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Changing Weather-World in Nepal Himalaya: Exploring from Anecdotal Narratives

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Abstract

As key agents in knowledge production in the local contexts,lived experiences of local people serve as evidence and data. This paper offers unique insights to unpack the lived experiences of mountain people on climate change through articulation by exploring anecdotal narratives that have been produced by them through their attachment with land. This paper is based on ethnographic study conducted of the Nhāson Valley, Manang from 2012 to 2022. Informal conversations with local people, the documentation of native terms, and the interpretation of cultural meanings associated with these terms and phrases are the sources of data used to understand climate change in the valley. The exploration of the meanings associated with anecdotal narratives provide holistic insights into the relationship between society and environment, as well as the historical and contextual understanding of the climate change taking place in the place-specific locality, indigenous worldview of environmental change, lived experiences of changes in climatic variables rather than models produced by modern sciences. It offers a distinct and alternative ontology than mainstream approach in understanding the impacts of climate change in the local cultural context.

Key words: *climate change, local people, knowledge, language, Himalaya*

Introduction

While conducting fieldwork between 2012 to 2014 in the Nhāson Valley for my advanced academic research,Karmi Gurung, a 63-year-old man, often used a phrase "*sa-kromimleyae*"(the soil forgets to cry).The phrase not only surprised me but compelled me to rethink my understanding of soil and local vernacular narratives of changes in climatic variables. This anecdote reflected a local perspective that differed significantly

from mainstream academic discourse, which describes soil as an object or non-living thing. Moreover, the vernacular anecdotal phrase used by the local people of the valley was conveying multiple cultural meanings in the local contexts. It might symbolize a disorder in natural processes due to decline of snowfall in the winter. It also telling us the connection between soil and it's 'forgetting to crying' could be a metaphor for drought through the decline in snowfall that leading to the desertification of their land. While there was an intensive snow in the past, the soil was covered with it and there would be huge moisture on the land. Thus, the crying of the soil in winter might be symbolically connected with the regenerative capacity of land through snow falling. When the intensive snowfall has begun to decline in the valley, it might be forgotten to cry. The phrase reflects an indigenous worldview about the expression of climate change in their own context. This reflects an indigenous worldview that describes the agency beyond humans in indigenous societies (Nadasdy, 2007; Cruickshank, 2005, Campbell, 2013; Veveidor de Castro, 2016 and 2019; Baker, 2020; Paul, 2021; Poudel, 2024). This is the context of this article.

Knowledge on natural resources, including climate change,is produced by different agencies such as natural scientists, development practitioners, techno-bureaucrats, politicians, members of civil society, and local people (Ojha *et al.,* 2008). As key witnesses, local people are rarely acknowledged, recognized or given significant attention in climate change discourse (Chakrobaorty *et al.,* 2021; Crate, 2023). Local people and their knowledge are often treated as secondary considerations in many of the climate change discourse and conversations which reflects the continuity of colonial hegemony (Jasanoff, 2010; Orlove *et al.,* 2015; Chakraborty, 2021; Sherpa, 2023).

Now, western knowledge hegemony is gradually declining in climate change studies. They have been shifted from single agency (western approach) to multiple agencies (Wouters, 2023). This is a paradigm shift. This shift acknowledges interdisciplinary and transdisciplinary approach rejecting the single disciplinary approach and the universal conception of knowledge productions as well (Zonatti *et al.,* 2020; Poudel *et al.,* 2022; Elixhauser *et al.,* 2024). This dissatisfaction brings local people and their knowledge at the core of knowledge productions including both resource management (Berkes, 2012) and climate change adaptation and mitigation (Nyong *et al.,* 2007; Maldonado *et al.,* 2015). In fact, it recognizes local people as key actors of knowledge co-production.

People from different societies talk about the fact that the climate change varies across cultures. Anecdotal narrative scan be a powerful instrument to talk about the climate change (Moezzi *et al.,* 2017; Crate, 2008 & 2023). In Michael's (2012) views, anecdotes can be a resource or a tool for conducting social scientific research that provide the content

of the social phenomena. Anecdotes appear in the form of folklore, proverb, (Strauss 2004) and lived experience narratives (Cruickshank, 2005; Poudel, 2018). They are the foundations for understanding weather-world and adding the cultural dimensions to climate change experiences (Krauss & Bremer, 2020). Therefore, vernacular language is taken as a storehouse of human environmental understandings rather than merely as a communicative tool (Berkes, 2012; Fiske *et al.,* 2014).It can serve as robust evidence of environmental change (Poudel, 2024), although such reflexive questions always remain in peripheral conceptions in climate change discourse (Klenk *et. al.,* 2017; Crate, 2023).

Climate change is a global phenomenon but its consequences are deeply localized (Cruickshank, 2005). Believing with Cruickshank, this paper emphasizes on how local people in the Nhāson Valley of Manang articulate changes in environmental phenomena, particularly precipitation and temperature, through vernacular anecdotes which are embedded in places and documented in the form of social memory. Beyond scientific facts and figures, the central theme of this paper is how the local anecdotal expression can contribute to understanding the impacts of global warming in the local context. This paper explores the roles of vernacular narratives that play significant role in communicating environmental changes, in particular in the mountain regions of Nepal,and how they offer unique insights to unpack the lived experiences of climate change.

Methods

This study was based on causal conversations with six informants, aged between 43 to 81, during my ethnographic fieldwork in the Nhāson Valley in 2012 and 2014. I later visited the field in 2018, and validating the data during these visits. While they were in Kathmandu for their personal visits, I met them and talked with them. This extended period of research at a community level allowed me to capture an extensive understanding of climate change and their cultural-scape and indigenous worldview. Despite primarily relying on the informal conversations, I participated in the everyday life of the local communities: farming, herding, community rituals and so on. These causal conversations helped me capture not only the pattern of changes in hydrological and environmental phenomena, but also the indigenous worldview towards environment and its transformations.

My causal conversations took place mostly in the evenings, when the family members gathered around their hearths and discussed about their daily events and made plans for the next days. I also conducted the conversations within a communal open place where they regularly gathered to discuss their everyday lives. The open space was more than

just a physical entity for the local people; it was a cultural and social place through which people read environment markers to predict upcoming weather.

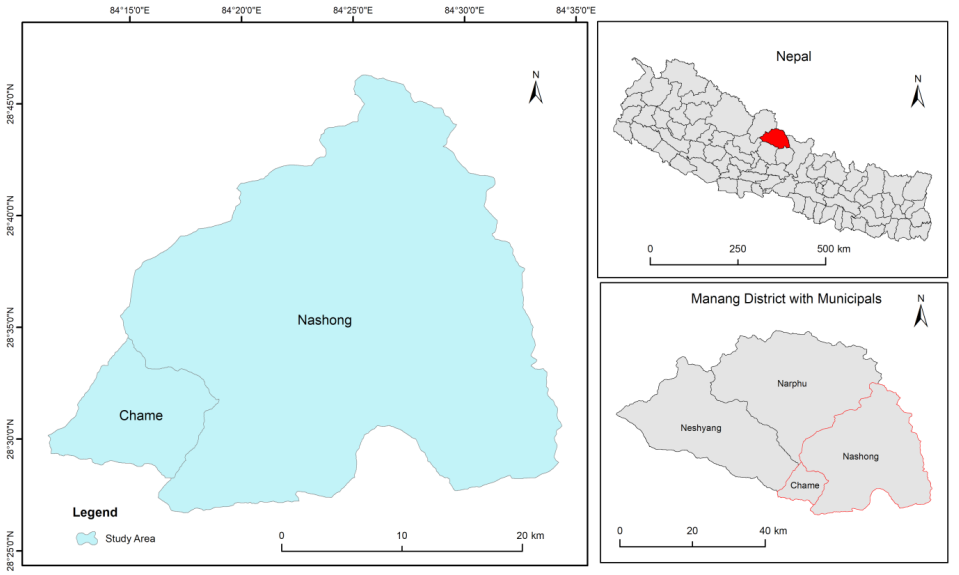
My conversations were in Nepali language. I made field notes of conversations which I later transcribed. Based on my observation and informal conversations with informants, I manually categorized the content into different themes, described these themes, and contextualized them within the local setting of the valley.

The Setting

Nhāson, a small mountain village of Nepal, is located in the southeast of Manang with 1,645 meters to 8,125 meters altitude from sea level. In 2010,the recorded maximum and minimum temperature were 22°C and -4°C respectively. The average annual precipitation was 1,235 millimeters.

Figure 1

The Study Area



The name 'Nhāson' is derived from Gurung's two words - '*nhā*' and 'son' meaning 'village' and 'three' correspondingly. Traditionally, the valley's name 'Nhāson'denotes the three villages: Tache, Nache and Tilche. In 2022, settlements were expanded and reached into 16 settlements. In terms of social categories,the valley was dominated by Gurung, whose population was approximately 70 percent (NSO, 2023).

Agriculture, pastoralism, and trade have historically been primary means of livelihood. However, in recent times, tourism-based hotel businesses, foreign migration and government employment have become the main the sources of living for them leading to gradual decline in the agriculture and pastoralism. Most of the agricultural activities occur at the valley floor, at the elevation between 1,700 to 3,500 meters above the sea level. Farmers grow naked barley, wheat, maize, buckwheat and potato and few green vegetables. Since 2008, as the temperature have increased, farmers have started to grow green vegetables and spices like green leafy vegetables, balsam apple, cucumber, green piper, tomato, and improved variety of maize. Traditional varieties of apple production, however, has been declining due to change in snowfall patterns. Recently, some villagers have started to grow new varieties of apple.

Pastoralism in the valley has followed a pattern of seasonal livestock movement. During the summer season, they graze livestock in high altitude grazing lands, but in the winter season they return them to low elevation surrounding the village's settlements. The movement patterns vary for yak, *cho-aama* (hybrid between yak and cow), cow, sheep and goats. Herders have observed a significant change in livestock habitat, the availability and quality of ground grasses, water sources, the timing of grass germination, breeding period of livestock, the depletion of pasture land. These changes are primarily attributed to both the declining snowfall and increasing temperature in the valley.

Results

Narrative as an Alternative Perspective for Knowing Climate Change

My account of climate change came from the narratives of six people who lived in their entire lives at the Nhāson valley. They were the witnesses of changes in their environment within their lifetimes and some of them were heard from their ancestors. The life stories narrated by the people were really amazing to me to understand how the local people communicate about the things happened in their surroundings.

Pone Becomes a Lake: As Evidence of Rapidly Changing Hydrological Process

It was on November 5, 2012, I was with Tek Bahadur sitting around the hearth of his house having tea and snack at day time. His wife and the youngest daughter were listening to our conversation. I was talking with him about the villagers' way of lives in the past and the present in the village, in particular Tek Bahadur's family. Tek Bahadur spoke extensively about how his surroundings had changed in his lifetime. His narrative about the change in the size of a glacier pond that he noticed in his lifetime was really powerful evidence to tell how global warming was affecting the environment in the Himalaya region, the Third Pole.

> *In 1955, I was 16 years old. My father and I were in the goth (temporary shed for herders) at Wagreche pasture land. That was my first visit to herd and the area. There was a small pond known as Dona Pokhori above Wagreche grazing land. As I recalled that time, Dona Pokhari was small occupying a space that would be occupied by a house in the village (he was referring to the space occupied by his house). In 1959, I enrolled myself in the Indian Army and did not have time to visit the pokhari anymore for a long time. In 1981, I took a retirement from my service in the army and returned to live in my village. Soon I became involved in sheep herding. In the summer, I visited Wagreche and its surrounding again with my herd. At that time, I was surprised to see that the small pokhari I had seen in my teenage had turned into a tal (a lake). (Tek Bahadur Gurung, 73 years).*

Figure 2

Dona Lake (clockwise from top left) in 1962, 1992 (Source ICIMOD, 2011); 2013 and 2024 (Google Earth)

Tek Bahadur's remark '*Pokhari is turned into atal*' is an alternative perspective and approach different from satellite images and on-site repeated photography in understanding how global warming is affecting the hydrological and environmental process in their local surroundings. International Center for Integrated Mountain Development (ICIMOD) compared three satellite images of the same lake taken by different agencies in three different times i.e., in 1962, 1992 and 2005 and showed the

size of the lake was increased rapidly. In 1962, its size was 0.22 sq. km with 0.6 km in length. In 1992, the size of the lake was 0.76 sq. km with 1.97 km length, and in 2005 its size was 0.94 sq. km with 2.54 km length (ICIMOD 2011).The local narratives are complementing the scientific data. However, satellite image provides quantitative measurement of change of the glacier lake in the Hindu-Khush Himalayan region whereas local narrative is qualitative measurement of change. It seems that both of them have different ways of understanding and expressing the change, but both are telling that glacier melting in the Himalaya is faster.

Lamjunge-rain in Manang: Shifting Precipitation Pattern

Since the two decades,the local people have observed significant changes in the weather pattern in their locality. According to Poudel (2020), the annual temperature in the valley has increased 0.0334°C per year. However, the local people's narratives about changes in precipitation differ from statistical calculation. For instance, on the evening of August 17, 2012, I was chatting with Sol Bahadur, a young man from Tache village, about the livelihood of the villagers. Suddenly, the rain started to fall heavily outside. "Oh! What a strange rain! It's not like our rain, the *asarpyagi* (moisty rain). It looks like '*Lamjunge- rain*' (torrential rain) which I have not seen before in my village!" Sol Bahadur exclaimed.

Geographically, Lamjung is located in a lower altitude than Manang, resulting in more intense precipitation in Lamjung compared to Manang. In my causal conversations with the local people, they frequently mentioned that misty rains without thunder or lightning were the common characteristics of monsoon rain, which they referred to as *Asarpyagi*. However, this ideal pattern of rain has been shifted a lot in recent since the last few years. Regarding this, an informant said,

> *When I was little, our elders used to say that there was no thunderstorm above Chyamche, the southern border of the Nhāson valley. I had also never heard thunder before rains until 2008. Now, thunder and lightning are common in the summer in our villages. (K. Ghale, 67-year-old man)*

These two anecdotes are not only narrating the changes in the precipitation patterns in the valley, but also explaining how closely the local people have been observing the rains and its shift. The change in the precipitation pattern in the Himalayan region is not just a meteorological phenomenon; it is a threat upon socio-cultural practices, settlement pattern, livelihood, development of infrastructure and so on due to climate change induced flood and landslide disasters. The local people saw threat upon their traditional housing pattern. For them, a mud roof is more than just a structural feature of their homes. Unlike urban settings, the mud roof functions as a meeting space for the

members of community, a venue for religious gatherings, a platform for broadcasting information to the villagers, and an open space for drying crops. The threat to the mud roofing system thus represents a threat to their meeting place, party space, communication hub, and drying area. Moreover, the Himalayan articture associated with traditional hosuing is more than design, it is a part of their indigenous knowledge to mitigate with the mountain climate. This is also threating upon it.

Soil Forgot to Cry: Decline Snowfall in Winter

Like rainfall pattern, the local people have noticed observable changes in the snowfall patterns in their locality. On October 2018 I was chatting with an elderly man sitting by the hearth of his home, he shared his reflections on the change in snowfall pattern.

> *When I was a child, my parents would say the month of Push (mid-December - mid-January) is a month of 'sakroma', meaning 'the weeping month of soil'. During the month, snow would fall constantly and cover the ground. Then, people said the soil would cry.*
>
> *Until the last decade, there was only a little change. Snowfall would be intense and last longer. Snow would blanket the land for several days and look like a big object covered with a big white curtain. But now, it's no longer like that. The duration and distribution of snow have declined I have even seen winters without snow. Today, snow has forgotten to blanket our land, and the land may have forgotten how to cry. Because people are now crazy and greedy. They have forgotten to respect the deities and their habitats. They put their feet on the Kailash (the place of God Shiva) where only head should be bowed. (R. Ghale, 81 years old)*

Ratan's narrative not only indicates the change in hydrological phenomenon that has occurred at the Nhāson valley, but also explains the relationship between society and the environment. His statement provides a holistic view of the relationships that unpacks many issues: the indigenous worldview that see the environment as living things, the rejection of the nature-culture dichotomy, indigenous knowledge of snowfall patterns and intensity, and importance of social interaction across generations for knowledge transformation.

In the valley, ideal times for snowfall are between September to March. They are named based on a temporal framework. The earlier snow that occurs from mid-September to mid-November is called *pokharsaeba*, an accidental snow. The villagers could not predict the snow. Sometimes villagers lost their cattle and crops. The snow from mid-November to mid-February is known as *kuinsha*, a regular snow. The snow that falls between mid-February to March is named *kuin-moy,* the remaining snowfall. Snowfalls

are less intensive before mid-December and after mid-February, but more intense between mid-December and mid-February. It would fall more than five times until the 1990s and the snow would remaining frozen on the ground for about a week or more. In the casual interviews with local people, they tell me that sometimes it would continue for one or two days and sometimes that would remain intact on the ground for about a week and more. The land could not see anything due to heavy and continuous snow and it would cry in sorrow. It is called *sa-kromi*, meaning 'soil' and 'to cry'. After the 1990s, snowfall began to decline and erratic[1]. In the winter of 2018/19, the villagers felt their land weep again when *kuinsha* backed in the village.

I do not Believe my Eyes: Shifting Vegetation Landscape

In September 2012, I visited Ngishyang, the upper valley of Manang[2]. During my visit, I captured photographs of crops, fruits, farmlands,cattle, houses, lakes, and mountains. I uploaded the photos in my laptop when I returned to the village. One informant came to my room and informed me that the villagers were waiting to see the photos at K. Gurung's house. I opened my laptop and began displaying the photos one by one. When an image of apple fruits grown in Pisang, located at 3,250 meters above sea level, appeared on the screen, I. B. Gurung, a 64-year-old-man,exclaimed, "Oh, what a good fruit! It looks better than here. I can't believe my eyes. When I was young,apples only grew in Bhratang (2,850 meters).The fruits were small, hard, and sour, but now they look larger and brighter even in Pisang (3,250 meters)."

When an image of maize cultivation appeared on the screen, R. Ghale, an 81-year-old-man, asked me where the picture was taken. "It's Dhikurphokari (3,240 meters),"I replied. R. Ghale surprised to see the image. Recalling his youth, narrated the upper limits of maize cultivation in Manang like this; "When I was young, maize grew as far up as Thanchok (2,682 meters) which was the upper limit of land until the late 1960s (Gurung 1980). I had never seen it grow above Thanchok in my youth. Later, it began to grow at Chame (2,710 meters), but not at Dhikurpokhari. What I'm seeing now, I can hardly believe my eyes."

The phrase 'I can hardly believe my eyes' is not merely a remark about the changing vegetation landscape,particularly the spread of apple and maize cultivation in the Himalayan region of Nepal. These shifts in the vegetation landscape serve as evidence of the consequences of global warming.

1 In 2018/19, villagers reported that *Kuinsha* backed in the village after 16 years.

2 Manang is divided into three geo-social zones i.e., Ngishyang, Nhāson, andNarphu.

Everything was Written There: Losing Indigenous Knowledge Embedded to Snowfall

In front of Raj Ghale house, there was an open space where the local villagers would gather to talk about their everyday lives. This space was not merely a physical entity;it was a cultural and social place for them. The villagers would read environmental markers to foretell the weather. They shared and transformed knowledge among them. I also participated in local gatherings several times and noticed their behaviors.

One late afternoon, while I was talking with a few elderly villagers, one of them, pointing out to the direction of the sunset, said;

> *"Look at the peaks of the hills (pointing out to the southwest)! Everything was written there. Our forefather told us, 'Snowfall comes to the village on the day when the sun passes through the peaks of Danfe hill, and it stops when the sun sets behind Apayepro Peak at dusk.' Even today, the sun has not changed its path, but snow does not fall the day. Occasionally, it begins to fall when the sun passes near Apayepro peak" (K. J. Gurung, a 54-year-old-man).*

Everything was written there is a powerful statement for understanding the climate change in the local context. It is a time-tested knowledge embedded with land or nature. This knowledge is passed down through generation to generation. The passing of sun through peak is not just a natural event; it is a place-specific knowledge about the beginning and end of snowfall. This anecdote not only inform about the changing environmental phenomena but also about how global warming is disturbing and destroying this place-specific ecological knowledge that several generations were witnesses and transmitted that knowledge to the successive generations.

Nobody Believes me: Past Snowfall is Myth for Young Generation

In November 2018, I was talking with few herders about herding practices, both past and present, and discussed the availability of grass and water in the pasture lands as well as changes in precipitation in their locality. One of the elders shared his lifetime experience regarding the changing precipitation pattern like this;

> *In my childhood, weather was not like today. Winters brought continuous snowfall, and summers had light and dizzy rain. In December 1964, I visited my in-law's house in Thanchok. The day was clear. I had dinner with my father-in-law's family and slept on the floor. When I woke up in the morning, there was heavy snow falling outside, and it continued for a week and more. No one could go outside. It only stopped after nine days, and then I was finally able to return home. Today no one believes me when I tell this story to the young people - even my own sons (pointing to one of his sons who was at home at that time)(G.M. Gurung, a-73-year-old-man).*

The man's statement carries different meanings. In Gurung culture in the valley, 'believing someone' is the key cultural value. It is associated with prestige, truth, reliability, faithfulness, and honesty. Losing someone's belief means losing social prestige, becoming untrustworthy and dishonest. Form a climate change perspective, the man's narrative is not only recalling the extreme snowfall event he experienced; the phrase "*nobody believes me*" symbolizes that his own eyewitness no longer holds the same truth. Moreover, the phrase serves as evidence for understanding the shifted in the intensity of snowfall. It helps us document the transformation of snowfall events and how the place specific communities have been experienced these changes.

Discussion

In both global and local discourses on climate change, the local people and vernacular knowledge are taken for granted. As shown in pervious ethnographic studies on local knowledge and perceptions on climate change (Vedwan, 2006; Cruickshank, 2005; Crate, 2008; Byg and Salick, 2009; Herman-Mercer et *et al.,* 2016; Gagné, 2019; Lepcha, 2021; Gharti *et al.,* 2024), this study also shows that local people possess extensive knowledge of environmental processes and provides valuable insights into local concerns. Unlike the mainstream narratives of climate change, the local ontology of these changes is constructed differently. They share their knowledge through anecdotes, which they acquired from intense engagement with environment (Cruickshank, 2005 & 2014). Ingold terms it as a 'dwelling perspective' (2000).

For the Nhāson people, knowledge on climate change is produce with their very attachment with the land. Their everyday activities such as herding, hunting, walking, sitting, watching and living with places over a long period of time are the sources of lived experiences of changes in climatic variables (Poudel, 2018) which they express in words or statements. According to Cruickshank (2005) the local people see the consequences of climate changes through *words* rather than *things* like satellite images, repeated photos, historical recorded hydrological and meteorological data and so forth. Of course, local phrases expressed in the anecdotal forms help us in understanding the changing weather-world in the local cultural contexts. In the Nhāson people's perspective, anecdotes associated with changing environmental phenomena is better understood as a social activity than as a communicative word. As a social activity, the meanings do not inhere in an anecdote but are created in the everyday situations in which they are told (Cruickshank, 1998). Therefore, Michael (2012) writes that social research moves away from anecdotes about the 'social-world-as-the-object-of-study' towards the process of anecdotalization – i.e., a content of in the doing of social research, and query.

Local knowledge is the tacit knowledge embedded in life experiences and emerged as a result of their uninterrupted attachment with the land (Ingold & Kurilla, 2000). Such knowledge is remained with the local people as a form of social memory and often as a form of mental archive (Cruickshank, 2014). The weather-world of Nhāson valley have been dramatically changed due to climate change. The phrases:"I cannot believe my eyes,""nobody believes me,""everything was written there,""pond becomes a lake,""soil forgot to cry," and "*lamjungepani*" are social archives about the vegetation landscape, quantity of precipitation and time scape of snowfalls in Nhāson valley which were mentally stored in their minds. Therefore, we cannot see local knowledge, landscape and social memory in an isolation. They are interconnected to each other that should help us for better understanding of climate change in the Himalaya region of Nepal.

Local anecdotes reveal that indigenous knowledge about weather and climate change are more than theoretical knowledge. Ingold and Kurtilla argue "Local knowledge on weather cannot be transmitted as a set of customary prescriptions or formula; it accumulates from a lifetime of experience traversing and inhabiting well-known places and is embodied in tacit knowledge (2000, P. 187). Therefore, the place and inhabitation are the two sides of the same coin in the process of knowledge production. In other words, wisdom sits in places (Basso, 1996). Therefore, local ecological knowledge differs from other kinds of knowledge including modern indigenous knowledge that rooted on the concept of genealogical legacy or bio-genetic model that see the indigenous knowledge and land separately (Ingold and Kurtilla 2000).Regarding the knowledge on changing weather-world in the local context, I do not claim that the Nhāson people does not have any legacies with ancestors at all. But they have. For instance, knowledge on the weather-world -time space of snowfall in winter at the village, broader line of thunder rain and *sa-kromi-* are transmitted to the present generation by their forefathers as a form of hearsay, but this knowledge is also tested and re-tested by new generation in their lifetimes by seeing, watching, observing and noticing the environmental events that happened in their surroundings without dis-placing by the inhabiting the place. Hence, attachment with the place is central point of production of local ecological knowledge on weather that helps us for better understanding of the change in environmental phenomena in the local context.

Conclusion

An anecdote serves as social data and content for exploring interesting social facts, as well as a tool in doing social research. Exploring the meanings of anecdotes can help us understand climate changes from a holistic perspective. Unlike climate change data that arises from impersonal observations – such as satellite images, repeated photos,

and historically recorded hydrological and meteorological data -local knowledge and observations, expressed through anecdotes, provide people's lived experiences of environment and its change, including climate change.

The findings presented in the text reveal that an anecdotal statement is a dialogue between past and present weather patterns. Therefore, an anecdote can itself be an 'object' of social scientific study regarding human and non-human relations, including the human dimensions of climate change. By exploring the content and semiotic meanings embedded in anecdotes, we can contribute to science by providing historical and contextual understandings of climate change, especially where data are little available.

An anecdotal phrase or narrative associated with climate change is not merely a form of expression; it is also a local way of communicating the environment and its changes. Rather than 'models' produced by western sciences, anecdotes offer an indigenous worldview about a changing environment, rooted in life-time experiences and observations. Such worldview can be an alternative approach in understanding of climate change.

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