or specifically the brain, are responsible for receiving, reacting and addressing such human cognitive changes from the environment (for example, the study of allostasis, Sterling & Eyer, 1988, and McEwen, 1998). However, this research looks at the subjective view of people's own well-being and rejects the universal or biological approach to look at every human being's negative experiences as identical physiological experiment products.

Over the years, some anthropologists have proposed an alternative approach to perceive enduring global environmental stress by showing examples of ‘living with troubles’¹²⁷ (Haraway, 2016). Changing the context of situating humans and non-humans, and emphasising the potential of a biophilic¹²⁸ approach to resettling troubled human minds with sustainable ecology, are powerful political actions, especially for human minds that have not engaged the environment through such a pathway. Besides using biophilia theory as a motivational tool to call for more pro-conservation or environmental protection from the human tribe for the non-human beings, there are different ways to offer inspiration for policy and education interventions. For example, the famous extending kinship (Haraway, 2016, and others), which borrowed from the Indigenous people’s worldviews. Or, the practical ‘living with change’ (Hastrup & Rubow, 2014, and others) rethinks the current elements of modern governance, technology and knowledge and seeks to turn the developmental mindset to coexist with the beings and happenings that are beyond human control. While these approaches have influenced social design, disaster prevention measures, and the evolution of contemporary environmental ethics, they do not directly address the challenging issue of justice in the context of global warming and climate change damage.

When we talk about rain, we are not just talking about rain. To be more specific, the stress that people experience from conceiving environmental change does not come solely from metabolic or economic concerns. The survival mode of ‘fight-or-flight’ is deeply tied to identity and the Self, which are just as important as physical survival. We also cannot ignore the effect of human attachment, which has tamed humans’ ability to resist, escape, and created a sense of satisfaction from submitting to the existing power dynamics, even if it means sacrificing freedom or basic rights.

The Monpa people's concerns and sadness, along with their recognition of certain development achievements like the electricity supply from the state government, reflect

¹²⁷ A milestone publication of this trend would be Donna Haraway (2016). *Staying with the Trouble: Making Kin in the Chthulucene*. Duke University Press.

¹²⁸ Biophilia refers to Edward O. Wilson's hypothesis that humans are innately and emotionally attracted to other living organisms, nature.

their inner contemplation about whether to stay in or leave their homeland while facing environmental stress. I believe the concept of solastalgia captures the Monpa people's dilemma and the loss of a deep connection to the land experienced by many others worldwide. Similar affective entanglements have been documented in other Himalayan communities. For instance, Jerstad (2016) describes how Pahari villagers in Himachal Pradesh experience weather not as an external condition but as a material and relational presence, shaping daily life and bodily wellbeing through intra-active entanglements¹²⁹ with heat, rain, and cold.

Solastalgia is a concept that links environmentally induced distress with nostalgic feelings (Albrecht, 2005), highlighting the interconnected struggle between the health of the environment and human psychology. Mobility also matters in this complex adaptation and settlement of subjective wellbeing. Theoretically and ideally, humans can migrate to escape the unbearable distress and risks of annihilation, depending on the perceived level of threat and how many resources they think they have to facilitate the migration. In reality, disaster relief and rehabilitation (including climate change mitigation and compensation) are considered welfare and tied to an individual's civil rights and citizenship. Without suggesting the situation as either a trap or a result of choice, and without implying the possibility of restoring freedom, justice, or ethical judgment, the following analysis explores the way of life of borderland people. It highlights their cultural identity, the transformation of the self amid rapid socio-economic change, and their deep attachment to a world largely shaped by long-term human and nonhuman interactions.

It focuses on the traditionally transhumant Monpa people's sense of home in the Himalayan mountains and their fluctuating sense of belonging amid ongoing, uncomfortable adaptation. It also addresses how they continue to 'home' their homeland, which is positioned as the country's border and resource deposit in the context of climate change-induced environmental development trends.

Therefore, I will engage the concept of solastalgia at the end of this chapter as an

¹²⁹ The concept of intra-action refers to the work of Karen Michelle Barad.

operative framework to conclude these lived experiences and relational frictions. I would also provide practical adjustments to this incrementally popular concept to emphasise justice as the key to dissecting the core of distress, and for the younger generation, I will link it with suffering resulting from an irreconcilable clash between belonging and beliefs.

7-2 Environmental Stress Felt by the Mountain Dwellers

Understanding the perception of weather, climate, snow, seasonality, landscape, and places through this vein, this chapter uses the most familiar vernaculars of the Monpa people to explain the complicated and sometimes irrational semiotics about how worry, mourning, grief and loss happen.

After knowing the meaning of the Monquet expression, I repeated Apa's question in my voice, '*Na... Gali Ni...gulo?*' Apa and his granddaughter, my translator, all smiled. I was asking about the scene that I myself had never seen, and neither had my young translator. The Monpa people I interviewed were not used to being probed about their emotions; the smile might have come from curiosity about my way of engaging. Researchers have studied livelihoods and ethno-knowledge related to mountain ecology, where mountain dwellers have been labelled as either objects of poverty alleviation, examples of successful adaptation, or as symbols of the uncertain and unsafe outcomes of mountain development.

Apa had the experience of being interviewed in such settings, where he expressed his identity by wearing his traditional attire, offering tea and showing the mountain scape as the backdrop to his performance. I understood his intention to speak with the voice of authority in this encounter, and perhaps with a touch of patriarchal cultural traits, which reminded me of my own upbringing. But the emotions, mainly distress and other vulnerable feelings, were at the heart of our conversation, and my imitated sentence was a gesture of surrender to the society under study.

Studies have shown how environmental change, especially the loss of familiar materials and predictable seasonality, has had a devastating emotional impact on the inhabitants of communities closely connected to nature. In their study of shifting waters and diminishing lands, Arne Harms (2015) talks of the Lohachara island dwellers' fears and

care for the landscape, caught between circular migration driven by the tides and giving up the identity tied to ancestral land.

In the context of the mountainous landscape, which carries high uncertainty like the shifting sandbank on the river, epistemological pluralism and global phenological awareness were explored to connect with the role of worry in the local community's perceptions of environmental change (Chakraborty et al., 2019). Among many studies on snow-covered landscapes, ecological loss linked to the depletion of survival resources has been associated with ecological grief (Markkula et al., 2024). In some North American studies, depression arising from the loss of a sense of place and mourning has been identified as an issue that requires intervention (Consolo & Ellis, 2018). These emotional and epistemological disruptions resonate with the broader historical dynamics of Zomia, where highland communities, long characterised by mobility, environmental attunement, and resistance to state incorporation (Scott, 2009), are now encountering forms of loss and ecological grief that undermine traditional adaptive strategies. The precariousness of mountain dwelling was once a source of autonomy, yet now increasingly exposes communities to the destabilising forces of global climate change and ecological collapse.

A framework outlining the interconnectedness of colonial histories, Indigenous rights, and climate crisis politics is gradually emerging. Gergan (2017) emphasises the liminal space of human survival, deeply influenced by both state and non-state hegemonic powers, where the stress from the Himalayan earthquakes and hydropower dam development in Sikkim manifested as cultural anxieties. Rajan (2024) interprets the mountain dwellers' grief as a possible psychological basis for the political mobilisation around a new disaster intervention scheme in Uttarakhand. In this stance, emotional alignment serves as the driving force to change the ontology of common resources (González-Hidalgo, 2020). However, these advocacies raise questions about the practicality of expecting new politics to emerge, especially when they conflict with the state and market already involved in ecological management, especially when the landscape is a difficult-to-define boundary, rich with imagination and sacred identities, and situated in a highly militarised, disputed borderland.

In Chapter 5, I discussed the bodily reception of environmental change in terms of noise, traffic and grazing territorial disruptions. In Chapters 5 and 6, I showed the materialistic aspects of how the essential survival-level resources of water, wood and a new deadly virus, along with many imported goods and foods, have challenged the concept of affordance and the imaginary 'development' of the Monpa society. My research participants were mostly unaware of the complex politics of accountability and payback issues shown in the IPCC platform every year; their relationship with the Indian state has already been settled in their static and marginalised status. As in Chapter 2, the Monpa community understands that their homeland matters a great deal to the Indian state because it is the border of state sovereignty. However, the struggle of being the governed subject, a free and self-reliant mountain dweller, and the self-recognition of belonging to the bigger Buddhist civilisation, were never fully integrated. The Monpa people's collective emotional response in Western Arunachal Pradesh, shaped by their struggle to cope with environmental stress and uncertainty about the future, emerged from these contexts.

In my following descriptions, I present the dignified, well-situated, mobile and skilful mountain dwellers and their connection to the environment they co-created and belong to. Far from being the victims that are commonly represented in the news or development reports, I show that their emotions are entangled with the loss of control of their own future, the mourning of once strong ethical standards, and the attachment to the once stable power dynamic they had with nature.

7-3 *Taiku* – deep worry and no outlet for it

Taiku is the common Monpa word used by my interviewees in the Monpa community in the Eastern Himalayas, particularly the Indo-China east-end borderland, who were deeply impacted by Tibetan Buddhism.¹³⁰ *Taiku* is a distressing weight in the heart. *Taiku* is a way to describe the sudden and unwelcome changes that have occurred, and related

¹³⁰ One might identify the Monpa language and culture as part of the Tibetan, and some scholars suggest that Monyul has been part of Tibet. However, I do not intend to discuss the articulation of Monyul's history, as it was ruled by the Tibetans as a margin but maintained its autonomous state of being. Instead, I focus on how people express themselves and base my narratives on their experiences.

feelings that have accumulated over the years. These are followed by the unpleasant expectation of having further such changes forced upon you, yet being unable to control or reverse them. Taiku is not an immediate, overwhelming, empowering emotion that drives action. Taiku manifests as a low-intensity but chronic emotional burden, resisting cathartic release. Taiku is a subtle, collective anxiety, yet one that cannot easily shed the feeling of being. Built on this cultural foundation, individuals express it in unique, personal ways.

Lobsang retired from the army at the age of 47 and returned to his village, devoting himself to public service. He was elected as *Tsorgen*¹³¹ at the age of 50 and has been a well-respected leader ever since. Under his leadership, the village often took a different stance, more or less authoritative and charismatic, from the three nearby villages in terms of cooperating with road construction works or government land acquisition for hydropower plants. He received my translator and me by the fire at the end of a busy farming and village workday; his nephew, who runs the only tuition centre in this area, joined us out of curiosity.

Lobsang used Taiku to describe his emotions when witnessing the glacier melt. His version of Taiku was mixed with upset feelings, according to his nephew. 'The glacier melt is only one of many things that have been changing a lot; it causes water supply problems for the farm work to some extent,' the village head carefully articulated the issues and asked us not to openly publish his opinions to the villagers. 'Climate change... I had heard once in a meeting when an MP visited the Tawang district office and called all the *Tsorgens* for a meeting, but I am not sure what it is, and I haven't heard anything about it since.' Lobsang was trying to show that he understood the situation by situating the personal experiences in a larger context. On the other hand, this well-known resourceful and outreach village leader would not be informed about the overall picture. 'Taiku is there, but it doesn't last for long. Most of the changes in the environment are delightful, and they have brought us a more convenient life.' Lobsang's reaction to my interview shows the political dimension of personal emotions, and being at the crossroads

¹³¹ The traditionally elected village head can be seen as the true leader of the village instead of the Indian lawful village administrator: *Gaon Bura*.

between governance and society. He was holding back from expressing the full depth of his worry or other negative feelings, but this should not be seen as denial.

The emotional expressions of Taiku among the Monpa resonate with what Marino (2015) identifies as place-based grief among the Inupiaq in Shishmaref, Alaska. In both cases, emotional responses to environmental change are not merely personal reactions but are embedded in colonial histories and ongoing structural marginalisation. Marino's work shows how climate vulnerability compounds long-standing injustices and ruptures cosmological and relational attachments to land. Similarly, Taiku signals not just worry, but a layered mourning over lost seasonal patterns, constrained agency, and the slow erosion of a shared sense of place. Before the realisation of how and what caused the environmental change, the feelings had been building up. He looked at me with his concerned yet careful eyes, as if wishing to extract some information from me. Aware that the gesture was futile, his body language encouraged us to relax amidst the tension, as he said he would try to learn more for his villagers. The fire crackled, making a small explosion-like sound while we remained quiet in our thoughts.

I stayed in Jang while conducting research and gradually established my daily routines. I became like my research participants, glancing at the glaciers, sensing the temperature, and waiting for the snow. When it finally came, my host and neighbours were thrilled and shared the news with me with joy. I took a picture for this in memory of the collective happiness (Figure 7.1).



Figure 7.1 A long-awaited snow in Tawang in February 2020. The white lines close to the mountaintop are glaciers flowing down to reach the watershed attached to human settlements.

Taiku refers to issues that linger in our minds, recalling how carefree and pleasant the scenes and experiences once were, as familiarity is closely tied to peace and safety (*namda*). Taiku exists and entails feeling dissent, yet having no outlet for it, and it being pointless to talk about or share it. In the few village eateries and grocery stores, when we spoke about emotions towards environmental change, most people invited to the conversation would quickly respond with a series of phenomena that they had noticed, and answered with the emotion of Taiku. They then showed no intention to discuss the emotions more deeply, often making comments like: ‘not sure what is going on, but things happen as they are,’ or ‘should seek help from the government.’ Perhaps Taiku suggests refraining from discussing an issue without an effective solution, especially while the rural area continues to receive funds for road and footpath improvements.

Emotions serve to balance one’s physical and mental resources, whilst also impacting others through their influence; emotions can function socially as a cultural tool (Lutz,

1986), with specific and detailed rules to convey meanings and communicate. As these are more about actions than stories, they can sometimes be hard to express clearly. For those people whose daily life did not involve direct interaction with nature, they took a few seconds or minutes to search for words in the interviews and explain their feelings to me. 34-year-old Nawang was employed by the women and children's health and nutrition office for the three clusters of villages nearby. She admitted that she felt worried about the melting glacier. 'It looks so different from what it was like in my childhood,' she said, changing and updating her rational senses to recognise the familiar sights of her homeland. 'It is like it now.' She sounded like a considerate rationalist, yet she had travelled for at least an hour to come to meet me when she heard from her old schoolmates that I was doing interviews asking about environmental change. As a young, educated and single woman with a socially recognised good job, her family used to be yak herders like the majority of the Monpa society near Tawang. There was no clear connection between family bonds or childhood memories and the diminishing snow or the lack of the snow-capped mountain peak, often recognised as the glacier.

She spoke about the memories together, along with the progress that has been made in her homeland in terms of development, of which she has been a part. Her work mainly comprised *namda* for women and children, and her voice shared the potential threats and risks.

'I distribute nutrition cookies to needy families; I receive them at the regional offices. People are changing their livelihoods and facing difficult problems with warming temperatures and a shortage of drinking water. The problem is growing.'

This was Taiku as a signifier, indicating an unsettled and uncertain mind. It is a soft expression instead of accusing anyone, and it is safe to say for people who usually keep their opinions and feelings to themselves. Emotions are a private matter, regardless of one's duty.

7-4 To mind the translation of feelings

A neuroscientific study points out that human interoceptive sensitivity is influenced by

individual interpretations (Galvez-Pol et al., 2021), which consequently triggered the long-standing anthropological quest for representative authority. It is a linguistic and ethical challenge for me to find an English word to translate Taiku. The closest English word to Taiku might be worry.¹³²

The English word 'worry' is taken from the old Dutch and German, which suggests being caught by the throat and unable to break free.¹³³ Now, the word has a different meaning. The *Oxford Learner's Dictionary* says that 'worry' as a verb means: 'Thinking about unpleasant things that might happen or about problems that you have'.¹³⁴ When does thinking become overthinking or anxiety? Who decides the level of it? According to America's popular *Merriam-Webster Dictionary*, 'worry' means: 'A mental distress or agitation resulting from concern usually for something impending or anticipated'. Worry is more than mere trouble, although we tend to use it in that way in daily English conversation; it stems from the Indo-European etymology 'wer-', meaning a crucial turn, a bend-over. This etymological background signifies an important aspect of Taiku: to encounter change and endure the discomfort, including the underlying threat of death.

I tried hard to search for similar, juxtaposed emotional expressions in a language other than the original Monquet because this emotion carries a complex specificity regarding distress. The use of Taiku was not unprecedented; people use it in the context of death and loss of family or animals. When I asked people to elaborate on the depth and context of the feeling, they used Taiku to describe a strong feeling that has no outlet to release it.

¹³² As English is not my native language, I discussed with my proofreader Dr Manus McGrogan with consultation to AI. Here are some suggestions: if Taiku represents an inner state of emotional or existential uncertainty, you could translate it as 'inner turmoil', 'emotional dissonance', or 'existential unease', depending on the context. However, the challenge arises if those terms fail to fully capture the nuanced meaning or cultural significance behind Taiku. I retain my original interpretation and translation and use 'worry'. This is because the translation of this word was made at that time when my interviewees and translators were participating in the dialogue, conversation and opinion exchanges, which makes this choice of word hold its legitimacy and historical status. However, I value the insights provided by Dr McGrogan and the unknown contributors behind the Large Language System.

¹³³ The information about the etymology is from: <https://www.etymonline.com/tw/word/worry> (Last access: 2025/04/10)

¹³⁴ See https://www.oxfordlearnersdictionaries.com/definition/english/worry_1?q=worry (Last access: 2025/04/10)

A retired herder explained the levels of *Taiku* involved in losing those around him. Losing the herd was the most painful, losing the wife came next, and losing the snow and glacier was somewhat equal to losing children. Interestingly, when middle-aged and older women were asked about ecological grief, they acknowledged these feelings, they empathised with others and feeling *Taiku*, and quickly responded with ‘It’s okay.’ I am not sure why or for whom the reinsurance was given.

I asked about their vulnerable feelings, but I was unable to provide a solution. The Monpa research participants instead put on their usual face acting as if they were trying to control the atmosphere. By contrast, when I spoke with the herders in Himachal Pradesh about ecological grief, they sang and joked, ‘Can you please tell Modiji to give me a gun? The protected wildlife is attacking my goats.’ Interviewees’ responses sporadically differed depending on how the researcher was perceived. However, with a private topic like emotions, especially vulnerable and negative ones, the conversation between the researcher and the participants could trigger the mapping of the flow of feelings.

There is not much literature on the emotions of this social group. Even if there was, what can be found in the current data is of some important, high-status, saint-like characters that were worshipped by ordinary people. Tsangyang Gyatso¹³⁵ and Drukpa Kunley¹³⁶ are famous, iconic figures who came from this area, and both of them have been called ‘mad’ or unorthodox. Perhaps based on this, we can infer that it suggests a locally accepted set of behaviours, yet the unorthodox are also included and, at times, celebrated. The personal epistemological foundations of emotions are set within a larger web of meanings, history, popular culture and beliefs.

7-5 Figure and prefigure nature in plurality

Like a pupil learning to compare the worlds in their parents’ and their own eyes, calling everything by a name to communicate, I walked and talked with my translators,

¹³⁵ The Sixth Dalai Lama, 1683-1706, from the Nyingma sect of Tibetan Buddhism, is famous for his love poems and sensual expressions reflecting Buddhism and human desires.

¹³⁶ 1455-1520. Famous Buddhist leader based in today’s Bhutan, he was known for going against the celibate principle of the Buddhist monk and seen as a mad monk of fertility.

interviewees, informants, and neighbours, accompanying them wherever they were going, during interviews and house visits. And when I was not engaged in fieldwork, I would walk back to the vehicle road and take the safest route of transportation when I was alone. My emotional encounters with the Monpa people who interacted with me during fieldwork were structured by the lessons they taught me. This includes but is not limited to paying attention to the nature of beings in the background, respecting generally regarded sacred places, judging the feasibility of a trail, making tools from the surroundings, and understanding the uses and dangers of trees and plants. I experience more fear than the Monpa people, especially when it comes to avoiding imposing on others' mobility burdens.

But as I learned of the environment through the eyes of the people I studied, I realised that people are living every minute in a vigilant, yet relaxed way. There was no line separating the human-made from the natural environment (Figures 7.2 & 7.3). As I organised my sense of place through the linear progression of mapping where I went, the people around me appeared to continuously add new cognitive discoveries, memories and emotions to the geography they had grown up with, forming a patchwork of their sense of place.

This pattern also revealed itself in how herders explained their grazing routes and *brok* areas and allowed animals to move. The indication often began with how two interactive parties related, and then how the practicality tied to their way of being; they spoke first about the necessary exchange (or grazing tax), then the overall migration route (when to plan it, then do it), and finally the prominent emotional experiences of avoiding danger and surviving. Another example was the house-moving experience of a family in Marmang village. Due to the recent landslides that had destabilised the foundation of the house and covered all of the attached vegetable gardens, the family chose to build a new and quickly made concrete house in the woodland owned by the household. The village area was still considered safe, yet the building of a new house suggested that human adaptation followed the risk of more landslides happening in the future. The new bungalow housed the elderly parents of the family, who stated that they would not live for much longer; this new house would be appropriate as their new home. The changing character of nature is embedded in Buddhist environmental ideas (De Silva, 2005); in

copied with this dynamic, the Monpa people's patchwork way of knowing is both logical and resilient.

The sense of place-building was embedded in the lived experiences and repeated practices. Consequently, the younger generation could not have the same sense of place as their elders. Thus, the walking and talking activities that I took part in were also the main method for the youngsters to approach the footsteps and memory inheritance of their family and ancestors, and they feel satisfied by the intimate experiences made happen by bodily encounters.

I worked and learned with these village youth, yet they also often compelled me to reflect on ontological and epistemological differences. The English word 'nature' often appeared in the communication between myself and my translators, mostly relayed by my translators. When I asked what the Monpa word for nature was, my translator answered with a serious face, 'Iris, there is no word that means nature, as in English. We Monpa call everything by its name'. What she meant was that they call the names of trees, animals, name of rivers, and mountains, like how they refer to each person and their name. This opened a new perception in me, a researcher with an urban upbringing who usually views nature as a comfort. The perspective of individualising everything and every being challenges a categorical understanding of being with others. The word for tree is *Shang*, but each tree has a name added as a suffix that suggests its character. I also discovered how development was embedded in the naming of things; an electrical pole is '*log-shang*', and '*log*' means light or electricity, so an electrical pole basically means a tree with light. This is the same as the Tibetan used among Tibetan refugees living in another part of the Indian Himalayas. Words suggest the anthropogenic relation with things, and preserve the collective development memory of a place and a community, becoming a heritage.

The experiential basis of understanding the environment, along with the individualised and sometimes personal naming that arises from direct encounters, is clearly different from the creation-based, all-encompassing abstract conception of nature prevalent in Western culture.

However, through formal school education and government policy definition, the original ontology about the nonhuman beings in the environment is now mixed with more powerful encroachment on the memory and identity delineation. The landscape, with its newly built highways, military bases and commercial buildings, serves as a parallel reflection of this competing field of power and discourse.

Yet the collective memory could fade as the language is being replaced by Hindi or other languages, which poses a threat from the viewpoint of a researcher who has lost the opportunity to learn her grandparents' native languages. When the collective memories embedded by the old language are replaced by a new language and epistemology, the younger generation may recognise and remember the *shang* as trees, a pole as a pole, no longer seeing the connection between how the older generation constructed their expanding worldview and experiences through naming. When I turned to my translators, they understood my concerns, but the Monquet language is not included in the formal school curriculum and can only be learned by using it with other speakers. What is kept in the Monquet language in naming each being in the environment also reflects the Monpa humanist spirit of contemplating the non-human's anthropogenic relations, guiding decisions on how to use or refrain from using them. Nature and culture are not divided, but reaffirmed in the process of calling, teaching and knowing, abiding by the dweller's self-recognised rights and identity-related practices. However, with the actual experience of being with the environment in the Monpa way, and with mainstream language erasing the original names of the nonhuman beings in the environment, responses to environmental change could be reduced to technocratic solutions.



Figures 7.2 and 7.3 Making a way and blocking the way in the mountains; this shows the shaping of the environment. These lines of mobility were created by the Monpa people, the left for vehicles, the right to stop deer from coming into village farms.

In the accounts provided by the Monpa people who guided these immersive experiences and practical teachings, and in their explanation of how the environment changed over the years, I noticed that the nostalgic tone in expressions was more often found in those who had fewer day-to-day intimate encounters with the mountainous landscape. Could this be due to the familiar habits of knowing different generations and varying spatial practices that have influenced ontology and epistemological formation?

More than just the ecology of the Indigenous and local knowledge itself, the way such knowledge exists sometimes transcends the researcher's epistemological habits. Watson and Huntington (2008) discuss the assemblage of Indigenous people's epistemic space and the Western scientific space through detailed documentation of the process and dialogue surrounding an Alaskan daily affair with animals. One of the authors, Huntington, an Athabascan hunter and gatherer, states that places are 'stories.' The Indigenous and local way.s of knowing, constructing a sense of place, and allocating resources have been the subject of diverse academic research. With coloniality woven

into the environmental governance and the raised voice for ontological pluralism (DePuy et al., 2021), the researchers and educators have turned to discuss interculturality and local participation matters for sustainable development.

My intention in opening up the uncertain space about the epistemological space of 'others' (to me) is to situate emotions in this context. Taiku could be a sign of cognitive dissonance. The discomfort and ongoing struggle of enduring a strange or false phenomenon suggest a challenge to the subjective ideas of values, morality or belief, thus alienating the feeling body from the environmental issues to protect the integrity of the Self. And the Monpa people, living historically close to their herds/animals and with non-sentient beings such as trees and ice, found ways to make markers in these spaces to soothe their emotions. The most common evidence of this is in the different coloured flags. These originally had a Tibetan name, *Lungta*, which means mantra-scripted five-colour symbols used in Buddhist prayers. But the Monpa people use more types of flags for activities other than praying. White-coloured flags are set up in windy places to mourn the demise of loved ones. Small triangle-shaped colourful flags were set up in spiritual places to honour other forms of existence or to avoid the haunting of evil. Paper *fan* (flags) (Figures 7.4 & 7.5) that were made by certain trees, using a method remembered only by the very old Monpa people in their 80s or 90s, used to be seen by the village fence, conveying the human wish to keep the residence safe. The materialistic engagement with human-made flags has instrumental, symbolic and emotional value for the humans in the mountainous wilderness, reflecting a non-linguistic dialogue with the Monpa people's concerns.



Figure 7.4 and 7.5. On the left, white and red flags are attached to special locations that require more protection from spiritual beings. On the right, the five world-element flags commonly used for religious purposes, and the wall of white flags, are in memory of the deceased.

Non-humans also play an important part in understanding the scope and depth of emotions. Piers Vitebsky, in *The Reindeer People* (2005), admits that sometimes he may have overlooked the emotions in the expression: ‘I had not paid attention to the way in which people told these stories and listened to them. Animals could be involved in other kinds of indirectness apart from standing for a person. They could allow a speaker to hint at intimate emotions, which, for all one knew, might never be declared in more explicit terms (p.288). Taiku is the feeling experienced when seeing and experiencing changes in the environment, encompassing all accessible agents in the ecosystem, which, from a Western perspective, is categorised as nature. The Monpa people practise Tibetan Buddhism and are self-disciplined to empathise with all sentient beings. Therefore, all sentient beings encompass all the nonhuman beings capable of expressing their feelings, which can be observed by humans. This includes a wide range of beings, from domestic animals to wildlife, to the figurations of nature like the divine animates of the landscape (mountain or lake guardians) or natural elements (spirits of water and fire), and their emotional manifestations are recognised and remembered through folklore and

mythologies.

The scope of the environment is a space articulated by intimate and political feelings, and these feelings are not a harmonious, romantic and peaceful assemblage of multiple beliefs. The environment is the outcome of how multiple power relations are entangled and compete. The Himalayan mountains, as the homeland of the Monpa, are not an endpoint where minds are soothed, and needs are met. The mountains are full of things that might help people survive and live well, as well as pose many dangers that they could not cope with. Home is not always safe, yet it is the place in which they co-exist with many other named entities/beings and where they would prefer to dwell.

The Himalayan mountains, or the homeland of the Monpa people (and many immigrants), through the naming of new things and the forgetting of old names, have developed into a discursive space. The conceptual framework of the 'environment,' shaped in the minds of Indigenous and local people, evolves with changes in weather, climate, time, and the explanatory power derived from various schools of thought. This framework offers a holistic way to understand the mental realm of a cultural group through emotions, objects, and names, rather than relying on a Western, democratic façade of identity-dependent authority, which does not always represent 'their people.'

7-6 Recalling mythological place (with a gendered eye)

When I was first dropped off by a truck at the 'crossroads' of Jang, I felt disoriented. Those were the first few days of my fieldwork. I decided to discover 'the place' and do 'mapping' with my feet. Perhaps I was a bit eager to claim 'the place' as my 'fieldwork site.' I soon found I had some difficulty. The houses were not on the same surface, and the trails, small water channels, and back alleys next to animal shelters mostly led to the unknown and spelt danger to me. I was constantly advised not to move around in the mountains by myself, as the paths are dark, invisible to a stranger's eyes, and slippery. However, this initial vulnerability led me to gain new insights regarding the unexpected fusion of a sense of place and an emotional response to change.

I made a great effort to go into the vernaculars and talk to people about environmental change. I encountered Ronnie, an English-speaking graduate from the capital city, whose

self-fashioning exemplified what might be termed a 'modern Indigenous' positionality. His trajectory illuminated the entangled dynamics of indigeneity, urban outmigration, and mixed descent, underscoring that Indigenous identities are not fixed essences but are continuously reconstituted through mobility, education, and aspirational affiliations. His presence served as a reminder that the politics of identity in contemporary borderlands are shaped as much by imaginaries of modernity as by ancestral continuities.

He dressed in fascinating Instagram-style fashion, drove a car, and listened to hip-hop Hindi music and Monpa folk love songs. He gave the impression that he had taste, and this taste was reflected in his diverse identities and performances. He was the only person who could clearly define 'climate change' in my interviews, and he reacted to it with confusion.

'Look around, Iris, we Monpa in Monyul have rarely generated greenhouse gas, you know it, but we are bearing the brunt of it, including a diminishing *Gangri*! No one likes to see that happen. No one wants the water issues. But you also see we started to burn the garbage and take much firewood in the recent 15 to 20 years, and joined this...'

Ronnie's complex accounts of linking the Indigenous behaviours he perceived as damaging to the environment since his childhood cannot be considered a substantial accusation. However, his struggle to balance doing the right thing with actions that contributed to family wealth clearly caused a sense of loss.

Ronnie was born into an affluent local family, and his travels perhaps provided him with different ways of seeing what was happening around him and who he was. His father acquired the business of selling alcohol and other goods in the region, and Ronnie had¹³⁷ worked as an accountant and manager in a few of his father's stores, including some very profitable alcohol outlets. He had turned his back on farming and herding and embraced another 'more intriguing world,' he said with a feeling of aspiration. Unlike other emigrant

¹³⁷ Ronnie passed away from pneumonia during the COVID-19 pandemic in 2020; he was about to turn 31.

young people of his generation, he did not study law or engineering, nor did he join the army; he had been searching for an alternative means of making his living. In our first open interview about the Monpa sense of environment, Ronnie told me the story of the place called Tawang. According to historical and folk studies scholars (Norbu, 2017; Mizuno & Tenpa, 2015), Tawang Monastery was built by the Tibetan government along with a few *dzong*¹³⁸ to collect taxes. Tawang remains the cultural and political centre of the Monpa people living in India and holds a special connection to the Monpa identity.

Ronnie's story was similar to the famous Tibetan drama *Dakini Drowa Sangmo*.¹³⁹ The story takes place in Yul Mandal Gang, which is one of Tawang's old names. Jang is quite close to Tawang, so the kingdom referred to in the story was considered by my research community to be the background of their land¹⁴⁰. The story of Drowa Sangmo is about a divine female saviour of the kingdom whose role is overshadowed by the king's poor judgment of his choice of marriage. Both the evil and divine characters, Hashang Gyalmo and Yeshe Khadroma,¹⁴¹ are female and hold certain power due to their supernatural qualities. This notion of dual womanhood can be seen frequently in other parts of Tibetan folklore, the Hindu religion, and historical tales, such as the marriages of Songtsen Gampo. The story setting also reflects the patriarchal culture of the Tibetan/Monpa people. It is a story of Buddhism winning over the dark, evil folk (sometimes associated with Bon¹⁴² beliefs) and witchcraft.

However, the version presented locally in Jang was slightly different from the prevailing sacred female saviour version: 'King Kala Wangpo was searching for his lost dog during the hunting trip, and then in the deep forest, he saw Yeshe Khadroma. Her beauty glowed in the forest shadows; he could not take his eyes off her, so he decided to marry her.' The

¹³⁸ Similar to castles, they station tax collectors and troops.

¹³⁹ The drama perhaps adopted the original myth in Monyul and has been rewritten to become the most famous 'Tibetan' play. The drama's plot can be found easily online, so I omit it here.

¹⁴⁰ Tawang Monpa, Dirang Monpa and Kalatang Monpa are considered three different subcultures. The people I researched mostly fall into the category of Tawang Monpa.

¹⁴¹ Gyalmo means queen, and Khadroma generally means the female Tara, a compassionate god.

¹⁴² Considered an early religion, or a kind of shamanism, in Tibet.

deep forest, hunting, and sensitivity to light in the shade are typical life scenarios in the mountains of this part of the Himalayas. In this local version, Yeshe Khandroma helped the king cultivate the land and make it prosper, consistent with the day-to-day women's work around the family house. The story ends with a picture of motion: when the persecution took place, Yeshe Khandroma was forced to leave the kingdom, and her children retreated to the land of the fairies; but when she saw that Hashang Gyalmo was killing her children, she became an eagle, flew there and took her children under her wings so that they survived.'

The story presents Buddhist virtue in multiple ways. First, Yeshe Khandroma represents the prosperity of nature's fertile and serene outlook (like the light in the dark wildness), and her behaviour of retreat, selfless giving and surrender to the change in life fits the moral codes of Buddhist practitioners. Hashang Gyalmo and King Kala Wangpo both represent human desires, to control and to own the precious beings that they believe to be beneficial to themselves, regardless of the willingness or considerations for others. The storyline acknowledges the human desire to react to nature's generous giving, symbolising the wealth of the land and two children (her own), meaning human happiness. But the story also warns that the way to attain happiness with no power of self-control can lead to disruption, danger and loss. The inner logic of the story reaffirms religious and ethical principles that define the fulfilment of life and the possible consequences of going against these principles. The story, set in the mythical past of Tawang, resonates with the current inhabitants of Tawang, who, following the same religion, identify with the characters and themes of the tale.

Mythology has been part of the environmental identity of the Tawang Monpa people, and with the wider dissemination of this drama, it extends its potential influence to all the Tibetan Buddhist audiences, especially at a time when formal education was absent, and the primary educational inspirations came from daily life interactions, folk stories and dramas. Figure 7.6 conveys the atmosphere and temporal context of the narrative.



Figure 7.6. The place is Sela, and the lake is located at the mountain pass heading to Tawang. As stated in Chapter 6, a high mountain waterbody is often believed to be the dwelling of goddesses in the Himalayas. This picture shows an example of the waterbody outlook.

On a micro level, Khandroma's life undergoes several twists: she becomes a wife, gives birth to children, is exiled, and ultimately transforms into a powerful animal figure to protect her kin. This illustrates that the sublime aspect of the human life course can encompass virtuous self-fulfilment, with no limit to the capacity derived from such momentum.

The learning and passing on of sublime values and personal development choices are not limited to one gender. And these ethical examples are presented in terms of volatile emotional states. The emotional dimension, also not clearly stated and defined, provides a space for the audience to engage based on their self-identification and their views and experiences of the natural environment. The story has not been understood as a fairy tale but rather as part of the ancient history of the Monpa homeland, allowing the environment to show its non-objective, non-materialistic sides of being intertwined

with humans' daily lives. People feel they are part of that story, and the challenges from environmental change motivate them to further explore environmental identity and choose what constitutes the rightful, celebrated, socially-accepted conduct in this marriage with the environment, whether through harmony or failure.

The three-party story is well known to the Monpa people, and I have come across it in the field. Some people see it as a myth and a true inspiration to present Tawang (or Monyul) as the land of spirituality, ultimately benefiting the expansion of tourist narratives. Some people identify with the characters in the story and find comfort in the seemingly promising reward for their sacrifices. To conclude, with forests, the ruling class, destructive and regenerative powers, animals, and Buddhist virtue, the narrative serves as a tool of control, outlining specific interactional pathways. The landscape becomes the convivial, ever-dying backdrop for this living, mythological belief.

People's memories are preserved of the mountains, a river, a ground in the woods, a pack of bamboo or disappearing herbs. The environment is an integral part of Monpa identity, and beyond providing survival resources, it also encompasses the affective sense of the sacred and the shadows that interfere with human lives, as well as the struggle with inner desires.

7-7 Intersectional feelings and distress

Under the semantics of Taiku, emotions manifest in various ways, with distinct meanings, functions, and connections to decision-making and behavioural change. The Monpa people's feelings about environmental change are shaped by their identities and daily activities. The levels of distress in different subgroups of Monpa society reflect how their life courses are intertwined with the long-term changes occurring in Monyul, or the Eastern Himalayan borderland.

To understand individual patterns and varying vulnerabilities to distress caused by environmental change, I have categorised the emotional responses of nearly 60 interviewees, and other data, from chats and sharings during non-household visits. I identified roughly that age, livelihood, and gender were the leading indicators of the differentiated experiences of environmental change. These indicators comprise varied

perceptions of affordance, attachment, and affective responses, and they reflect the individual's position in the human-nature power relations between the Monpa people and the place they call home.

7-7-1 Perceptions of affordance

Affordance is the perception of things that can be brought into use; it has a meaning and function that is anthropogenically produced for human purposes (Gibson, 1979; Ingold, 2000). I raise affordance here because it relates directly to how people appraise their ability to cope with change, interpreting their environment in terms of potential supports or barriers for adaptation (Grothmann and Patt, 2005). This perception also intersects with what Marxist theory describes as the 'metabolic rift': the transformation of beings and landscapes into resources through processes of alienation and commodification (Marx, 2019 [1867]; Foster, 1999). Examples range from the extraction of coal from sacred mountains to the appropriation of women's social labour within the household economy.

In the case of Monpa versus the environment, these perceptions changed over time as experiences with the Indian State, the government, the lowland-dominated market chain and categorical trades (which could go beyond State borders) expanded. Behind the perceptions, besides experiential learning and expanding references through connections, lies the episteme. No one's episteme remains fixed; we must recognise that small shifts occur as individuals adapt to environmental change, and inspirations may be drawn from one form of categorical metabolic consumption to another.

Among the Indigenous and local theories of knowledge, influenced by many factors, I chose pan-religious belief and education (ideological turns) as two intertwining vines, as they appeared to represent the two lenses through which my informants thought of and explained the environmental change.

Prior to introducing how these two vines led and directed the ecological minds to adapt, I would like to highlight that the overall perception of nature, or the environment, operates under certain checks and balances. In Chapter 6, I introduced the spirits of water, ghosts in the forest; in the latter part of this chapter, I will introduce the deities

dwelling atop the mountains. Besides these animates, who hold power that can impact human well-being and livelihoods, the Monpa people also believe that the whole world they live in, all the felt and unseen constructions, was made by basic elements. Earth, water, fire, air, and space- each element has a representative colour and is often used in prayer flags. Regardless of how much this belief originates from Bon tradition or how convincing it is to every Monpa, it is still held by the Monpa people, who trust that there is an origin or source for every being in the world. This way of thinking is what I aim to highlight.

So the human way of life is contained in the relationship between animates and deities, and realistically, rationally, comprised of the same basic elements constituting the world, to include the Monpa people themselves. Animates and deities could serve as an explanation of the phenomena experienced or as prefigurations to convey the group's ethics. In short, nature (from the Himalayan mountains they live in) has the power to change the environment and affect human lives; the Monpa people (humans) also have the power to negotiate with these changes, and sometimes threats; affordance is the outcome of this negotiation. The external forces, such as the colonial frontier troops, the soldiers occupying Monyul during the Sino-Indian war, Nepali migrant workers and Muslim small traders, the commodities from lowland markets or the pieces of machinery and protocols brought by the borderland highway construction teams, presented another worldview and another perception of affordance compared to the one shaped by transhumant and swidden agriculture life. These encounters inevitably influenced one another. As ideological conflicts unfolded, some Monpa people could argue that this shift in the power relationship with nature and alignment with diverse sources of affordance was part of becoming modern. However, the modernisation fantasy is not the most popular chorus of the development song. The definition of development in the Monpa language, *Yar-ke*, involves the judgement of becoming better, which suggests an agency of self-determination.

In the table below, I roughly categorise the different demographic characteristics of the

Monpa community members.¹⁴³ According to my evidence, the worry, Taiku, is felt the most by the first generation, especially those who engage a great deal in transhumance and *jhum* cultivation. The worrying and sad emotions begin to vary from the second or the transitional generation and regain importance in the third generation. However, for the third generation, the interpretation of nature, place, environmental change and emotional expression differs from the previous generations, showing the different epistemes behind these reactions. The affordance towards nature and humans as resources for production also varies. However, the heaviness of feelings, how Taiku challenges the mental well-being of people, was mentioned by the interviewees along with the transition of affordance. The emotional response to environmental change and climate change is not the main reason people lose hope. In fact, Monpa society has never lost hope; they keep on navigating the workable border resources to improve their quality of life.

Table 7.7 Monpa Generational Changes in Spirituality, Livelihood, and Gendered Spatial Experiences

Generation of change	The spiritual connection to nature	Livelihood/everyday spatial experiences	Gender difference (socially constructed)
First generation ¹⁴⁴ Aged 70+ up	Animist beliefs. Bon tradition. Tibetan Buddhism (after retirement).	Semi-nomadic herding (transhumance). Seasonal migration Mostly men, often couples.	Spatial experiences differ by scale and kind, ex In the case where men went for herding and women stayed behind in the household and farm. The intimate relationship of humans with nature and animals, a herder in mobility and companionship, while near-house animal husbandry in a stable,

¹⁴³ This does not include the monks and nuns, neither individual from prominent backgrounds of wealth.

¹⁴⁴ Means the oldest generation that is still alive.

			resource exchange.
Second generation Aged 40 – 60+	Tibetan Buddhism (grew up with thriving prayer culture and monastery matters). Secular political education from school or interaction with the government	Reduced routes or settled patterns of animal grazing. Men and women swing between traditional and employment-based paid work.	Mining resources from the government provision (depending on what was given by ethnic identity), leading to traditional ecological knowledge beginning to fade or fracture.
Third generation Aged 20 – 30+	Tibetan Buddhism (as part of family education). Science became more important in understanding the environment.	Mostly from herding activities. Political and technological jobs (public servants, lawyers, engineers) are popular ideals because they link with power, high income and grey income. Move between schools and home, preferably by vehicle.	Generally care about what they can get from their ethnic identity, and understand the gap between customary laws and general laws. Women cannot inherit land, but can take herds, and men, upon marriage, expect to gain a house with land.
Children and teenagers	Tibetan Buddhism-centred, do not know any Monyul original source of place. Most of them cannot speak Monpa languages fluently.	Self-recognising being poor and living in ‘remote’ places. Sent to study in cities or religious schools, spend most time out. Social media and games are the main active spaces.	The relation to nature is generally low; however, nature as an attractive background highlights their online social spaces.

Over successive generations, the Monpa people's relationships with nature, livelihood

practices, and gendered spatial experiences have undergone profound transformations. The first generation, rooted in animist and Bon traditions, maintained semi-nomadic herding systems marked by intimate, relational engagements with the environment; it is an ontology in which humans, animals, landscapes, and spiritual forces were deeply interconnected (Ingold, 2011; Descola, 2013). With the rise of Tibetan Buddhism and the gradual influence of state secularism, the second generation began to negotiate hybrid livelihoods, combining reduced transhumance with increasing wage labour opportunities, signalling an initial disruption of relational ontologies toward more instrumental understandings of land and resources (de la Cadena, 2015). This shift also initiated a fracturing of traditional ecological knowledge, mediated by state resource interventions tied to ethnic identity classifications. Among the third generation, political and technological aspirations dominate, reflecting broader processes of market integration, urban migration, and shifts toward scientific and legal rationalities that further disembody individuals from relational landscapes (Escobar, 2018). For children and teenagers, connections to place and nature have become increasingly mediated by digital and urban imaginaries, with nature often serving as an aesthetic background rather than a lived, sentient environment. Across these generational shifts, a cumulative pattern emerges: a gradual secularisation of cosmology, fragmentation of livelihood-environment linkages, reconfiguration of gendered property and labour relations, and the progressive erosion of relational ontologies, all unfolding within the broader context of state-driven modernisation, economic liberalisation, and climatic uncertainty.

In the 'generation of change' column, I have listed the age groups and several major incidents that have impacted the environment, the habitat and the dwellers. The first generation are those people who lived before/during the thriving of the Northeast Frontier Agency in Monyul and who hold memories of the Indo-China War. The second generation roughly involves those who were forced to face the closure and consolidation of the Indo-China border, which affected their herding and trade activities; they turned to intra-state opportunities for their economic needs and development. The third generation was born after the establishment of Arunachal Pradesh when the Monpa people and Monyul were integrated into the Republic of India; they grew up with the government's infrastructure provision, like other remote and marginalised places within the country, and they have

almost no contact with their kin or culture across the border in China. Instead, they are familiar with the frequent goods exchange in East Bhutan. Children and teenagers have yet to become involved in the core collaborations, politics and ethics of village life, so I put them in another category.

These varying life spans also reflect the changing power hierarchy within the Monpa community. Before the government invested in infrastructure and provisions, the traditional social and political order prevailed, so for the first generation, the village council held great power, and a senior member of the village naturally qualified to be on the village council. However, with more involvement in working on government tenders and contracts, the second generation went through a transition period, and the third generation now holds more power in the community because of their broker role and higher command of cash. In short, how people feel about the environment depends on how they see themselves in relation to the environment and the limitations and opportunities they can access within the structural space, mobilising resources (including turning things into usable resources), especially in economic and political relations with the Indian state. Such structural changes manifest not only in political and economic roles but also in how land is cultivated. As shown in Figure 7.8, one villager preserves a plot for ritual grain—an act that marks both reverence for tradition and adaptation to new constraints.



Figure 7.8 A small plot of land reserved for barley, which is used for ritualistic purposes.

7-7-2 Episteme and attachment

Yangzom was doing *ush* (chopping wood) by the roadside when we passed her village. She agreed to stop her work and spare some time to talk with my translator and me; she looks like between 30 and 40 years of age. ‘*Chu-chu-chu* (It’s so cold)! My family income is less than 70,000 rupees a year; we cannot afford to buy firewood. We have to wait until it is our turn to use the village communal woods to cut down a few trees and chop them to make our firewood to warm our houses.’ The growing population and increasing number of new houses demand more firewood, and firewood trades are behind deforestation in some areas. When I asked Yangzom what environmental change she had witnessed and what counted as impressive and emotional, she stated *Gangri* (snow-capped summit or glacier). ‘Whenever we see *Gangri*, we feel very calm and pleased, because it looks beautiful and peaceful.’ Yangzom’s mother, son and daughter, who were standing beside her listening to the conversation, strongly agreed, showing in their facial expressions and the small sounds they made, ‘If there is no *Gangri*, if it is no

more, we would feel *tai-kur-gum*.¹⁴⁵ I asked my translator to invite them to elaborate on the emotional expressions a little more, and they said, ‘Sad, we feel sad. Not so much worry, but sad.’

The dwellers share a special bond with the environment, the landscape, and the element of the place they identify as home, which is a common tendency. In the case of the Monpa community, alongside their aesthetic needs, there is a sense of familiarity that feels almost like companionship, and an attachment to beauty. The mountain landscape often carries an additional sacred meaning for the local people, embodying a special spiritual connection to nature, as well as the belief-related information outlined in the chart above.

The Monpas believe the landscape has a sacred meaning, for the area has been graced by the renowned Buddhist master Padma Sambhava. He passed by this area on his way to provide teachings for the Tibetan king. And because he always cultivated knowledge in his lifetime, his hard work left *Dêrma* (གཏེར་མ།) in the mountains. *Dêrma* are secret marks enclosed in the thoughts and wishes of the master or anyone who has reached such a level of wisdom. They are encrypted in rocks and hidden in woods, and they reveal responses to the Buddhist practitioner's contemplations. ‘They are gifts of the Guru Rinpoche, the first teacher of all the great teachers,’ said Sangmo. She and I went to an offering ceremony, where people made rice balls as offerings to the monk travellers who once came here to meditate at the *Dêrma* spots. And besides the sacred Buddhist marks, more places are marked with godly guardians that co-exist with humans and animals. Feelings such as owing, fearing, disliking, and pleasing in relation to these spiritual beings, compared to the feelings towards the orthodox Buddhist figure, are more mundane and resemble daily practices.

The little spirit that attaches to sentient beings, from mountain guardians to humans, can linger or dwell for some time. The feeling-space-being semantics could be part of a custom or practice, carrying ethical meanings. *Am*¹⁴⁶ Thupti said that she would not

¹⁴⁵ *Tai-kur-gum* means the same as Taiku, it is the variation of the word.

¹⁴⁶ *Am* means aunt in Monquet.

sweep the floor of the house for three days after I had gone, just as she would with any guests leaving for the house. ‘This might bring bad luck or danger to the one who left the house because they were not cherished.’ *Am Thupti*’s words are intriguing. This common practice suggests that when people come, they bring something with them and leave behind a part of it, perhaps their thoughts, perhaps a trace of their presence, like hue or dust. Not cleaning these traces signifies the lingering thoughts for the guests; through feelings, the connection endures. Places are felt.

Wandu, a 47-year-old father with a son and a daughter, talked to me about the gender division of labour in his household and how this related to the flexible farming strategy to cope with environmental stress. His wife, Pema, was beside him when the four of us talked quietly, yet engaged emotionally. Wandu is a *misteri* (carpenter); he creates exquisite work on house decorations and storage furniture.

‘My mother and my wife used to do *jhum* cultivation; a group of 2-3 people had to walk 3 km to the land and stay there for three months in exchange for 100-150 kg of *kho* (millet), maize, and potatoes.’ ‘However, today, almost no one cultivates *jhum*, and no one is burning wood to create ashes for fertiliser. Because of the ban on killing wildlife, *pa* (wild boar) and *kashe* (deer) grow in excessive numbers! We tried to stop them, but they came to eat all of the crops.’

As I mentioned in Chapter 6, reduced snowfall, believed by the Monpa people to be due to deforestation, has also driven the agricultural activities nearer the family home. Pema walked us around the homestead, and we took a look at their vegetable gardens. Shifting from *jhum* to the kitchen garden also signified a change in crop choices. Pema used seeds saved from past harvests as well as market-supplied vegetable seeds, like cabbage, to plan her much smaller farm, cultivating more intensively.

Despite his injury and inability to contribute to the household income, Wandu seemed content with the alternative sustainable food source provided by small-scale farming near the house and government rations. The pride of sustainability is also shown by Pema; despite all difficulties, they managed to live a steady economic life. The confidence of switching or juggling between resources made available by land

ownership and environment reflects a flexible affordance and ability to adjust. The ban on killing wildlife came from the 14th Dalai Lama's call to respect all sentient beings and halt traditional hunting practices¹⁴⁷. The convergence of environmental conservation and Buddhist ethics of compassion towards all sentient beings has accelerated the development of Buddhist environmentalism since the early 1990s. Whether these advocacies have addressed the actual needs of marginalised Buddhist communities, the overarching idea of reducing the killing of wildlife has been translated into everyday ethics. It might seem contradictory to kill and consume animals in a pastoralist way of life while adhering to such ethics; however, the priority has been given to the individual's survival needs.

Avoiding competition with wildlife and giving up on one's ethical choice to retreat from farming are the ethical choices made by mountain dwellers like Wandu and Pema. Their affordance for making natural resources into survival substances is based on their identity as well as their belief in creating alternative pathways. In this way, their subjective well-being was eased, yet the underlying stress may persist, driving them to make different choices in the future. Flower plants, primarily grown for pleasure, have started to flourish in Monpa villages. From the women's perspective, the beauty of these plants is considered a tribute to the gods.

A smaller scale of everyday activities and more human-made house/home placements have emerged along with the retreat of *jhum* and more broadly traditional farming practices. The hunting ban drew the line between the domestic and the wild more clearly. Wandu emphasised before the end of the interview, 'I used to eat less *zan* (millet-made staple food) and had fewer stools, but now I eat more grain bought cheaply from government stores, I have had a lot more faeces. It just so happens that we all use faeces to fertilise now, otherwise we depend too much on chemical fertilisers purchased from government shops as well.' Agriculture in this mountainous region depends a lot on rain and river water, and snow is generally considered the best way for the Monpa people to rest and renew the land's fertility. With a smaller space to support year-round life, the

¹⁴⁷ <https://www.dalailama.com/messages/environment/practical-steps> (Last access: 2025/04/10)

cycle from food to waste and back to food appears more condensed. In some cases, irrigation for the kitchen garden even comes from family wastewater. In the longer term, this could become a public health issue.

Yet there are people who do not feel Taiku with regard to environmental change. Retired herder Dawa said to us, 'I noticed that the grass for the cows has reduced; other than that, I did not notice any significant changes in the environment. And since I have retired and stopped herding, the diminishing pasture has no relation to me anymore.' The old man put on a smile, and his daughter answered the environmental change question: 'I feel mostly the change is with the school. The schools now keep the bigger kids busy, and they can no longer share the chores and babysit at home.' My translator works in the school, and the two 20-something women soon came to disagree about how useful the educational content is for the Monpa young people. The herder's daughter stated that constitution and political knowledge were useless in this mountain life. She had to stay at home to look after her old father as his mobility had been greatly reduced, and house chores filled her life. 'Did you see the *Gangri* there?' I asked her when we relaxed after the interview; she said she saw it, but she had never witnessed any change in that.

A couple with seemingly affluent backgrounds shared the same opinion; they gave me and my translator and me a lift when we were going up for village household visits. The husband was a businessman and the wife a senior nurse. 'We understand the glacier is shrinking, but we cannot do anything about it. Rather than worry or feel sad, we feel that global warming will affect people's health here.' Perhaps the social structure determines social consciousness, and different narrative strategies are permissible within different structural statuses. The couple avoided talking about their feelings and directed the subject to the cause, with seemingly no solution, and the sense of desolation and loneliness was felt in the short silence in the car.

7-7-3 Affect and reimagined landscape

84-year-old *brokpa* Sang and 76-year-old *yangpa* Dorjee are neighbours; my translators and I called on them in their shared front yard to talk about the weather and their feelings. The strong sunlight spread over us, creating the influence of the mountain. To discuss environmental loss and related emotions, my interviews included positive and negative

emotions related to people's daily activities in the mountains. 'My happiest part of moving to a new *Brok* is that you will find there plenty of fresh pasture for herds. It gives much joy, especially when you are moving from previously foraged areas,' said the retired male herder, an experienced *yangpa*. His eyes glittered, and his smile beamed when he answered my questions about the happy moments on the hard grazing trips. '*Reh tse-ga, Laa ga shin-ho nou-um* (at the top of the mountains, in the higher altitudes, you will feel much happier and more comfortable).' Herders and dwellers are never alone in the mountains; they can always sense some Others (spirits). And for the transhumant herders, being the only human in the fellowship at various stops along the grazing route, sensing the spiritual guardians is a common mindset: 'We can't see them, but they look after us,' said every herder I met. The affection for the environment involves the feeling of connection, a subjective recognition of the powerful Others, and an assurance of being looked after. 'They take care of us like we take care of our own child. They will look after every human equally, as well as the glacier, the river, and wildlife; it does not matter whether you are from here or not.' The herder's eye turned to me in the interviews, 'The protector cares for you, too.' This inter-subjective scheme of care and affection, to my understanding, is an implicit way to express the insecurity and uncertainty of mountain life. The mountain dwellers did not straightforwardly say how they felt about the environment. Instead, they told us about the connection in a retrospective way.

And for these two, their feelings, good or bad, were deeply rooted in the environmental change they saw, felt and had to deal with, with their animal companions as well as their properties, 'Taiku' is a heaviness in the '*sim*,' a '*sim*' is close to the heart or a feeling itself, somewhere or somehow inside a person, dominating the mood. Taiku arises within them whenever they see the area near the *Gangri* turning green, pastures being lost, the drinking water flow thinning, and the seasonal spring drying up. Taiku is a lingering worry, slow-boiling tension about an issue that no one can solve. So they look to the mountain and water guardians. 'Taiku makes people feel uncomfortable, but it does not paralyse human bodies, unlike losing your next of kin, your cattle or part of your body.' There is a sense of powerlessness in Taiku.

I asked the experienced mountaineers, as retired herders, fathers and one-time heads of their households, to further explain where Taiku exists, the *sim*. This is where the usual

doepa (want) and *doechag* (attachment) stay. The words that existed before, along with those that express new emotions arising from newly acknowledged phenomena, stem from these ideas. I understand that Taiku may not be a strong emotion, but rather an accumulating, constant presence in the background, obstructing joy. It is linked to the once lush, growing, and nurturing environment, which has deteriorated due to climate change.

However, there is another sense of powerlessness associated with the distress felt about environmental change, which is experienced by the subgroup that does not nominally own any land – the Monpa women. They are capable farmers and forest foragers. They have been trained by their elders to identify changes in the environment and spot resources to fulfil their social role, mainly to keep the household running so that every member can survive with enough food and care. I spent a lot of time with the Monpa women, especially during the pandemic lockdown. They weave, grow, collect, clean, cook, and are active in gatherings and exchanging gifts. To my surprise, their level of worry and sadness towards the diminishing water supply and melted glaciers was generally lower than that of the men, especially men who have spent most of their lifetime with their herds, transhumant grazing. Exploring the reasons behind this, which may be varied, I propose that two main aspects should be considered in understanding this phenomenon. One aspect is the women's social role, which intersects with their interaction with nature. They often act as the primary gatherers, navigating and combining resources to sustain the household's daily activities.

This role does not essentially belong to women, but it is essential to maintaining the transhumant way of life. Stay-at-home producers, the women I know who live in this category, have to secure a non-herding food source and maintain relationships with their neighbours and spirits (through prayers and offerings). They also bring joy to life by providing non-survival elements, such as drinks, feasts, and dance. Secondly, women's migration pattern (if not engaged in transhumant animal grazing) involves moving from their parents' village to their husband's village. In addition to her house-mending skills, which help establish her status in the post-marriage community, her sense of belonging follows a dual or multi-sited pattern, meaning her attachment is not a routine, static, or single-line connection.

Perhaps the multiple sources of emotional belonging helped alleviate the stress when one of the relational partners faltered. Monpa women can choose to stay as widows in their late husbands' village, return to the village where they were born, or choose not to be married and stay with their birth family. The key is whether she has the resources to support herself and her children, and land - the living space is a fundamental issue.

In Monpa tradition, which is recognised as constitutionally permitted customary law, only the male heir is entitled to inherit the family land. The lands collectively owned by a (natural) village community can be divided into communal spare lands and individual family-owned lands. The latter includes farming land, some woodland, and houses. Among the Monpa, women's positions within regimes of land inheritance are profoundly paradoxical. Household land is customarily inherited by male descendants, without a fixed rule privileging the eldest, youngest, or any specific son; daughters are typically excluded from inheritance discussions altogether. Female offspring may inherit their mother's personal property, including land, jewelry, and other movable assets, and many fathers allocate livestock to daughters as part of their marriage endowments. However, land owned by the father is almost exclusively inherited by sons under customary law, and such inherited land is collectively referred to as *zurma*.

Within this framework, married women frequently claim, in everyday discourse, to 'own' their husbands' agricultural and forest land, not in a juridical sense but through sustained labour, cultivation, and care. Their assertions of ownership are grounded in use, responsibility, and moral claims derived from land stewardship rather than formal title. By contrast, unmarried women, including those who remain single throughout their lives, can only reside with family members as caregivers and are denied any land ownership. When the persons they care for pass away or leave, these women's residential futures are determined through family deliberation or by decisions made by brothers, often resulting in relocation to vacant houses or marginal plots of land. In this way, women's contradictory land rights are simultaneously upheld and constrained by customary land tenure systems and broader ethical principles of stewardship that privilege labour and care while withholding legal ownership.

As I have mentioned in Chapter 5, the Monpa households own several types of land for

different purposes, and the village community as a whole owns their traditional territory, ranging from valley to summit, according to the boundaries negotiated by the different communities. Within the village territory, the boundary between households has also been negotiated and inherited. Some of the male heirs were entitled to take over their father's lands to build their own households. Within the village, land ownership transfer needs to be approved by the village council. According to The Arunachal Pradesh (Land Settlement and Records) Act, 2000,¹⁴⁸ the land titles belong to the state government, but individuals can claim their traditional territory with a Land Possession Certificate (LPC) issued by the deputy commissioner of a district, subject to approval by the forest department and the village council. Arunachali locals should have the permanent resident certificate for the LPC, which is valid for 33 years and then renewals. The Arunachal Pradesh state government also prohibits the sale of land or property to non-natives and outsiders. Therefore, the stable land division system for customary laws to persist relies on government paperwork and prohibition. In this scenario, the land is transactional, but only among the tribal residents and between the village and the government (including development projects and military bases).

However, in judging who deserves the right to use the land and turn it into production to benefit oneself, the level of care for the land, including cultivating, fertilising, and possessing relevant knowledge and experiences, is greatly valued. The land tenure of Arunachal Pradesh was transformed when several high-profile land transaction cases were covered in the media in 2018.¹⁴⁹ The view of land as a commodity that can be exchanged for cash has gained widespread popularity. In these contexts, land ownership- particularly the ability to control its profits through potential cash transactions- has surpassed mere theoretical or moral considerations.

The younger generation under 40 years of age and unmarried, who usually work in non-

¹⁴⁸ See <https://arunachalpwd.org/pdf/Land%20Settlement%20and%20Records%20Act,%202000.pdf> (Last access: 2025/04/10)

¹⁴⁹ 56 years after Indo-China war, Arunachal villagers get ₹38 crore land compensation <https://www.hindustantimes.com/india-news/56-years-after-indo-china-war-arunachal-villagers-get-rs-38-cr-land-compensation/story-xU2G9lsknqubJKcqEtvMXK.html> (Last access: 2025/04/10)

agricultural jobs or are helpers at home, do not feel a sense of ownership over family property. On the other hand, they have greater freedom in terms of mobility, while their male siblings are more attached to the family place and are expected to handle it after a certain age. Unlike men's mobility, particularly that of herders, which follows a fixed route to engage in trade and production with a set group of partners, women are expected to marry outside of their village communities. And once married,¹⁵⁰ their residence becomes a hub for their maiden family, where their kin and villagers can find safe shelter to stay on their travels, offering refuge from the hardships caused by volatile weather and other challenges in the mountains.

Though some sadness was generally expressed by women regarding climate change and environmental change, they tended to worry about their inability to share the positive experiences that come with living in harmony with nature with their descendants.

Chotten, 65, who was staying temporarily in a small house by the vehicle road in Jang because her left eye needed surgery, was originally from a village in Zemithang, which is much closer to the border and rich in wildlife. 'Looking at the snow melting in the mountains, I feel sad and worried. I have the chance to see it, but my children and their children will not.' Chotten's worry was more specifically about *revyoung* (safety): '*Ou-Tso-devmin-krinii tikei* (we are safe and okay)'. Her language was mixed with Hindi and Monquet, which confused my translator a little, but she soon picked it up. '*Dupuyung* (I worry)...'; 'What do you worry about exactly?' I asked. '*Gangri* is not just beautiful, it is the safety of water, it is a *ter* (treasure for the village. I also worry that people do not talk about this problem,' I asked her why people do not talk about these issues, and she said that this belonged to the power of *Summa*. I asked what *summa* was, and my translator and Chotten, two Monpa women, one young and one older, engaged in an intense conversation. In the end, my translator turned to me with a defeated look, 'I heard about *summa* for the first time as well. Maybe it is the word they use in Zemithang, but not here

¹⁵⁰ In the Monpa community, marriages can either be arranged by the boy's and girl's parents or decided by the boy and the girl themselves. There is no caste system in Monpa society, so the only concern is to avoid incest. Most women are married to men from nearby villages, where they knew each other for a long time. Monpa people tend to marry late; marrying at around 30 years old is not considered late, and the married daughter tends to maintain a close relationship with her own family members.

in Jang. *Summa* is the residence of *Phu* and *Dha*,¹⁵¹ and we shouldn't tell outsiders where or what it is.'

Phu and *Dha*, or mainly *Phu*, the one that sits on the top of the mountain that is more often associated with Gangri, is a *Nang-chue* (inner belief) of the Monpa people. In different regions, these *Phu* have different names, which ordinary people are not supposed to use; otherwise, the *Phu* may feel offended. Chotten's secrecy was for our protection; my translator and I were younger and required more care. Everything has an order, and therefore everyone has a place. My translator's grandmother was 90 years old; she was blind and fragile and was the only person I knew still wearing the traditional Monpa leather boots. Perhaps due to being closer to death, she shared with me her knowledge of the unseen spiritual forces that surround us, revealing their names and characters one by one. I was surprised by the way these spirits were animated or personalised.

I could not find the exact words to position them in my knowledge or experiences, even after many solo walks into the mountains to attune myself to the surroundings. I could not define what my body and mind had absorbed, and apparently, I did not share the Monpa identity, although I had been affectionately referred to as a child within the family.

These spiritual beings, *Phu*, possess the power to guard the immutability of the *Gangri*. *Shin* is a ghost, a roaming spirit, believed to be released from melted ice atop the mountains. It travels to the village and is said to attack people. For some old male herders, *Shin* even displays the looks of a young, attractive woman. My translators, mostly young Monpa women, translated the information and then looked at me. We shared a silent understanding, communicating without words about the patriarchal jape.¹⁵² Neither *Phu* (and *Dha*), nor *Shin*, nor the other spirits are new concepts arising

¹⁵¹ These two are the general names of the mountain guardians that dwell up high and down low.

¹⁵² There is a popular folklore belief about a woman shapeshifter (毒藥貓 poison-cat) in the trans-Himalayan region. People believe that some women can become shapeshifters, or that evil shapeshifters can disguise themselves as women to poison men for their satisfaction. This misogynistic folklore may have influenced the belief in *Shin* as a sexually attractive yet dangerous entity, a perspective that has been linked to the effects of global warming. Or maybe, the informant just made it up himself. However, the *shin* emerging melted ice is a widespread belief, among both men and women, and has a

from the warming temperatures, melting snow, or the environmental stress of disrupted seasons. Instead, they have long existed to describe people's emotions- fear, anxiety, and the anticipation that something harmful is approaching, threatening the community as a whole. Bubandt (2017) suggests that environmental change is often sensed through affective registers—hauntings, uncanny sensations, or atmospheric disturbance—rather than empirical metrics. In Monpa narratives of *Shin*, similar attunements emerge as embodied, storied forms of dwelling with instability.

I asked one of the interviewees to clarify the role of *Phu* in local ecology, 'You said *Phu* keeps the minimum of the ecological cycle. Why is it?' He answered,

'If you cut down trees on a large scale in the *Phu* area, then there won't be rain in the region, and spring water will retreat from the region. And also gods live over there in *Phu*, therefore if you pollute or damage the ecosystem at large scale, it will bring illness and ailing to an individual or to community members. *Phu Dumu* and *Gyap* look after us. If a tree dies at a young age and water starts drying up in the region, that means *Phu* is annoyed or has stopped taking care of us. If they are happy, then there will be lush forests, plenty of water, and snowfall. Snow level and water level will rise and fall accordingly. Young trees don't die often. '

As I enjoyed listening to the belief in the mountain deities and their family-drama-like stories, I could not help but notice the reactions of the Monpa youth who were under 20, and mostly still in school or college. On a cold night after the interview, my translator, Urgen, arranged with a neighbour to give me a ride back to the guest house. The car slowly climbed up the slippery road. A boy was walking in almost complete darkness by the side of an asphalt road. Neighbour Norbu kindly stopped the car and invited him to get in. The 17-year-old student Tsewang had just finished his tuition, for which his parents paid an extra fee to support his regular education, hoping it would help him gain admission to a better university in the big cities. We chatted casually about environmental change; he said he had not witnessed as much as the elders, and accepted things as they were. A stronger will, or aspiration, has driven him more than his attachment to this mountain home. He believes that the home will never disappear, as it

public health implication.

is rooted in the mountains, and his wish is to escape this familiar environment and try something different.

Yangchen, 19 years old, the little sister of my homestay brother Rinchen, expressed similar aspirations. Teenagers and young people were sent by their families to the pro-Buddhist community cities in South India, or to the closest metropolitan cities, such as Delhi, to obtain degrees from the vocational or academic colleges, studying subjects that institutions in Arunachal Pradesh do not offer. Unlike most teenage girls who eventually do what their families advise them to do, Yangchen herself took up Emergency First Responder Training, wanting to become a nurse. For the marginalised population, professional and transferable skills facilitate emigration and settlement in higher-income countries, and nursing has been a popular career path for young women, both Tibetan and Monpa. Yangchen does not like to walk around and would rather be a homebody. Her world encompasses the village, college, and online communities. She is an active TikTok content creator, showing dance with globally popular choreography with the Himalayan mountains (her backyard or village roads) as background. She is also passionate and dedicated to wearing ethnic attire and attending cultural events.

Yangchen's older brother and sister were responsible for supporting the family financially and keeping them updated with knowledge. Yangchen, being exempt from leadership duties, had the freedom to shape her own path, blending elements from the village fair, an altruistic profession, and the fame and recognition she gained from strangers as the unique Himalayan girl.

The Monpa people of Tsewang's and Yangchen's age have yet to complete the journey of personhood and earn an independent place in society. Their views on the environment, if not tinged with teenage anxiety, are much in alignment with modern school education; most of them do not embrace the animist belief or regard spiritual beings as a valid reality. Their attachment to homeland lies in the connection to home, where the communication and bonds can sometimes lead to the interpretation of the Self's social space as emptiness. I was told by neighbours and family members that over the years, not all young people studying away returned; some of them committed suicide when they were alone and away from home.

Lastly, the border does not exist in the Monpa's emotions; it cannot prevent them from feeling a connection to their kin 'over there in what is now China.' Anyone with a PRC passport is strictly prohibited from entering Arunachal Pradesh. Permanent residents of Arunachal Pradesh require special travel documents to visit China briefly and for specific reasons. The Monpa people I encountered, whose lineage was disrupted by the India-China border, expressed feelings of helplessness: 'We have no other choice.' I received the same response from the village elders describing their days when the whole village had to migrate due to heavy snow. In their eyes, emotions shimmered—disappointment, pity, and a reluctance to fully resign.

A grandmother in the village often enjoyed the sunlight on her balcony and greeted me as I walked down for my village household visits. After finding out what I was there for, she said, 'We Monpa are clever people, the sun shines, the snow falls, we strive with them, and always exist.' To me, this nature-related statement meant that the minority community that lived in the dense forests far from political and cultural centres would never vanish; there were so many ethnicities and faith groups like them in the Himalayas. But behind the confident, adaptive persona she described, the one skilled at finding and sustaining resources, was the same character whose labour began at 4 a.m. and often didn't rest until late at night. This was spoken by someone who had truly lived most of her life in this way.

After retirement, they finally have some time to do some hobbies, like studying Buddhism and learning how to read and recite prayers. So far, we do not know what kind of change to the environment and community will be brought by the future Monpa (legit) society members like Tsewang and Yangchen and whether the souls of those who committed suicide will return to the villages and manifest in a commonly recognisable form.

But children and teenagers do not show anxiety, anger, or a sense of deprivation of their future here; on the contrary, they are well aware of the phenomena of global warming and climate change from school, and what they display is curiosity, hope, and a hint of fear about venturing into an uncertain future.

Although the development of hydroelectric power plants was not the focus of my

doctoral dissertation, my host family's older brother brought it up with me during the research process, sharing his personal experiences as a starting point for my research. As the second son in his family, he was introduced to a monastic school by his parents during his childhood, following the typical path of Tibetan Buddhist families. He grew up in a boarding school environment that trained monks, but still maintained close relationships with his peers from his hometown. He shared with me how he joined the movement protesting the Tawang Dam and introduced me to his peers. I also wrote an article on this personal history and the dam movement (Lin, 2024). In the dam protest movement in Tawang District, young monks in their early twenties and monastic trainees like my brother played a very important role. Studying in a major Tibetan Buddhist academy in southern India, they enthusiastically joined the resistance movement out of love for their homeland. The black-necked crane was regarded as the incarnation of the Sixth Dalai Lama, which gave the movement a sacredness. However, the most important reason for calling on the masses to take to the streets and even forming a group to resist the ancient authority of Tawang Monastery and the government, I believe, was the motivation of the young people rather than the authority of religious symbols.

Recent scholarship on Himalayan glacial futures highlights how encounters with retreating ice shape divergent imaginaries of ruination and resilience (Gergan & Smith 2024), a complexity echoed in my interlocutors' narratives that navigate between uncertainty about environmental change and enduring attachments to place. That future includes home, which means returning to the mountains. However, even within a government team comprised entirely of Indigenous people, differences in generation, experience, and perspectives lead to varying visions regarding the environment and their homeland. These differences could very well result in failed development policies and enormous costs - politically speaking, these costs could prove the failure of Indigenous self-governance.

Hydroelectric dams are crucial for Arunachal, a region lacking electricity. A stable power supply is essential for winter heating, schools and hospitals, and the use of electronic devices like communication equipment. However, locals question the necessity of large-scale power generation and the significant changes to the land and environment that dam construction would cause. The mountainous environment, coupled with frequent

mudslides and the difficulty in maintaining intact roads, is unsuitable for the large-scale power generation and transmission required on flat terrain. Clearly, planning hydroelectric power in a mountainous area based on non-mountainous thinking comes at a high cost. While the younger generation lacks experience in making a living in a mountainous environment due to their extended schooling, their trust in the government hasn't increased with their dependence on it in daily life. The district's chief electrical engineer, a local from Tawang, analysed the pros and cons of various approaches professionally throughout the interview when I asked about power infrastructure development. However, when asked why Arunachal was still pursuing massive hydroelectric projects, he sighed and fell silent—clearly a political question rather than a scientific or engineering one.

7-8 Solastalgia of a moving agent in the still loss

The Monpa people, living in their homeland, are gradually sensing that the environment is no longer the familiar place it once was. This is due to the visible change in the landscape from the melting glacier, escalating disasters, infrastructure development and increasing militarisation. It is also because Monyul has been incorporated into the Indian state and capitalist market, due to the incessant postcolonial nationalist competition between China and India. For the Monpa people in Tawang and Jang, their home has become a conflicted borderland in the Himalayas.

While undergoing the change, the Monpa people in Arunachal Pradesh have also sought to assert their power in a number of ways. Politically, they have campaigned for autonomous governance of the region and protested against mega-size hydropower dam projects. In their relationship to nature, different ways of turning spiritual beings into life-improving resources have created more risks in the urbanisation of mountainscape and the ability to cope with disasters. These approaches can be seen as a way to seek to regain a sense of power or control, yet they are not able to alleviate the emotional distress caused by the changes.

In Chapter 2, I mentioned Monpa's demands for autonomy, their opposition to dam construction in sacred animal habitats, and their recent oversight and concerns

regarding the implementation of forest rights laws. However, I don't see this as an act of rebellion against the state, but rather a long and on-and-off negotiation. I argue that the Monpa's pursuit of autonomy and anti-dam protests reflect both intricate local factionalism and their self-positioning as a Tibetan Buddhist minority within the Himalayan landscape. While the movement propelled a segment of cultural and educated elites into power, it also saw many youth activists returning to their villages to foster local development; thus, their engagement with the state does not represent a monolithic identity-politics position, but rather a multi-layered negotiation of power.

The Monpa case further illustrates that decolonisation is rooted in a profound deciphering of hegemonic structures, which is an understanding of the historical and institutional factors that sustain dominance. This reflexive process is inextricably intertwined with their adaptation to environmental change. In this context, the 'State' is perceived as a symbolic web of overlapping historical legacies; because 'rewiring' such deep-seated meanings is exceedingly difficult, the competition for resources often emerges as a more pragmatic and viable path for local agency. Through political education, the younger generation learned civic rights, organised resistance, and form associations to coordinate civic movements, which they then used to negotiate with the state. These actions involve a certain degree of trust in the system. While police violence and the stigma of being a backward ethnic group mean that these negotiations (aside from the peaceful and successful courtroom debates) also contain heartbreaking memories, these memories become new components of the Monpa identity. In other words, I believe that the Monpa people, living in the mountains, view the military, military bases, and infrastructure investments by the military and the central government as 'grass that grows with the different political seasons'—some things can be therapeutic, while others become invasive species. While the majority of the population remains in their ancestral homes, a small minority expand their residential networks by selling land. Women within these families, deprived of land inheritance rights, experience a sense of deprivation. I believe the Monpa case does not present a conflict between the Indigenous community and the state stemming from the incomplete enforcement of legal rights, but rather from the changing social relationships during environmental transition and adaptation. This impacts the order between people and the natural

environment, the ethical and emotional order within the community, and the resulting sense of displacement.

While the district administration has attempted to mitigate deforestation, water scarcity, and systemic waste mismanagement through technocratic interventions, environmental stressors continue to escalate. This crisis is most acutely reflected in local discourses surrounding the recession of the *Gangri* glacier, an event that has catalysed the emergence of new, unsettling 'actants' ranging from ancestral ghosts to unprecedented pest infestations. Such distress manifests simultaneously across physical and metaphysical registers, forcing the Monpa to undergo rapid adaptations that imbue their lived experience with new, often haunting, ontological meanings.

These generated meanings, relating to either the animist beliefs or the online search for possible solutions, provide some sense of security to the Monpa speakers. By contrast, ignoring such feelings or discussing alternative forms of salvation by drawing comparisons from folklore, the unsettled experiences stemming from an uncertain relationship with the environment may be confined within a boundary that is difficult to manage.

Kari Marie Norgaad (2011), in her case study of Bygdaby, suggested that returning to one's place and tradition is a result of reworking the local reality to make it mentally manageable, along with the mobilisation of culture as toolkits for adaptation. The Monpa people are deeply influenced by their Buddhist and pastoralist identities. The ultimate goal for Buddhism is to end suffering and free the Self from the wheel of time (*Kālacakra*). From a Buddhist perspective, life itself is suffering. While suffering can be intensified by structural oppressions, the attitude toward suffering begins with the understanding that it can never be fully escaped.

In this circular view of life and time, the best strategy is to abandon Self and accept that individual life experiences are part of a bigger system beyond human control. However, being a citizen of a state and a producer and consumer in the capitalist market strengthens the individual's pursuit of what can be experienced in this life. The Monpa people often use altruism to reason the choices they make; for example, the water tanks, intended to address foreseeable water supply issues, are for the entire family, while the

involvement in daily wage highway construction work is to cover the expenses of children's education and welfare.

This view of time and life differs significantly from Western individualism. This view of time and life is a lot different from Western individualism. In relation to the environment, taking parts from nature to complement one's life is considered legitimate when human lives and non-human beings are believed to have transferable identities. The Monpa people are making the best choices of adaptation and are willing to take the consequences of their choices. Therefore, the emotion of self-blame was expressed, as mentioned in Chapter 5, either lightly or deeply, as they couldn't escape their past actions. They moved along with time, mentally preparing for whatever might come next. Even though suffering is never-ending, responsibility is crucial for improving the condition of beings, particularly those who are loved and cared for (rather than the Self). In this direction of effort, the Self finds fulfilment.

Restricted by border limitations, skilled migration agents navigate across terrains to secure the best adaptation programs they can organise, while preserving these migration encounters as long-lasting reciprocal relationships. Unrestrained in their ability to navigate and create bundles of pastoralist resources, the Indigenous locals and born mountain dwellers expand perceptions through their experiences and feelings, shaped by the changes they witness. Protected by the frontier-restricted land policy of the State, keeping distance from the rest of the mountain homeland (as discussed in Chapter 6 on pandemic experiences), it becomes clear that culture is more than just a toolkit—transformed identity is deeply intertwined with the landscape. The land is more than the ground to rest and walk on; the co-existing non-humans and humans shape the environment, and anthropogenic and non-anthropogenic productions are both legitimate.

Drawing the idea from the biological view of ecosystem health,¹⁵³ environmental

¹⁵³ First emerging in the late 1980s, the ecosystem health school of thought advocated the interconnectedness of the health of ecosystems and their inhabitants. According to Albrecht's 2019 book *Earth Emotions*, this concept was developed from mourning accounts originating from biological perspectives. 'Stressed ecosystems, which indicate changing factors in a lifestyle or livelihoods such as

philosopher Glenn Albrecht constructed the concept of solastalgia, laying particular emphasis on the psychological impact caused by a degrading ecosystem, which occurs due to an affective relationship with a place or setting (Albrecht et al., 2007). In popular discussions and articles, Albrecht expanded the discourse to include mental health issues related to climate change, and sought to shift the conceptual frame from a positivist approach of a constructivist/functionalist 'sense of place' to a more phenomenological 'topophilia' perspective (Albrecht, 2012). The juxtaposition of solastalgia with topophilia suggests that solastalgia may not be a strong emotion, but is highly related to the fondness for familiar places, with their vitality and health (Tuan, 1974).

The concept has garnered interest among environmental researchers, educators, and social workers, yet the structure of this concept appears to be evolving. Albrecht (2020) argues that the trigger of solastalgia arises from changes in the physical landscape. This means that visual exposure to deteriorating nature or surroundings operates on the assumption of a connected health between humans and non-humans, which is influenced by a sense-based attachment to place.

As an activist and analytical framework, solastalgia provides a provocative language for articulating earth-related distress, specifically regarding the traumatic transformation of home. Albrecht (2019) argues that this state arises when the traditional 'solace' derived from one's environment is supplanted by a sense of desolation and abandonment. This nostalgia-driven complex has gained global salience, accommodating a spectrum of grievances ranging from urban tree loss to the existential threat faced by pastoralists deprived of their ancestral grazing lands. By identifying 'disrupted attachments' (Kloeckner, 2011; Voški et al., 2023), solastalgia serves as a discursive point of departure for understanding the emotional toll of the Anthropocene. For the purpose of this study, solastalgia provides the necessary conceptual anchor to connect the physical recession of the Gangri glacier with the metaphysical and emotional 'un-placement' experienced

increased disease prevalence, reduced efficiency of nutrient cycling, increased dominance of exotic species, and increased dominance by smaller, shorter-lived opportunistic species, to include economic risks such as reduced biodiversity and altered primary and secondary productivity' (Rapport & Whitford, 1999).

by the Monpa community.

On an ordinary afternoon, when our entire lifeworld was overshadowed by the spreading COVID-19 virus, *Am Thupti* and *Lhamo* were rummaging through things in the house to fix a knife. They walked back and forth between the kitchen and the yard outside, which was stacked with what seemed like waste, including old tyres and packaging boxes.

Am Thupti burned a plastic bag; the unusual smell filled the centre space of the family activity area. She put the liquefied material into the knife handle and tried to attach the metal. Then she picked out a piece of plywood and cut it into a slim board shape to cover the hole in the floor. The 'fixes' did not completely resolve the problems, but the emotions of agitation, nervousness, anticipation, and satisfaction shifted across their faces and in their movements.

This has been culturally labelled as men's work; still, they tried to accomplish it by themselves. Satisfaction comes from either improving the living environment, or crossing the boundary of roles, or both. In that brief episode, their fear and confusion from the pandemic were temporarily soothed. Despite living amidst suffering, the human mind constantly seeks alleviation.

Stress from the unbalanced power relation between humans and the environment or nature always finds a way to be released. In the interview with old man *Palden*, 78, my 18-year-old translator *Passang* turned to me with an embarrassed look on his boyish face, explaining that he could not comprehend everything the grandpa was saying. 'The language is too old, and I did not have the experience to listen to them, the words,' *Passang* explained that the old man was complaining about things that happened during the Sino-China War. When *Palden* was *Passang's* age, he was forced to be a porter for both the Chinese and Indian armies, carrying supplies for them. *Palden* frowned and sank into his thoughts, seemingly not caring about his audience or my recording. Over and over again, he talked about how the Monpa people could move efficiently and rapidly, far more so than these troops who were not familiar with the mountain terrains. As a result, they became the targets of forced labour for the war that ravaged their own land. His feelings of frustration, even after more than 50 years, were still raw. The depressing story was transmitted to my translator, and he finally became quiet; I stopped my

questions. We sat together, taking in this traumatic history and sharing in the sense of injustice. Palden's family came by and commented, smiling, 'There he goes again.' The information was valuable to me, and to some extent, I believe it was also meaningful to Passang in relation to their shared identity as Monpa.

The ontology of home and homeland is obviously different for Palden and Passang. I began to realise that the group of people I was studying, the Monpa, had lost their homes multiple times, even before the unsettling facts related to a warming climate and frequent landslides came to light. This resonates with Whyte's (2017) assertion that for Indigenous peoples, climate change is not a looming future crisis but a continuation of 'ongoing colonial violence', rendering the present an already dystopian reality. For the Monpa, the loss of home is a recursive history, where environmental instability acts as a force multiplier for older, structural displacements. Consequently, state interventions in the region risk becoming what Dewan (2021) describes as climate 'masala' - a narrative seasoning of adaptation projects that utilises the language of environmental urgency to obscure the colonial-era development logics and structural vulnerabilities that have long dispossessed mountain communities.

Research works have identified different types of distress, identity, power and dispossession as intrinsic elements of different social groups' sense of place, especially during the phase of experiencing climate change (McNamara & Westoby, 2011; Askland & Bunn, 2018; McNamara et al., 2021), showing that there could be more to investigate about the overall loss of solace. Particularly in relation to the Himalayas, macro-scale projects focused on selected locations advocated for alternative imaginaries and environmental epistemologies, aiming to create and develop new frameworks for development (Chakraborty et al., 2021). The old narrative/picture/understanding of the Himalayan crisis, which focused on increasing population and disproportionately blamed Indigenous swidden farming, has been criticised in light of contemporary evidence. This includes political crises, out-migration, abandonment of productive mountain lands and unregulated remittance economies (Satyal et al., 2017). On the micro-level, interpretations such as mourning, anxiety and grief (Cunsolo et al., 2020a; Cunsolo et al., 2020b) have been popularised, and at the meso-level, the public health field has noticed such popular responses and discussed seemingly diminishing

manifestations of mourning and grief in the public sphere (Varutti, 2024). However, what exactly was lost and for whom or what was the grieving? Take grief, for example; Pihkala (2024) seeks to categorise this complex feeling, marking it as ‘transitional loss and grief, lifeworld loss and shattered dreams (p.1)’, illustrating that sadness is entirely produced within human perceptions. Do people mourn for nature or for themselves? Was nature ever fully lost? What has been lost is the preconception about what nature is, rather than nature itself. Philosopher Beran (2024) highlights that these types of emotions actually influence projections about the future or potential options, rather than causing a paralysing setback. In other words, grieving and grief are mental processes driven by the human mind, rooted in the anticipation of more choices, better security, and upgraded comfort. When environmental change signals the impossibility or limitation of such hopes, human minds react with disappointment and nostalgic feelings for the hopeful, resourceful, secure, and comfortable mental state once experienced or culturally anticipated (such as for the well-being of children).

The Monpa case stands opposed to these; its basic beliefs are that life is change and human life is suffering, with no human-centred projection that includes nature. However, their ‘nature,’ the lifeworld that has been included in the Western science-calibrated, scientifically-measured and defined Himalayas, is the shared token of sacred identity in multiple cultures. Place-based emotions and senses can be shaped and reshaped in the different types of responses of the different Monpa generations. We can clearly see that adaptation occurred through the external force of environmental change, the adoption of new resources and materials, and the transformation of affordances and the Self.

When an elder passes away without passing on memories and cultural heritage, the younger generation’s environmental identity and behaviours may be shaped by references that begin with their own life experiences. There is less of the emotional burden– dreaming about the kind of environmental relationships that they have heard of but never had. The frightening part of climate change may lie in its unpredictable changing nature, rather than the extent of change itself. The concept of solastalgia roots such ecological emotions in the land itself.

However, Albrecht’s conceptualisation leaves aside a deeper tension that continually

shapes the human relationship to nature: the persistent dualism between ecology and economy, between relational dwelling and instrumental appropriation. Rather than simply a matter of exerting power, the human mind oscillates between modes of perceiving nature as kin and engaging it as a resource. This dualism is not only culturally produced but emotionally inhabited, framing how environmental changes are sensed, valued, and responded to.

Perceptions of emplacement and belonging are formed through relational engagements with nature, but these are also modulated by dominant cosmologies, scientific rationalities, and shifting ethical imaginaries. Rather than nature being a passive backdrop for human agency, emotional and cognitive responses to environmental change reveal the entangled dynamics between beings and their worlds. Nature, while often spoken for in human debates, remains relationally co-constitutive, shaping and being shaped by human imaginaries. Whether on Earth or elsewhere, environmental change is a constant; what shifts is the human capacity to feel, interpret, and inhabit these changes. In this view, perception itself becomes a mode of being-with a living, transforming world, rather than a detached exercise of power over inert matter.

I propose that understanding solastalgia shall be firmly situated within the dynamics of power relations and cultural expression, rendering the conceptual inquiry more substantial than a mere decorative description of a psychological state. Solastalgia must illuminate the struggles over meaning, belonging, and agency among humans and potentially non-humans, if approached from a relational ontology. The sense of losing one's home while remaining physically within one's homeland should not be reduced to a fashionable pseudo-pathology; rather, it reflects a profound cognitive dissonance born from the lifelong experience of adapting to environmental change, alongside the unravelling illusions of technological salvation and the presumed stability promised by democratic modernity. To address this persistent pain and dissonance, I argue for reopening the frameworks of justice, not merely as institutional mechanisms but as relational, affective spaces, which could reanimate the human-nature relationship and envision new trajectories for coexistence. In this spirit, I situate my critique of solastalgia as challenging its anthropocentric limitations, while asserting that loss, although profound, must not be framed as an endpoint but as a generative condition for renewal

and transformation.

Weik von Mossner (2017) suggests that imagination is the key to promoting environmental justice. However, who does the imagining and which imagination counts? Take the example of resources, which have vital importance in geopolitics and economic growth. Is it feasible to conceive of a just definition of resources derived from nature? If the human needs-first agenda is inevitable, what kind of sublime, sacred, or divine theological narratives are needed to make people feel alright? Answers to big questions are determined on a case-by-case basis.

Coming back to the story of the Monpa people and their Himalayas, this critical inquiry stands true with flying colours. Further to the discussion about the Indigenous episteme and life philosophy, we see that flexibility has been shown in emotional narratives and performance of coping strategies. Worry is unstoppable; in the converging worlds and worldviews substantiated by the warming climate, is the real issue the management of the currently perceived resources, or should the ontology of how nature transforms into resources be redefined and allocated through a new cartography of justice? The development of such a phenomenon in Arunachal Pradesh, within the Monpa communities, is uncertain. For researchers, reflecting on the various solastalgic expressions that convey different truths across diverse worlds and worldviews, and tracing the psychological drive shaped by power relations, may help us better understand the sporadic, underground, and unbounded structures on which suffering grows.

Addressing the visual landscape only on the surface, restoring satisfaction in memories (rather than reality) or focusing solely on treating the psychological manifestation of human health fails to resonate with the human instinct of returning home, and does not address the fundamental questions of life and death.

The Monpa people experienced an environmental change that occurred both epistemologically and perceptually, with their identity and capacities adapting in response. Furthermore, through the course of change, people discuss how traditional virtues and ethics have diminished. Perhaps as a narrative strategy for psychological needs, the human-non-human coexistence model has been replaced by the human-

induced change model of development; the new theory of knowledge is backed up by a new ultimate power: the Indian state, which dominates the dissemination of information and material provision. Dealing with the state is much easier than dealing with natural beings, which always lack certainty. While the herders gradually become settled State subjects, we also see the coloniality of a strong culture overpower the minority culture. The new cash-centred trade system highlights the command of money; flowers now blooming in the gardens are private property that can no longer be a gift but a commodity.

Dolly Kikon (2019) in *Living with Oil and Coal* provides a critical lens for understanding the 'extractive regimes' of Northeast India, where the Indian state is not a monolithic entity but part of a landscape of multiple sovereignties. In the foothills of Assam and Nagaland, Kikon demonstrates that sovereignty is negotiated through daily interactions between the military, ethnic insurgent groups, and local communities, all of whom assert overlapping claims to land and resources. Central to this negotiation is a complex emotionality: Kikon argues that the Naga people's relationship with the Indian state is often articulated through the language of 'love (*Morom* in Naga language)'. This is not a simple affection, but a fraught, aspirational attachment to the state's promises of development and protection, even as that same state enacts violence and dispossession through coal mining and militarisation. She explained that such *Morom* is the key to determining social order (Kikon, 2019, p.45). I think in the Monpa case, as far as my fieldwork understanding, the state's power is recognised as a resource provider (education, discounted food, tender/sanction contract funds), I am more inclined to interpret that the Monpa herders and agriculturalists have invested in 'grazing' the new pasture called state-provision, and they began to 'feel' the power and order have been restrain them – and I do not have enough data now to answer the deeper question: how is this relationship different from the past coloniality.

This affective adaptation is materially and symbolically captured in the everyday spatial arrangement outside Monpa homes. Figure 7.9 shows a typical household altar space where sacred objects coexist with modern items such as a solar panel, a mirror, and toothbrushes, revealing the layered accommodation of cosmology, development infrastructure, and intimate bodily care. This juxtaposition is not random; it illustrates how the Monpa people do not simply abandon the old nor uncritically adopt the new, but

assemble a hybrid emotional world that negotiates survival, identity, and spiritual continuity under state-led modernisation.



Figure 7.9 Traditional Monpa house decorated with yak on the outside. Solar panel, mirror, sun reflection, and a washing place were also placed outside.

Some researchers suggest that the Indigenous people might have experienced environmental loss disproportionately compared to the non-Indigenous; a strong connection to home environments has been suggested as both a risk and protective factor for experiencing solastalgia (Breth-Petersen et al., 2023; Upward et al., 2024). Particularly in the context of climate change, land loss in the Pacific context has also led scholars to use solastalgia to interpret how people feel about the changes in the environment (Tupou et al., 2023). Small Island Developing States (SIDS) and Least Developed Countries (LDCs) are the most vocalised for L&D. In the case of the Monpa, the Indigenous and local communities own their lands and protect their customary laws, and their land rights are protected as private, tradable assets. Therefore, this suggests that framing the issue solely around Indigenous identity or land loss may be too essentialist, as it overlooks the emotional reactions and resilience of the local

inhabitants.

On the other hand, by examining the intersectional feelings of the Monpa subgroups, we can confidently assert that the cultural background of gender relations, the acceptance of a science-centred episteme, and the everyday bodily connection with the environment all play a significant role in the mental well-being of the people going through environmental change and its associated injustices. In other words, the feeling of solastalgia can be associated with a group identity, individual desires, needs and hopes, social and political structural experiences, and ownership of property, especially land. After all, understanding meanings is emotive, and so is the process of understanding them (Beatty, 2019). A sense of place that is dear is deeply felt in the body and closely tied to the construction of a worldview, influencing the interpretation and creation of meanings derived from sensory experiences, particularly in the forms of loss and worry.

Understanding solastalgia as place-embedded powerless moments when the heart longs for what cannot be seen, reveals that the sense of home and the comfort of belonging become disoriented and disillusioned. This mind migration can be coupled with physical migration, which is leaving a place that no longer feels like home. As Tschakert & Tutu (2010) argue, ‘the poor rural societies dependent on climate-sensitive resources will be the most affected, with potential negative impacts including loss of income, displacement, and internal migration’ (p.57).

Yet, the Monpa people have not moved. Given the possibility of acquiring a large sum of money from selling their ancestral land to the state military department, some of the Monpa people could have left their mountain houses for good and moved to the cities. Why did emigration not occur? Why is the scenario in the Himalayas different from other parts of the Global South, such as the migrant worker flow from Western India and the Sahel? Arunachal Pradesh, different from all other remote frontiers of India, is experiencing an increasing influx of migrants. This is because environmental stress and mental distress are not the only reasons for choosing mobility over settlement. The Monpa people, due to their strong attachment to the mountain worlds that comprise their episteme, the sense of insecurity of being surrounded by a discriminative urban

mainstream population, and their power to reorganise mobility and migration on their own lands, have chosen to remain. Climate change is not the sole driver of migration; capability, an external network and subjective wellbeing are the key factors.

Emotional ethnographic fieldwork, as emotional play (Beatty 2019), left an intimate mark on me as I departed from the political ecology of worry, vulnerability, and strength surrounding the Monpa homeland. The place lingered with me, leaving a deep emotional imprint. The local residents of the village I stayed in came to me and wrapped my neck in a colourful rope. The line, tied to my body, and their hands tied in a knot, expressed their wish for my safety. Emotional ecologies consolidate affective survivability amidst geopolitical, climatic, and epistemic ruptures. The Monpa experience illustrates how emotional endurance structures political and ecological futures.

The government officer assigned as my driver through the rainy mountains teased me, 'It looks like you are much loved.' The colourful ropes were intertwined with three thinner strings, and the knots were tight. In this way, the place migrated from its bordered existence and followed me to the lowland, flying over great distances, and dwelling in the writer's mind.

7-9 Conclusion

Emotions function to facilitate (1) the creation of social meaning – an explanation of the current state of being or experiencing, (2) connecting an existing concept to direct behaviours, (3) adjusting the body's resources to cope with the demanding situation. Emotions operate in two dimensions. For a single subject, a human, emotions function in mediating cognition, perception, affordance and behaviours. In the collective dimension, emotions are constructed within a shared language to communicate, foster collective intentionality, and shape a sense of reality; this is the relational function of emotions.

According to psychologists, most human beings have the ability to cognise, categorise, and appraise. This hypothesis is based on the theory that emotions are constructed (Barrett, 2017), involving the process of establishing modes of intentional meanings; emotions guide the decisions to achieve goals. Emotions are not natural responses to

the stimuli the world throws at human minds; emotions reflect the human mind's construction of the outside world. Based on this understanding of emotions and epistemology, we can move forward from the functionality and political symbol of Indigenous knowledge, or traditional ecological knowledge, to focus on the messages that emotions convey when humans go through environmental change, especially the kind of change that distresses people.

This chapter explores the emotional identity of the Monpa people, their geographical and environmental change responses, highlighting the political forces that have shaped their emotional landscape. González-Hidalgo and Zografos (2020) attempt to systematically understand emotion's connectivity to power and subjectivity in the context of environmental conflicts. In their literature review, they conclude that emotions arise from four key sources: the personal-political, the geographical, the more-than-human, the psychological and the collective, stressing emotion's mediating functions between the social and the spatial. Sarah Ahmed (2004) applies a framework from feminist neo-Marxism and psychoanalysis, emphasising the value generated by emotions and affect. The 'affective value' finds its market in the constructing process and disturbances of nationalism, the mourning and grieving come from the subject's failed introspection. In the case of Tawang, the affective value is visible in the thriving tourism business. I argue that how Monpa people perceive the environment is built on the power felt and performed on their subjectivities. The structure of power relations between humans and the environment has been reshaped through State incorporation and the civil rights apparatus closely attached to the border unrest between India and China. The State has joined the nature animates, the existing set of prefigurative interactions, leading the sovereign's new subjects to comply and depend on the government. The Monpa people's emotions about their political identities, the ontology of their mountain homeland (Himalayas), and the interactions with the divine, spiritual and non-sentient, have enabled new affordances and disabled past relations to adaptations. The Monpa people also express their involvement in sustaining and enduring the ethically constructed framework through their emotions.

I seek to shift the psychological manifestation of losing or not finding the sense of place experience (mourning, grief, anxiety) to the Monpa's own perspective, transforming the

narrative of loss into one of the continuities of change. I hope I have succeeded.

Emotions are signs of recognising the scientifically connected but potentially epistemologically fractured worlds. Monpa's Taiku describes the heaviness, concerns, and loss of a sense of safety and joy while engaging in environmental adaptation without alternatives. The mobility to escape is restricted by the attachment to homeland and identity. Solastalgia emerges in this struggle, caught between the Self that an individual remembers and is attached to, and the Self that must transfigure to become the survivor. Withholding worry and sorrow allows people to maintain their connection with their homeland while navigating change. The disruption of nature's animate, co-existing equilibrium and the commodification of land reveal the political ecology of the Himalayan home.

Chapter Eight

Conclusion

8-1 Introduction: Between emotion and adaptation

This study set out to investigate how emotional experiences shape and are shaped by Monpa communities' adaptation to environmental, political, and epistemic transformations in the Himalayan borderlands. By engaging with the concept of solastalgia and introducing the notion of transfiguration, it has sought to critically reframe how adaptation, resilience, and loss are understood in climate change discourse with the emotional dimension, as well as opened the layers of the transitioning Monpa pastoralist society's emotional geography. This chapter draws the argument together, reflecting on the key contributions of the study, discussing potential suggestions for policy and practice, and overcoming the limitations of this study for future research.

In this study, I proposed new theoretical connections between emotion and adaptation. I aimed to bridge a confluence of understandings from the positivist psychological and political ecology, anthropological perspectives. I revisited the borderland complexity through the lens of Zomia (as well as challenged the distance between the concept and the reality), and discussed the immeasurable loss and damage regarding identity, emotional wellbeing, and culture with the borderland pastoralist case.

Climate change scholarship and adaptation policy have often marginalised emotional experiences, reducing them to pathological effects or private matters. In contrast, this research demonstrates that emotions such as worry, grief, attachment, and ethical dissonance are constitutive of how communities experience, interpret, and respond to ecological transformations. Emotional responses are not merely outcomes of environmental change but integral components of how adaptation unfolds. Emotions are not a necessary price to pay and therefore to ignore; emotions are scalar indicators of how climate adaptation has been achieved, and what people look forward to. The

sections that follow revisit key conceptual moves, highlight the theoretical and practical contributions of the study, and situate its arguments within broader debates about climate justice, borderland governance, and environmental humanities.

8-2 Revisit contributions to knowledge

Rethinking solastalgia and transfiguration: The emotional landscape of the Monpa

The concept of solastalgia, initially developed to articulate the distress caused by environmental change without physical displacement (Albrecht, 2005), has gained considerable traction in environmental humanities and climate adaptation debates. However, as the Monpa case shows, solastalgia cannot be adequately understood as a static phenomenon. Rather, solastalgia among the Monpa expresses an ongoing, relational engagement with a transforming environment, imbued with historical memories, ethical evaluations, and future anxieties. The mental displacement suggested by solastalgia resulted in the disconnection of recognised social orders and qualities of relationships. The stronger the connection and experiences of engaging with the natural environment were for the subjectivities, the less anxiety and grief were felt. Rather than approaching solastalgia as a diagnostically fixed emotional condition, I instead conceptualise it as a situated and evolving response to environmental and ontological rupture, investigating the subject's 'desire to control', as opposed to the feeling of 'losing solace'. And since the place-based emotion is deeply embedded in lived temporalities, how 'the environment' was conceptualised would be the key to addressing the environmental factors, and place-based attachments are not the core of the problems.

In the case of the Monpa people, the feelings emerged relationally, through engagements with landscapes, animals, spirits, and state infrastructures. The feelings are the embodiment of the disruptions of different ontologies of nature, environmental governance or order, and from the development encounters that temporarily froze them before deeper reflections. This failure of attunement with the relational others (animals, mountainscapes, water and deities) is amplified in coping with crisis, from water, forest, to a virus epidemic. And in adjusting the mental displacement, going through the process of transfiguration to address solastalgia (or solastalgia-like emotions in their terms),

their attention and comfort reside on what feels right. These findings challenge dominant frameworks in climate adaptation, calling for a reconceptualisation that places emotions, relationality, and justice at the centre.

This research introduces ‘transfiguration’ to extend solastalgia beyond lamentation and address the failed attunement. Transfiguration captures the dynamic processes through which loss, mourning, adaptation, and ethical reorientation occur simultaneously. It emphasises that emotional responses to environmental change are not simply reactions but are transformative acts that reconfigure relations between humans, non-humans, and place. In the Monpa context, this is evident in the subtle shifts in farming practices, water rituals, and the linguistic reframing of beings and landscapes. I pair these concepts together to highlight possible ways to intervene in the processes, to cultivate the capacity to affective adaptation, and they could be sensual experiences (Monpa herder’s nostalgia about quietness, ritualistic gatherings, etc.), political institutions (an emancipatory policy framework should include Indigenous knowledge both as a strength and vulnerable channels), resistance and social innovations, or activities that dedicates for trauma healing. Juxtaposing solastalgia and transfiguration foregrounds the evolving experience of dwelling, enabling a critical tracing of shifting values, ethical orientations, and attachments to place. Transfiguration suggests that the Self plays a constitutive role in affective adaptation, encompassing the healing of ruptures and trauma. It foregrounds the individual and collective dimensions through which indigenous peoples participate in development as agentive subjects, dimensions that are at times mutually exclusive. It further presupposes a process of ‘becoming’ that unfolds across the temporal horizons with which the subject identifies, whether bounded by a single lifetime or extending across successive cycles of rebirth. Within this process, there remains grounds for hope: that the helpless worries and loss may yet be ameliorated, or else integrated into the Self as an enduring part of what one is.

The Monpa people's emotional adaptation reflects both the fragility and the generative potential of ecological attachments. Their term ‘Taiku’ signifies not only sorrow and helplessness but also a dignified endurance, a recognition of relational interdependence, and a tacit refusal to surrender place-based meanings to the forces of developmentalism and climate disruption. Taiku thus embodies a critical emotional

literacy, alert to the ruptures of environmental injustice but oriented towards regeneration. The emotional burdens should come with a price when evaluating losses and damages.

Linguistic practices reveal how ethnic groups articulate emotions and position the Self within processes of adaptation. For the Monpa and many other Indigenous societies, understanding and preserving particular traits of Self-adaptation, either from linguistic or cultural, materialistic makings, are emergent works. I challenge both state-centred land control and inherited inequities within traditional knowledge by proposing an affordance- and efficacy-based lens that centres relational agency and equitable engagement with the environment. This study contributes to growing debates that challenge climate adaptation frameworks, which marginalise emotions as epiphenomenal or irrational impediments. Rather than advancing an instrumentalist agenda of mobilising pro-climate behaviour, it foregrounds affective ecologies as critical sites of knowledge production, resilience, and political consciousness, thereby counterbalancing Global North-dominated narratives.

For over two decades, scholars have underscored the significance of emotions in shaping environmental perceptions and responses, yet few have succeeded in integrating emotional evaluation into a robust or operationalisable framework for climate adaptation (Roeser, 2012; Adger et al., 2013; Clayton & Karazsia, 2020). The Monpa experience reveals that to adapt is not merely to adjust behaviours but to recalibrate affective attachments, ethical horizons, and ontological securities. These three categories offer a starting point for building comparative understandings of the climate change emotional geographies across diverse cultural and ethnic contexts. Transfiguration, as a conceptual lens to examine community dynamics, invites further exploration of how grief and resilience entangle, how environmental loss remakes moral worlds, and how adaptation processes are always already affective, ethical, and contested. In borderland contexts like the Eastern Himalayas, where multiple sovereignties and cosmologies intersect, such processes are particularly complex and instructive. The emotional approach centres the local human-nature relationships, which is neither because of functionalist survival purposes nor because of the structural limitations, presents the view that humans and nature are making each other.

Situating Zomia: Borderland complexity and the new Himalayan condition

Zomia, historically conceptualised as a zone of refuge from state control (Scott, 2009), has often been framed through a romantic lens of autonomy and resistance. Yet, the Monpa experience reveals a more intricate and evolving reality. Far from existing as a pristine autonomous space, the Eastern Himalayan borderlands embody the entanglement of military infrastructure, conservation regimes, development pressures, and Indigenous cosmologies. Contemporary discussion about Zomia needs to attend to the differences and inequalities that exist within marginalised groups themselves, and to trace the multiple threads through which political relationships between periphery and centre are sustained. The emphasis ought to rest on the imaginaries of modernity that emerge through interactions and encounters, and on the idioms and images through which these imaginaries find expression in the contemporary moment, rather than on resistance and the evasion of control. In the borderland, entangled States render the relationship between local societies and state institutional forces akin to a complex symphony performed in the open theatre of nature, in which security - national security in particular, emerges as the overbearing and discordant dominant theme.

The Monpa homeland exemplifies the new conditions of Zomia in the Anthropocene era: a landscape simultaneously marked by environmental precarity, geopolitical securitisation, and emotional entanglement. The idea of ‘escaping the state’ is no longer a viable heuristic; rather, the Monpa community navigates a fractured terrain where state presence is uneven yet deeply consequential. Infrastructures such as roads, dams, and military bases carve through sacred geographies, reordering relations between people, spirits, and mountains.

At the same time, the Monpa people's attachment to land, memory, and ecological rhythms persists, reshaped but not extinguished. Their adaptive strategies demonstrate a pragmatic engagement with state structures while maintaining alternative modes of belonging and environmental stewardship. Thus, climate adaptation in regions with Zomian characteristics requires approaches that move beyond state-sanctioned frameworks and eschew the conventional state–society dichotomy.

As Mehta (2025) highlights, the colonial roots of environmental governance continue to

structure present-day practices, often under the banners of sustainability and development. Recognising the Monpa homeland as a reconfigured Zomia in the era of climate crisis underscores the urgent need to decolonise environmental policies and to centre Indigenous relationalities and emotional landscapes within adaptation strategies. In a vast multi-ethnic and multi-cultural region like Arunachal, whether it is possible to break the resource management legacy left by colonial logic through the form of local democracy is both exciting and urgent. This study demonstrates that efforts to critically reimagine environmental governance in Arunachal Pradesh remain markedly insufficient.

Emotion as politics and perception: Reconciliation of positivist and situated frameworks

The study of emotion in climate change and development contexts has long been bifurcated between positivist psychological framings and critical political ecological approaches. The former often quantifies emotions such as fear or anxiety as variables to be managed, while the latter views emotion as a form of discourse or power. This thesis argues for a reconciliation of these perspectives, grounded in ethnographic insight from the Monpa borderland.

The Monpa concept of Taiku, as documented in this research, demonstrates how emotional states are neither merely biological responses nor socially constructed artefacts. Rather, they emerge from place-based, historically situated, and relational engagements with landscape, memory, and spiritual cosmologies. Emotions become diagnostic of deeper ruptures: they reflect dissonance between development promises and lived realities, between epistemologies of control and ontologies of care.

In this sense, emotions function politically, not only in collective mobilisation or resistance, but also in subtle acts of negotiation, ethical decision-making, and everyday resilience. The tension between traditional and modern positions and practices among different generations shows the intersectional dynamics. Recognising emotion as both perception and politics allows us to challenge the artificial divide between affective experience and environmental governance.

Affective adaptation is not about mitigating emotional disturbance, but about making room for new ethical, spiritual, and perceptual orientations. The Monpa experience

reveals that adaptation can entail grief and disorientation, but also transfiguration, a movement toward different ways of sensing and valuing the world. This reframing has implications for how development studies engage with psychology, governance, and the affective dimensions of climate resilience.

8-3 Discussions on policy and practice

Borderland, Belonging, Loss and Damage

The Monpa homeland, situated at the intersection of multiple territorial claims and political imaginaries, reveals the profound tension between lived geographies of belonging and the rigid territorialities of modern nation-states. Climate change policies, particularly those concerning losses and damages, predominantly frame vulnerability and compensation within the borders of recognised sovereign states. Yet, for borderland communities like the Monpa communities, whose relational ties to place transcend administrative boundaries, this framework fails to capture the realities of environmental loss.

When the state becomes the primary interlocutor for defining and addressing climate-induced damages, it risks erasing the nuanced attachments and layered sovereignties that exist in regions like the Eastern Himalayas. In such contexts, emotional losses - the erosion of place-based identities, spiritual geographies, and ethical relations with non-human beings - are often invisible within the metrics of policy frameworks. The Monpa experience suggests that Loss and Damage must move beyond physical and economic metrics to include affective and relational dimensions of loss.

Moreover, adaptation practices in the Monpa homeland reveal a double-bind: while state-driven infrastructures and development projects offer material improvements, they simultaneously undermine local cosmologies and ecological ethics. This ambivalence complicates simplistic narratives of victimhood or resilience. It points to the need for climate governance frameworks that are attuned to the histories, emotions, and multi-scalar attachments that define life in the borderlands.

The reconfiguration of Zomia under the climate crisis thus demands a radical rethinking of belonging and responsibility. It calls for Loss and Damage frameworks that

acknowledge the emotional, spiritual, and relational disruptions wrought by environmental change. Only by situating claims to justice within the complex, affective geographies of borderland communities can climate governance move towards a more grounded and equitable practice.

Climate-wise and ethically compatible borderland development

In rethinking development in the Himalayan borderlands, it is imperative to move beyond technocratic approaches that treat infrastructure and growth as self-evident goods. The Monpa experience reveals the necessity of aligning development with local ethical frameworks, emotional geographies, and the dynamic resilience of highland ecologies.

Current development initiatives, often framed through national security, energy needs, or poverty alleviation, risk reproducing colonial logics of extraction and control. In borderland regions like the Eastern Himalayas, development must instead be climate-wise: sensitive to ecological fragility, respectful of historical land-use patterns, and adaptable to uncertainty. Infrastructure should support, rather than undermine, the relational and spiritual attachments that communities have cultivated with their environments. If local societies and government authorities alike conceive of infrastructure as nothing more than an unrelenting accumulation of engineering works requiring human maintenance, the prospect of integrating built infrastructure with its surrounding environment will remain a distant aspiration.

An ethically compatible model of development requires embedding principles of relationality, pluralism, and regeneration. It demands recognising the intrinsic value of non-human beings and landscapes, not merely as resources but as co-constitutive actors in the making of sustainable futures. It also entails centring Indigenous and local knowledge systems in decision-making processes, moving away from top-down models towards collaborative governance. Particularly about borderlands, avoid state-dominated participations to realise creativity from the frontiers (Manchanda and Turner 2024).

For the Monpa, resilience has historically been woven through mobility, animist ethics, and a pragmatic acceptance of environmental variability. Development planning must

respect and revitalise these capacities rather than imposing rigid, linear models of progress. Moreover, addressing emotional attachments and solastalgic experiences can inform more holistic and just adaptation pathways, ensuring that development enhances, rather than erodes, the ethical fabric of place.

Future policy interventions need to dismantle the extractivist underpinnings of borderland development, replacing them with a multispecies justice framework that accounts for the immeasurable losses of cultural and spiritual landscapes. By centring emotional sustainability and interspecies equity, the state can facilitate forms of resilience that are grounded in the lived realities of highland societies, ensuring that environmental change does not result in the permanent ontological displacement of its inhabitants. The word ‘transfiguration’ encompasses not only adaptation but also the process of reshaping one's self-perception, even accepting a new, more modern self that integrates external values and is better positioned for positive development in the present. This sense of Self should be valued and understood without cultural bias: while adapting to environmental change is natural, transfiguration signifies that the institutions it addresses, and even the subjects instigated by the actors, may be constantly changing. Therefore, the moral nature and value judgments of human property rights are also diverse.

Grounded and sustainable justice: Place, people, and more-than-human relations

Justice in the context of climate change has often been framed in distributive terms: who bears the burdens, who receives compensation. While important, such framings neglect the more grounded, place-based, and relational dimensions of what it means to live justly amid ecological upheaval.

For the Monpa, justice is not primarily a question of entitlements but of right relations, with ancestors, spirits, animals, landscapes, and community. The ethical fabric of place is co-constituted through these relationships, and environmental degradation is experienced not just as material loss but as moral and spiritual disturbance.

This research, therefore, advocates for a concept of ‘justice of emplacement’: a form of justice that affirms the emotional, cultural, and ecological embeddedness of

communities. It is a justice attentive to the grief of losing a glacier as much as to the violence of displacement; a justice that foregrounds the sentience of animals, forests, and rivers in its claims.

A sustainable justice framework must build on local ethics, not erase them. It must support forms of development and adaptation that are co-designed with communities, that protect more-than-human life, and that recognise the spiritual and emotional costs of environmental transformation. By centring the Monpa experience, this research contributes to an emerging dialogue on decolonial, multispecies, and affectively informed climate justice.

8-4 Future research and policy directions

This study opens several avenues for further research. Comparative studies could examine whether similar emotional concepts and adaptive practices exist among other Indigenous and highland communities facing environmental change. Cross-cultural research might explore how *solastalgia* and *transfiguration* manifest in Arctic, Andean, or Pacific Island contexts. Research work that renovates the existing framework must go on, avoid the dehumanising and othering nature of some people (Long 2024), reorganise the anthropogenic lens with change, and imaginations about change.

Methodologically, further work is needed to integrate emotional and relational dimensions into climate impact assessments, policy evaluations, and adaptation planning. This requires transdisciplinary collaboration between anthropology, psychology, ecology, and development policy, as well as participatory and co-productive approaches.

On the policy level, there is an urgent need to revise adaptation and Loss and Damage mechanisms to include emotional, cultural, and relational loss. Policymakers need to support flexible, place-based interventions that prioritise cultural continuity, emotional resilience, and ethical development pathways. This includes acknowledging and resourcing Indigenous governance institutions, rituals, and languages as part of environmental stewardship.

8-5 Conclusion, with words for the Monpa people

This dissertation began with the image of a borderland community confronting environmental uncertainty - not only with technical adaptation but through emotion, memory, and spiritual practice. It has been shown that the Monpa are not passive victims of change, nor idealised stewards of tradition. Rather, they are situated actors navigating multiple crises with creativity, dignity, and grief.

The Monpa people I know through this study have been vigilant about changes and intuitively adapting to them with the belief that doing so is for their survival. Those who have endured long-standing adaptive processes - having come to regard adaptation as a vital survival skill often lack the space or institutional support to critically reflect on whether they have transcended reactive states: fight-or-flight, emotional detachment, or the moral ambiguity embedded in freeze-and-fawn patterns. The vision for *Yak-ke* of the community is never lost, yet serious confrontation and debates must happen in search of the methods for it. Paradoxically, climate anxiety tends to diminish with greater lived experience. Children and adolescents in marginalised regions represent both the future of local development and one of its most vulnerable constituencies. Amid environmental and political upheaval, they are disproportionately at risk of exposure to drugs, political radicalisation, and violence. Addressing these risks requires situating the structural imbalances between the Global North and Global South within local development contexts. It also demands creating space for ancestral knowledge and intergenerational family interactions to be meaningfully integrated into formal education systems. Knowledge, like herds, must be tended, passed on, and allowed to move across generations and terrains. From a geopolitical perspective, the Himalayas should not be a space controlled by powerful nations to divide up resources. Nature cannot speak for itself in human language; it needs to be empowered by new legality and new representations. Perhaps Indigenous peoples need to leverage their legal rights and community mobilisation to create new systems, new ways of connecting, and even new blueprints for development, based on their own context. It doesn't matter if their thinking differs from that provided by the state. The Himalayas are not a limitation, certainly people can move out of its risks, and Indigenous identity is not locked in with stewardship.

By situating emotional experiences at the centre of environmental transformation, this study reconfigures how adaptation, resilience, and justice are understood in development discourse. It challenges the methodological and operational difficulties of working with emotions, or the bias as either apolitical or private, and instead reveals it as a constitutive force in shaping how people engage with changing ecologies and uneven state interventions. Grounded in the lives of Monpa communities in the Himalayan borderlands, this ethnographic inquiry follows the affective labour of adaptation where uncertainty, grief, and endurance are not abstract states but lived negotiations. The research builds upon and extends Himalayan anthropology by proposing methodological routes to trace affect across linguistic, ritual, and material registers. In doing so, it argues for a development praxis that recognises not only material redistribution, but the emotional toll extracted from those most exposed to environmental and geopolitical precarity. Loss, here, is not closure; it is a mode of relation, a moment in the ongoing choreography of change. The traumatic displaced mind finds its way back to security and home through transfiguring self and place.

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Appendix A : Participant information sheet

PARTICIPANT INFORMATION SHEET TEMPLATE

STUDY TITLE

Nature, Power, Migration and Climate Change in the Eastern Himalayas

INVITATION PARAGRAPH

You are being invited to take part in a research study. Before you decide whether to take part, it is important for you to understand why the research is taking place, how I do it, and what I will do with the stories I collected. If we need facilitation to understand each other, I will explain the research along with my translator.

WHAT IS THE PURPOSE OF THE STUDY?

The purpose of the study is to understand how you feel about the environmental changes, what changes you have spotted on, what do they have impact on, and what did you do with it. I wish to know and to understand how things have evolved to this stage and find the possible solution with you.

Yet, I am a PhD student. To finish my study, I have to write a thesis, you can picture it as a book of at least 200 pages. So, I will try to ask things in detail as much as possible.

TAKE PART IN THIS RESEARCH IS ENTIRELY VOLUNTARY.

It is up to you to decide whether to take part. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a consent form. It is not compulsory to sign the consent form, and you can just save my numbers in your phone and ask me any questions you have doubts with. Through the translator that came with me, you can also reach me effectively. If you decide to take part, you are still free to withdraw before I finish the field research and without giving a reason.

WHAT WILL HAPPEN TO ME IF I TAKE PART?

I will do semi-structured interviews and I will ask questions about your everyday life and livelihood activities, in a timeline from your childhood to the present. And I might want to participate in the activities you do, observe your life. For example, I wish to do the farming or looking after yaks with you, or help you cleaning, playing with kids, run some chores, and you will find me taking picture of the important objects and activities that took place, and I will spend much time writing my notes at some corner. Feel free you can refuse my participation anytime you want, I am mostly obedient and my intension is never about intruding someone's life.

WHAT ARE THE POSSIBLE DISADVANTAGES AND RISKS OF TAKING PART?

This will cost you time and energy, and I have no funding to provide you economic returns. So, I think direct and open communications will be good in our interactions, you can express your expectations, and I will let you know if I can make it – I can try.

We will talk about the environment, government, moving out and selling off cattle, sad things and good things, jobs, hydropower and works, some of these topics might cause emotional moments.

WHAT ARE THE POSSIBLE BENEFITS OF TAKING PART?

My friendship and support, and a part in my writing, if that pleases you. I cannot promise that you will receive any direct benefits as the main purpose of this research is to work towards a dissertation for my PhD degree, but I will try to make the time we spent joyful.

WILL MY INFORMATION IN THIS STUDY BE KEPT CONFIDENTIAL?

Yes, as explained in the consent part, all information will be kept confidential and nothing of what you tell me will be shared with anyone else except the translators with us. I will also maintain anonymity and change the names of individuals. However, please understand that I have been working in this small place for a period of time, everyone knows whom I have talked to. Therefore I cannot guarantee that your neighbors or relatives will not recognize you when they read the excerpts from your interview.

WHAT SHOULD I DO IF I WANT TO TAKE PART?

Accept my interview, allow me to participate in your daily life, and to observe what you do. You can withdraw your participation at any time and in that case your information will not be included in my study.

WHAT WILL HAPPEN TO THE RESULTS OF THE RESEARCH STUDY?

The data collected will be used for my PhD thesis and I might publish using the data in the future. To publish means I might write in the newspaper, academic journals, blogs, magazines, and oral presentations. What I am going to write, for whom, about what, these will be confirmed again with you before I send out the draft. If applicable, I will share the publication with you before it releases or after, and I will look forward to your comments. If I could, I will try to translate the publication into the language that you can read or listen to.

WHO IS ORGANISING AND FUNDING THE RESEARCH?

For this research, I received no funding. Expenses are from myself and my family.

WHO HAS APPROVED THIS STUDY?

The research has been approved by University of Sussex C-ERC meeting.

CONTACT FOR FURTHER INFORMATION

I am: 林汝羽 /Lin, Ruyu/Iris

Indian cell number: *to be confirmed*

UK cell number: +44-7756759164 Email address: rl318@sussex.ac.uk

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University of Sussex has insurance in place to cover its legal liabilities in respect of this study.

THANK YOU

DATE

2020/06/08

Appendix B: Verbal consent checklist



VERBAL CONSENT CHECKLIST FOR RESEARCH PARTICIPANTS

Note: This is a form that will be used by the student/researcher as a checklist of issues to be considered by the student/researcher and/or discussed with informants before the research starts. It is not a form to be given to the research participants to complete or sign.

PROJECT TITLE:

Nature, Power, Migration and Climate Change in the Eastern Himalayas

Project Approval Reference: ER/RL318/2; ER/RL318/3

A. Process of obtaining verbal consent from research participants:

- 1) I will **verbally** communicate with the research participants:
 - I will explain the **aims** and **objectives** of my research as clearly as possible and in a language that they are familiar with, I will explain what the 'research' is I am doing and enquire their view of how much they want to participate in this 'research' defined by me. I will put efforts in working on a set of language for explanation, especially through cultural interpretation. The initial idea – narrative I used before – is similar to, 'I am studying a degree, I have to write a book to graduate, in the book I want to write stories about your culture, life, this environment. There will be people reading this book to know about you, and by the book judging whether my work deserves a degree. A degree looks like a piece of paper that will help me to find another type of jobs.' (I will modify the narrative to temporary and cultural context for sure)
 - The reasons why I have **selected** them for this research before inviting them to participate.

- The reasons why their story/knowledge/understanding/opinions are **relevant** to my research, how I plan to write about them/with the information they provide and for what purpose.
 - The ways in which the research data will be **used**: dissertation, journal articles.
- 2) I will verbally **explain** to the research participants:
- That they can **withdraw** from the research at any time without being penalised or disadvantaged in any way; they can tell me not to use certain types of information at any time until I end the fieldwork period;
 - That the research work I am doing in this society is not a one-time visit. I see myself as an external factor that may or may not lay influence on their lives. I hold myself responsible for being with them and provide my support. (As this information are quite a lot to take in, I will say in the local way on shared human sentiment through the assistance of my translator/research assistants, key informants in the group).
 - What **confidentiality** means in the context of the research and how confidentiality will be maintained (all informants will be anonymized; several cases of the same typology will be merged into creating one case represented in the writing. However, if they are government officials, clan headman/woman, or persons with distinctive characteristics related to the scenario I analysed, there is risk that their identity might be easy to guess for some insiders); I will particularly emphasise that I will change all names of individuals. For example, if I tell the story of turtle and rabbit, I would not need to mention which turtle and rabbit, but the interactions and decisions they made in the story.
 - I will inform them that if they wish any of their words to be removed from the research data that is not yet published, they can let me know any time; the parts that I used in the data I collected from them (ex. direct quotes) I will translate and verify with them before publish, also emphasise that they can withdraw their statements at any time and without any consequences for themselves until my fieldwork ends. If the video/photo I took will be used in the publication, I will not use the photos/videos which include recognizable persons (face, name, voice, etc.) unless it is absolutely necessary for the sake of presenting a piece of relevant data. If I should use images that contend the researched, I will communicate with them about the purpose and possible usage of these images, and a separate consent form for specific display of the image will be requested from them prior to the release.
- 3) I will verbally **check** with the research participant that:

- They are happy to be interviewed and/or observed by me;
 - They are happy for me to be present at and/or participate in their activities;
 - They are happy for me to take notes on the interview/observations/interactions;
 - They are happy for the interview/observation/interaction to be photographed and/or video taken without being shared with others;
 - They are happy to be contacted again for a further interview should that be required.
- 4) I will give the research participants the opportunity to **ask any questions** about any of the above or any other concerns they may have, including making myself stay reachable after leaving the fieldwork site.
- 5) I will verbally ask for their **consent** before going ahead with the research.

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