Chapter 8
Cultural Dimensions of Human Security

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Abstract This chapter explores the cultural dimensions of human security by problematizing the nature of knowledge on climate, climate change, and human security, including its inherent relation with power and varying perceptions across cultures in Asia. The analysis is based on an extensive review of studies that attempt to capture the underlying cultural factors of vulnerability and adaptation. Grounded on an anthropological perspective, the chapter covers the profoundness of culture and its importance in climate change and disaster research from its most popular element of indigenous knowledge and practices to material structures and technology across time and space, different ways of thinking, and ethical considerations. Anthropological approaches that academics and practitioners could use to address human security are also discussed. These simply refer to the set of viewpoints that can be used to frame the analysis of cultural dimensions of human security as informed by theories and practice in anthropology. We argue that adding the concept of human security to climate change and disaster research brings the discourse into a realm foregrounding the human experience to motivate a more powerful political action.

Keywords Culture · Human security · Knowledge · Climate change · Risk perception

8.1 The Importance of Culture and the Convenience of Ignoring It

Various institutions, predominantly from the academe and international organizations, have been raising efforts to emphasize the central role of culture in facing

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many of the world's pressing environmental problems today. Yet, in international platforms on climate change, disaster risks, and human security, the significance of culture remains in the margins of the dominant discourse and politics. If any, the role of culture is being conveniently and superficially encompassed by its elements such as "indigenous knowledge and practices" in climate change adaptation and disaster risk reduction or as experiential evidence for climate variability and its impacts as validated by or to inform scientists. These are indeed very important but delimiting the study of culture into traditional/indigenous knowledge alone undermines the profoundness of what and how culture affects people of different contexts. Another popular dialogue is that lived experiences under the new normal presents uncertainties beyond the scope of local, traditional, and indigenous knowledge (Puri 2015; Adger et al. 2014). Such dichotomy between the indigenous and the scientific knowledge reinforces the notion that indigenous knowledge, as part of culture, is static when in actuality, it is being constructed by dynamic, emerging particular human–environment interactions. In hindsight, Merton (1973) argues that the superiority of scientific knowledge is being favored precisely because it liberates the truths of nature from its distinctive socio-cultural setting.

The role of culture needs to be given more devotion especially that policies and institutional actions that are unequivocally based on the scientific understanding of climate and disasters still remain ineffective in strengthening human security against impacts of climate change (Barnes et al. 2013). And the incorporation of indigenous knowledge and practices in climate change adaptation and disaster risk reduction is limited by institutional support, such as funding in promotion and implementation (Balay-As et al. 2018). Culture significantly matters in all aspects of human affairs but to ignore it seems to be more convenient than to actually understand what it is.

Culture is a central concept in anthropology. It has been the anthropologist's core explanatory instrument to recognize universal patterns of what makes us human and our particularities in how we perceive the world and manage our own societies. In a culturally diverse region such as Asia, assuming that members of disparate societies and cultures think and perceive the same way about their environment, the climate, disaster risks, and even notions of "security" is fallacious. While modern science may have attempted to globalize and standardize not just technology but knowledge itself, it is culture that determines how people would respond and communicate the information. Even within nation states, irrespective of level of economic development or political status, there are variations in cultures and peoples' worldviews. National policies aim to homogenize many nation states in pursuit of an identity distinguishable from or to emulate others, which tend to ignore cultural diversity.

By looking into culture, one can have a deep and holistic understanding of how people are vulnerable to environmental pressures and the effective ways on how to adapt to them. Hoffman (2015b) explains that, in the context of hazards, risks, and disaster recovery, the perception of reality and the environment is cross-cultural, including "how a particular people calculate peril, experience catastrophes, and recover from them, or do not recover, or do not protect themselves." Culture is the complex whole that signifies meanings in kinship and social networks, gender roles and identity, management of time, use of language, perception of color, emotions,

arrangement in space, subsistence, division of labor, prestige and status, power relations, ways of knowing, land use, place attachments, child raising, laws, rules, belief in higher spiritual beings, religion, the unseen world, death, afterlife, and many more. These elements of culture dictate peoples' receptions and responses to ideas and practice in human security, climate change adaptation, and disaster risk management.

There have been efforts to elaborate the role of culture in climate change and disaster research especially by disciplines that adapted the concept or as Hoffman (2015b) termed it "co-opted" it, such as by journalism, geography, environmental science, sustainability science, and development studies. Using a cultural lens to climate change and disaster research challenges the prevailing conventional approach to science and policy. In particular, there is difficulty in integrating comprehensive cultural analysis of contexts of the human condition across spatial, political, and temporal scales when climate and disasters are predominantly viewed as an apolitical, ahistorical, predictable external force outside and separate from the human world, usually at the regional and global levels. A form of co-opting the concept of culture mainly manifests in the growing popularity of research on indigenous knowledge and practices for climate change adaptation and disaster risk reduction in a rather facile way. As Hoffman (2015b) argues, co-optation has "defanged" culture as a holistic explanatory tool. It delimits the dynamic and comprehensive nature of culture into aspects that could fit in the popular scientific discourse.

If climate change and disaster risks are not simply problems of the physical but a social, cultural, and perceptual one, cultural analysis should encompass science itself and the nature of knowledge that reproduces it. Many scholars have already written about how climate science continues to be independent of the culturally laden human experience in its production and reception (Demeritt 2001; Jasanoff 2010; Lahsen 2010, 2015). In the Intergovernmental Panel for Climate Change assessment reports that established climate change as a global phenomenon, for example, the methodological process detached knowledge from the meaning of the subjective, embedded experience of human actors engaged with nature (Jasanoff 2010), while values were hardly accounted for (Duraiappah 2010).

Incorporating the concept of human security into climate change and disaster research brings the discourse into a realm closer to the human experience. This can propel onto the mainstream the studies on the cultural dimension of climate change and disasters by social sciences and humanities as well as motivate more powerful political actions. The following sections will give detail to what it means and what it takes to analyze the cultural dimensions of human security in Asia through an anthropological perspective by citing cases and examples from literature.

8.2 Knowledge and Views on Climate Change and Human Security

8.2.1 Climate and Climate Change

In spite of the breadth and depth of scientific evidence for anthropogenic climate change, debate remains polarized with many still unconvinced of its reality, while a smaller minority believe it is a deliberate conspiracy (Barnes et al. 2013; Hoffman 2015a). The perplexing phenomenon of polarized views, one claiming unequivocal climate change and the other disproving it as a hoax, can be attributed to the communication and reception of science that are mainly being acted upon by culture and institutions. Institutional narratives about climate change and disaster risks limit our understanding of local and regional impacts that may impede long-term adaptation and undermine social vulnerabilities (Sherpa 2014). National policies and actors are immanently designed to generalize and perpetuate the authoritative discourse from the dominant language of science that emanated from the West.

In Pharak, Nepal, there is a significant difference between the institutionalized narrative of climate change (*jalvayu parivartan* in Nepali language) described in terms of global warming, melting of glaciers, and glacial lake outburst flood from the Sherpa's experienced impacts, namely, changes in snowfall and rainfall patterns and increased temperatures that they compare with past experiences and direct effects on their crops (Sherpa 2014). Consequently, recurring warnings about the melting glaciers and the flood were causing anxiety and panic among the Sherpa even when nothing has happened:

> Every time we begin to forget about the threats from glacial lake outburst, then comes news of yet another study through the radio and television, and this has been happening over and over again for more than 15 years now… Instead of having to fear death like that again and again, we would rather die once if the lake really bursts out one day. (Navin Singh Khadka 2012 as cited in Sherpa 2014)

The example from Pharak, Nepal, illustrates the disconnect between scientific knowledge and lived experiences of the Sherpa. We can differentiate the nature of these two knowledge systems: scientific knowledge is based on calculated predictions of select observations, while local knowledge is constructed from life-long experiences, which anticipates future scenarios. When scientific forecasts attempt to produce a localized knowledge for the awareness of the villagers, localizing from the perspective of climate science means downscaling the model by simply calculating it. Krauss (2009) argues that it is not as "simple" as calculating but instead localizing is a world of complex uncertainties, ramifications, and unexpected "social" context—a challenge for both scientists and ethnographers. In Pharak, Nepal, climate change perception among the Sherpa is being constructed through different knowledge systems based on their socioeconomic backgrounds, such as gender, age group, occupation, and residence in on-route or off-route villages (Sherpa 2014). What the

Sherpa of Nepal perceive is not separate from their view of nature and the environment, in particular the meanings, attached to sacred places such as the Sagarmatha (Mount Everest) and the distinction between natives, migrants, and tourists, unlike that of the scientist's whose epistemological premise relies on the objective detachment of self from its subject of study.

In Maldives, there is skepticism in the news of sea level rise and islanders tend to focus more on events they personally experience:

> If you ask local people about fuel or food subsidy, they would be interested to talk about it, as it affects their daily life, but climate change-induced sea level rise is not a concern as it is occurring so far ahead. They do not know and don't understand what TV or newspapers have to say about this. (as cited in Arnall and Kothari 2015)

People's temporality, or how people sense and experience time, also determines their responses and reception of the science of climate change and disasters. In contrast with the 50- and 100-year models of climate change impacts by scientists, the local people of Maldives, particularly the non-elites according to Arnall and Kothari (2015), are concerned about what the impacts of climate change might be on their children but often did not articulate the issue in a more distant future. As a result, the people are not worried of sea level rise and are confident of their adaptation measures, which is otherwise being publicized by the temporally extensive view of experts as an "urgent" matter. The same holds true for many farmers in Asia and Africa who have rather short-term horizon and appreciation of climate change impact studies. For instance, farmers would care less about changes in precipitation and increase in temperature in the distant future but care more about present weather and changes in seasonal rainfall. This is an example of how culture interprets science affecting peoples' attitude in adaptation. In this case, there should be a dialogue between groups of people to integrate the different perspectives.

Climate change discourse is not just about the communication or localization of science, but of the science itself (Hoffman 2015a), more specifically the nature of knowledge that is intertwined with ethics and values. Western science rationalizes the physical world to be fundamentally orderly and predictable. While science rationalizes the environment by coming up with universal truths and replicable technology to control it, many cultures do not necessarily follow the divide between human and nature. In the Chinese and Japanese relational epistemology, the truth can be found within yourself by becoming a part of the universe, which is natural. In essence, the *natural* does not signify "nature" as it is commonly understood in modern times, i.e., outside of, but "from itself" (Tucker 2003). For example, consistent with their belief that the north-south orientation is the best and most fortunate orientation, Chinese traditional courtyard houses follow a north-south orientation "to increase solar gain and ambient air temperature in the winter, and decreasing it in the summer" (Soflaei et al. 2017). Scholars of Japanese history and nation building in early twentieth century such as Julia Thomas also describe Japan's modern nationhood as conscious self-creation reinscribing the nation as natural, i.e., "naturalizing the nation" and subsequently "nationalizing nature" (Thomas 1998).

Another important matter to consider is that the production of knowledge on climate differs through time. We argue that the twentieth-century framing of climate that affects the science being communicated about warming is insufficient in addressing climate change and, hence, its cultural elements should be given more emphasis. Cultural constructs about the climate can also be learned from narratives in the colonial past. For instance, the understanding and experience of climate by the European colonizers were also used to justify their dominion over "degenerate" populations exposed to tropical climates such as the case of colonial Bombay, India (Adamson 2012). This disregard of the insiders' point of view is comparable to how the climate change narrative is being communicated by institutions today. The North and South, terms ubiquitous in the language of international climate change policies, are disconcertingly comparable to the narrative in the colonial parts of Asia, including India, the Philippines, and Indonesia. One way for European colonial powers to make sense of the world was by division into two zones based on the interaction of climate, health, and race[1]: "temperate" and "torrid" (Kenny 1995). The temperate zone located in the North (particularly Northern European) was salubrious to health, producing races that are "strong," "industrious," and "intelligent" with "high morals," while the climate in the South was "lethargic," "effeminate," and "indolent" (Livingstone 1991; Harrison 2010). The science and knowledge about climate, in this case, has been used as one of the justifications for European imperialism in Asia. Similar to the North-South divide during the colonial past in Asia, the North-South[2] divide in climate change has significant implications on how science is framed, produced, applied, communicated, and interpreted (Blicharska et al. 2017). The North-South knowledge divide deprives the scientific community of considerable intellectual wealth, influences research priorities and commitment, and narrowly frames approaches and paradigms that are devoid of certain cultural settings and perspectives (Karlsson et al. 2007). The North-South divide in climate change becomes economic and political with the North being associated with the developed countries and the South, the developing ones. Climate change particularly puts pressure on the rising economies in Asia (to emulate the North) that continue to struggle in managing its environmental and socioeconomic problems, such as from pressures of urbanization, population growth, and globalization.

[1]Race is used as it is used in the original citation to portray the colonial context.

[2]The 'North' refers to countries that are members of the OECD (Organisation for Economic Co-operation and Development) or are classified as high-income economies by the World Bank. These are largely, but not exclusively, countries in Europe, North America, East Asia, and Australasia. The term 'South' is used to refer to countries classified as upper-middle income, lower-middle income, or low-income economies, which are mostly, located in the rest of Asia, Africa, and Latin America (*World Bank Country and Lending Groups*, Accessed 28 May 2016. URL: http://go.nature.com/2gpbHhv).

8.2.2 Human Security

King and Murray (2001) claim that human security replaces the traditional ideas of state (military and economic) security and human development toward a people-centered paradigm. Although there is no coherent definition of what human security is, it has considerably articulated the concepts of social justice, dignity, and human rights in the 1990s, which are notably closer to the human experience than the prevailing dialogue on climate change at the time. In one of the frameworks of human security, Nef (1999) proposed the five dimensions of human security based on his analysis of the elements of the world system: ecology/environment, economy, society, polity, and culture. The inclusion of culture in a framework that ought to be applied universally at least considered cultural diversity for policy, particularly foreign policy.

Human security is based on the cultural notions of "safety," "danger," and "risk," particularly in the context of climate change and disasters. What ties these constructs together is how humans perceive nature. What is generally considered as "dangerous" or "risky" is out there, outside of the human body, while being "safe" denotes a condition of being protected from or not exposed to danger. Understanding how different cultures in Asia perceive "nature" is one way to understand how they cope with new dangers and risks. For example, in Thailand, the word used for "nature" today in Thai language is *thammachaat*, a combination word borrowed from Sanskrit with *thamma*, or *dhamma*, meaning "truth" (particularly the teachings of the Buddha) and *chaat*, meaning rebirth from the concept of reincarnation (Darlington 2003). Applying this adopted concept of "nature," for example, to the forest, sanitizes the danger and risk, termed by Stott (1991) as "barbaric" qualities of the wild. Another example is among the Orang Asli of Malaysia. According to the Orang Asli, the forest is perceived as the parent providing care for them, its children, hence, "killing" the forest is tantamount to killing one's parent (Gomes 2012). In this sense, the forest is not a "barbaric wild" that puts the person at risk but a sanctuary that signifies parental care.

Indigenous and traditional knowledge on coping and adaptation is formed through experiences from the past, which have endured dangers and risks. Distinctively, many indigenous peoples have a historical consciousness that is spatialized rather than temporalized, such as among the Ilongot of the Philippines (Rosaldo 1980) and the Orang Asli of Malaysia (Gomes 2012). This means that history is being conceptualized not through events in time, but where it "took place," that is, it is inscribed in the landscape, including events of disasters and places of hazards. This sense of place influences the social construction of risk and its connections to survival and security (Bankoff et al. 2015). While risk perception varies based on the culture's notion of time and space, anthropology has one of many ways to analyze risk perception, that is, using cultural theory.

The cultural theory of risk has been one of the most significant contributions of anthropology to contemporary issues today. Conceptualized by anthropologist Mary Douglas and later on with political scientist Aaron Wildavsky (see Douglas 1970,

1982), the risk framework categorizes social organizations according to the interplay of internal structure and social cohesion, namely, as individualist, hierarchist, fatalist, and egalitarian. The hierarchists, for example, respect authority and initiate solutions through policy, while individualists prioritize self-interest. The egalitarians participate through their strong views on social cohesion and volunteerism, while the fatalists are not likely to participate in social movements but still abide by the rule of law. The cultural theory of risk has been valuable in understanding perceptions and insights for natural resource management, environmental change, and management of conflicting views (Hoogstra-Klein et al. 2012; Sharp et al. 2015; McEvoy et al. 2017; Blais-McPherson and Rudiak-Gould 2017; Ruzol et al. 2017). According to Kahan (2010), cultural cognition that influences these group values better explain differences in climate risk perceptions than individual attributes such as gender, ethnicity, income, educational level, political ideology, or personality type. On the other hand, much like any other elements of culture, this cultural grouping is fluid and individuals from one category can move to another by force or circumstance (Douglas 1970). The application of cultural theory to assessing human security in the time of climate change and disasters can provide valuable insights that climate scientists do not usually consider in their approaches.

8.3 Some Underlying Cultural Factors in the Context of Climate Change and Disasters

Human security as a social construct is determined by the mix of idiosyncratic and shared cultural factors. Cultural "factors" are used in this chapter to describe culture as a "tool" to help the readers grasp its different components and use the approach to form their own contextual knowledge about human security. It is important to note that these cultural factors comprise a holistic system of symbols that signify meaning to a particular group of people, and hence are interrelated to one another. The discussion in this section reflects this interrelatedness between cultural factors, in addition to the nature of knowledge and perception (discussed above). The examples cited here constitute the most recent and emerging discussion about the cultural dimension of human security in the context of climate change and disasters in some countries in Asia.[3]

The first cultural factor to be discussed here is the most popular in climate change and disaster research, that is, indigenous knowledge and practices. Indigenous knowledge refers to the ways of thinking of indigenous peoples that reflect their interactions with the environment. In coastal and island communities, heavy rainfall and strong winds can be predicted by observing changes in the clouds—changes in texture (thin

[3]The gender dimension of human security in the context of climate change is also one of the more popular topics, but this chapter will not cite examples of it. The development of gender theories has its own history that gave it its own prominence in international policy and research. It also created its own critiques among practitioners.

or thick), color (white, dark, yellow. or red), location (over mountains or the sea), and movement (to/from the coast), including speed (fast) and direction (vertical or horizontal); waves—changes in color (white), direction, and height (high); the wind, sun, and stars—the direction (usually east or west) and temperature (cold or warm) of winds, the position (high or low) and size (large or small) of the sun, and visibility (many or absent) and constellations of stars (Hiwasaki et al. 2014). It is a way to navigate the self across the different features of nature. Oral tradition as part of the knowledge system, including myths, legends, and poems, may also embed warnings and narratives about past disaster events that have occurred in the cultural landscape, for example, of the 2003 Bam earthquakes in Iran (Parsizadeh et al. 2015) and the 2004 Indian Ocean tsunami, prompting the Onge tribe to retreat to the high grounds (Kakoty 2018), as well as the stories of the *Smong* (tsunami in Devayan language) in Aceh, Sumatra. The *Smong* oral literature provided an early warning system to the Simeulueans of Aceh, alarming people to run away to a higher place after a major earthquake. The *Smong* was being communicated through a traditional lullaby called *Buai-buai*, the poem of *Nandong*, and reiterative narration among family and community members (Syafwina 2014).

Indigenous knowledge may also refer to traditional knowledge, recognizing that traditions continually change and evolve over time as cultural groups borrow, innovate, and adapt to the changing environment (Dudgeon and Berkes 2003). Indigenous and traditional knowledge has been used to devise structural designs, spatial planning, seasonal calendars, etc., which are adaptable to the climate and resilient to hazards. In the literatures we reviewed for this chapter, the adoption of indigenous knowledge for climate change adaptation and disaster management in India is well-researched. An example of this is the indigenous knowledge of *bandalling* for navigation enhancement in low-water periods, such as in the Brahmaputra River and the Ganges River. The *bandal* structures, a vertical bamboo screen mounted on a bamboo frame, also help create new agricultural land as sediment deposits along river banks while reducing risk from bank erosion and flooding (Zhang and Nakagawa 2018). *Bandal* structures do not always perform as desired and to ensure its effectiveness means to learn about flow structure, sediment transport properties, and morphology (Rahman et al. 2003; Zhang et al. 2010). Vernacular built environments in India, including houses and settlements, are considered resilient, having evolved over centuries of experimentation by the locals (Choudhary 2016).

On the other hand, Indian culture also generally practices inclusivism to integrate new knowledge into traditional ones in contrast to the Western culture, particularly the United States, where innovation and replacement of old concepts is the driving force for resilience (Schuler 2014). In the state of Assam in the Brahmaputra valley in northeast India, the incorporation of amphibious technology to traditional *Assam*-type house architecture can make communities resilient to flooding (Das and Mukhopadhyay 2018). The *Assam* houses are made of lightweight bamboo suitable for the hybrid amphibious design with a buoyant base that can float on floodwater.

Traditional ecological knowledge and practices sustain the subsistence livelihood of local communities. While indigenous peoples have been resilient and well-adapted to their environment, some are greatly being challenged by impacts of climate change.

In the permafrost regions of Siberia, the Sakha people have been successful pastoralists for the past 600–800 years (Takakura 2016). They have effectively controlled the landscape by draining lakes and waterlogged areas to maximize hay production or by holding water in times of drought (Crate et al. 2017). However, increased precipitation that results in the thawing of the permafrost and causing the death of inland forests threatens their traditional subsistence livelihood and cultural landscape (Takakura 2016; Crate et al. 2017). In his article, Takakura (2016) details that spring waterfloods (*saasky uu*) caused by ice jams are necessary for the growth of the pasture land, but the increase in the frequency and scale of black water floods (*khara uu*) causing damage to private property and livestock may exemplify the limits of the indigenous cultural adaptation of the Sakha people. Similarly, the people of Bangladesh are at risk of more intense rain-induced flooding but saw the potential advantage of the indigenous floating agriculture to support farming communities in waterlogged situations, which can also control invasive aquatic weeds (Chowdhury and Moore 2017).

The resilience of agricultural landscapes also depends on the concept of space arrangement in one's culture. In Bali, Indonesia, the concept of *Tri Hita Karana* (Fig. 8.1) that has been learned over the past thousand years prescribed the people's spatial distribution from micro to macro scales vertically and horizontally (Asmiwyati et al. 2015). In this concept, as Asmiwyati and colleagues explain (2015), the Balinese landscape reflects the harmony between *Parahyangan* (God) signified in sacred places such as the mountain, the forest, the temple, and sources of water like springs and lakes; the *pawongan* (people) settled in villages where the *Subak* (local irrigation system) can be found below the forest; and the *palemahan* (nature) that is being respected through sustainable cultivation in paddy fields and mixed gardens. The translocation of water necessary for the resilience of the terraced agricultural landscape is highly dependent on the communal *Subak* water temple that will course the water to the private terraced paddy fields. The *Subak* system has been a successful example of resilience in agriculture amidst the changing climate because it also unites farmers through obligatory communal commitments, communal labor assignments, and flexible labor management of on-farm and off-farm work (Lorenzen and Lorenzen 2010).

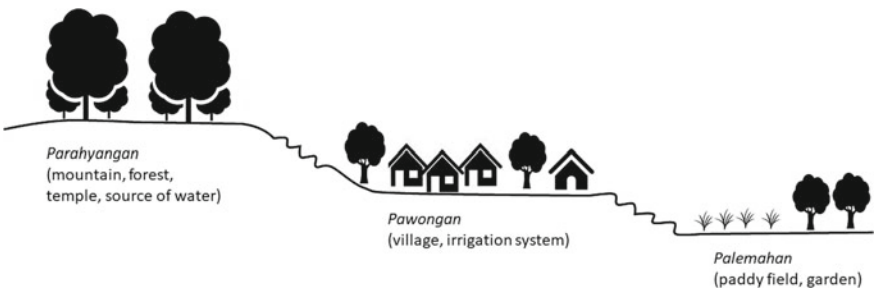

Fig. 8.1 Tri Hita Karana concept in Bali, Indonesia

Religion is another way for people to make sense of unexplainable phenomena and to cope with adverse life events, such as disasters. From a religious perspective, disasters can be understood as the people's relationship with God, a form of divine intervention, or punishment. For example, increased occurrence of extreme events is perceived by the Sherpa in Nepal as the consequence of diminishing religious faith and behaviors (Sherpa 2014). In the context of human security, climate change and occurrence of disasters are related to the Sherpa's cosmology. They also described that non-Sherpa migrants pollute sacred sites and increase religious pollution (Sherpa 2014). This angered local deities that could have brought heavy rains and flooding.

Many cultures in Asia are heavily influenced by Buddhism, Daoism, Confucianism, and Shintoism. These philosophies originated in East Asia, particularly China and Japan. There are about 507,237,000 Buddhists in Asia, the highest population in the world in 2015 (Johnson and Grim 2018). Buddhism is mutually related with trees, forests, and groves that play significant roles in the life of the Buddha, including his understanding, knowledge, and wisdom that Buddhists follow as the Noble Path (Sponsel and Natadecha-Sponsel 2003). Buddhism defines nature as the sum total of reality, all beings, and all things. The non-human elements of nature have the same moral standing as the humans that interact with it. Hence, the Buddhist perspective on taking action against climate change can be derived from the intrinsic value they put in all living and non-living things in nature and the interconnected causality and consequences of human actions.

In Thailand, the third country with the highest Buddhist population, Buddhism intersects with Thai spirit beliefs on the forest and the way they value it throughout the Thai cultural region (northern Thailand, Laos, southern Yunnan Province, China, parts of Myanmar, and northern Vietnam) (Pei 1985; Darlington 2003). This interplay between Buddhism and spirit beliefs provides the framework for the incorporation of cultural and religious concepts in (political) developmental and environmental efforts in Thailand (Darlington 2003), which is relevant to climate change adaptation and disaster risk management. Another example of a religious perspective on the changing climate is the Daoist climate ethics. There are two responsibilities that humans should do, according to Daoism as cited in Xia and Schönfeld (2011): (1) "to learn to become stewards of the biosphere, to shepherd life, and protect complexity; and (2) to refrain from further disruptions of the flow, to learn to become mitigators of climate change, to soften the impact, and to calm down the waves." In stark contrast with the science of the West that follows the anthropocentric view of nature, Buddhist and Daoist perceptions on climate change are influenced by their preferred way of knowing, that is, by being a part of nature itself.

In post-disaster events, resilience in Asian cultures is in many ways connected to the sense of dignity, a core concept in human security. Dignity is seen as a universal human right, according to the United Nations Universal Declaration of Human Rights, separating us from mere biological existence (Fiori et al. 2013). But Field (2017) argues that dignity is a value and idea different across cultures. After typhoon Haiyan (locally Yolanda) hit the Philippines, one of the strongest typhoon to make landfall in history, Filipino teachers viewed that wearing cosmetics one month after the typhoon reflect their dignity (*pagkatao* in Tagalog) and self-worth,

boosting a community sense of recovery (Field 2017). In one of the interviews by the Department of Social Welfare and Development of the Philippines in 2013 (as cited in Field 2017), a teacher responded that

> *Gusto ko* Brother, *kapag nakita ako ng mga students ko sa pagsimula ng klase, maayos ang itsura ko. Gusto kong isipin nila na nakabangon na ako para sila rin, ma-inspire na bumangon* (Brother, I want to look good when my students will see me. I want them to think that I have recovered so that they will be inspired to also move on)

The Filipino community's sense of recovery after a disaster is also embedded in the *pakikipagkapwa* (treating other people as equal in moral standing) at *pagkakaisa* (solidarity). Especially in the Philippines, these values are reflective of the significant role of kinship and social networks, including the *barangay* (village), during recovery from typhoons. A strong bond of kinship and social network during events of disasters are valuable in accessing and mobilizing resources, establishing communication, mutual engagement, and maintaining social order when people have a sense of shared expectations and responsibilities from one another.

Strong community bonds help a community become resilient after a disaster event. It is one of, if not the most, reliable support a person can have, especially in remote villages, such as in the Harsil Valley in India. The built environment in Harsil Valley is designed to reinforce interdependence among members of the community. For example, open spaces between houses are multifunctional, fostering community bonding from women drying grains and apple pieces while chatting with one another to becoming vibrant living spaces for community worship and procession of gods and goddesses (Choudhary 2016).

Community bonds are crucial in severe situations when people are experiencing adverse life events. Weakening of community bonds has been cited as a reason for farmers affected with severe drought to take extreme steps such as committing suicide (Hall and Scheltens 2005; Hogan et al. 2012; Vins et al. 2015; Choudhary 2016). Support from family and social network establishes not just relationships between individuals but with society as a whole, a sense of belongingness and a purpose of existence. Similarly, people's experiences of depression, anxiety as well as of hope caused by losses from impacts of climate change varies across cultures. Termed as "ecological grief" in the recently published article by Cunsolo and Ellis (2018), it refers to climate change-driven mental and emotional responses, including mourning and the feeling of pain from losses attached to land and identity.

Indeed, community resilience is essential in climate change adaptation (Adger et al. 2012; Folke et al. 2010). Rituals and ceremonies play an important role in achieving community resilience in Asia. In Indonesia, Casson (2016) notes the importance of an emic (insider/member of the culture) understanding of climate change adaptation strategies and resilience, such as by analyzing the meaning behind the rat ceremony performed by village elders in the island of Flores. While the national government encourages the use of pesticide to get rid of rats in farms, the local agricultural department supports and prefers the performance of the rat ceremony. As quoted from an agricultural department official by Casson (2016: 24) during her fieldwork in Flores:

> This special ceremony sends the rats back to where they belong–the sea–and is the most successful approach to clearing rats from agricultural fields. In my experience, the ceremony guarantees that rats will not return to a field for at least five years. If pesticides are used [instead of the ceremony], the rats will return next year with anger.

Casson (2016: 24) further explains that most people in East Flores believe that "today's rats are descendants of ancient rats that aided the farmers' ancestors in a time of crisis." The farmers must ask the rat nicely to return to their home in the sea; they believe that using pesticide is not polite to the rats. The oral story about rats–that they were the navigators that directed the early people to their homeland in Flores–has been part of the reiterative storytelling from generation to generation. Hence, rats are not considered as random pests attacking the fields but misguided old friends (Casson 2016). In this case, solidarity does not only involve living harmoniously among members of the community but with nature itself. The ritual also reflects traditional ecological knowledge such as the association of rat behavior with the monsoon season and patterns of rainfall.

So far, the recent studies on the cultural dimensions of human security mentioned above and in the previous section have cited examples for the incorporation of scientific knowledge into indigenous and traditional knowledge for adaptation, challenges to traditional ecological knowledge and subsistence livelihood, space arrangement, temporality, cosmology and religion, sense of dignity, social bonds including kinship and community networks, rituals and ceremonies, implications to cross-cultural experiences of mental health, as well as some maladaptive options, i.e., to choose not to respond or to protect themselves from disasters. There is another set of studies that provides insights from early cultures in the past. In the Lake Daihai basin in Mongolia, the relatively mild and humid climate enabled the growth of the Laohushan culture (4500–4100 cal BP) favoring millet planting as a major food source (Xu et al. 2017). However, based on archaeological and climatic evidence from Xu and colleagues (2017), the Laohushan culture collapsed in 4100 cal BP due to the drop in temperature and changes in humidity, while other cultures south of the basin simultaneously flourished. Climate, particularly the changing precipitation in northwest China, affected agricultural production and hunting resources of the Majiayao culture (5300–4000 cal BP) according to evidence of variations in site distribution, site density, and subsistence strategies (Dong et al. 2013). There is also evidence that rapid change in climate (8300–8050 cal BP) in northeastern Hokkaido, Japan, caused the sudden appearance of sophisticated blade technology from the previous simple flake technology (Morisaki et al. 2018). There is valuable knowledge to be gleaned from the studies of the deep past, such as the influence of climate on the rise and collapse of cultures, settlement systems and human movements, material culture, subsistence, demographic change, and cultural change.

8.4 Anthropological Approaches to Human Security

Throughout this chapter, we have been discussing human security "in the context" of climate change and disasters. This is to situate the cultural dimensions of human security amidst the known impacts and the uncertainty of the changing climate. In anthropology, *context* is at the core of research. It is through context that culture (of one's own and of others) is being understood and interpreted. Context refers to the experiential world of the people belonging to the same culture, including that of the world of the researcher. For the sake of its relevance to human security, context can be framed as something that is actively evolving through time (diachronic) or dynamically interrelated with different elements of the culture at a specific moment in time (synchronic) and can be a product of a system of inequalities where the disenfranchised and disempowered challenge the hierarchical power structure (critical and feminist). The three approaches included here (diachronic, synchronic, critical and feminist) are not mutually exclusive of one another and we do not claim that they are exclusively anthropological.

8.4.1 Diachronic Approach

Transformative pathways of change and responses in adaptation have been gaining prominence in recent literature (see for instance Denton et al. 2014; O'Brien et al. 2014; Few et al. 2017). However, the temporal dimension of human-environment studies (including human-climate and human-disaster) is still poorly integrated in adaptation (Adamson et al. 2018). To understand human–climate and human–disaster interactions, it is not sufficient to focus on the present alone because the cultural dimensions of human security are embedded within its context and intricately long history. The diachronic approach to human security focuses on the evolutionary process of adaptation (and maladaptation) and knowledge production and the environmental history of the place. Context can be captured by understanding the circumstances of the past and its continuity into the future, that is, contextualizing through baselining.

Baselining can be referred to as the scientist's practice of gathering data at points in time in a specific place and comparing them across time. This also describes the way scientists localize knowledge on climate change. Localizing in this sense is also a way of standardizing the features and attributes of a particular group of people and place. Of course, there will always be data to collect from the set of assumptions selected by the scientist but the question remains, "What is the context?" As mentioned above, localizing is not as simple as calculating. Instead, using a diachronic approach captures the intricate social and cultural context of the place. Anthropologists understand context from the indigenous way of "localizing" and understanding from the emic point of view. For instance, the historical consciousness of many indigenous peoples (also mentioned above) is a way to capture context

through time. Instead of localizing, it is a way of *particularizing*. Their experience and interactions with the environment as a way of adaptation happened in a particular place.

Historical particularism and cultural ecology, for example, can be used to frame the evolution of adaptation options of people through their interaction with the environment. The discipline of anthropology, together with archaeology, history, geography, and paleontology that have been guided by a diachronic approach in their studies on human–environment relationships, can significantly contribute to reconstructing the cultural dimensions of the past, present, and future of human security.

8.4.2 Synchronic Approach

Anthropologists traditionally use the synchronic approach in making sense of other peoples' mode of thought since they usually study cultures other than their own. Ethnography or the practice of writing about peoples exemplifies this intellectual tradition. A synchronic approach entails two important methodologies: (1) understanding how things are related by observing the society (village or ethnic group) as a whole and (2) examining the case study in relation to others. In contrast to the diachronic approach, synchronic analysis is interested in a particular moment in time, usually contemporary phenomena, such as human security in the time of climate change and disasters.

Conventionally, ethnography uses Clifford Geertz' "thick description" to understand meanings that people place in language, actions, material culture, institutions, etc., providing the cultural context, for example, to understand how politics fits together with gender structures, religion, or economics, or to compare the various adaptation options of nomadic groups across Asia amidst climate change, globalization, Westernization, and assimilation to the mainstream market economy. The anthropologist would be interested in a holistic perspective trying to capture into narratives, discourses, and various media the complexity of the system that is otherwise silenced or ignored by reductionist sciences. While surveys and interviews can be helpful, the anthropologists' preferred method of data collection and analysis is participant-observation. Participant-observation entails researchers to socialize and enculturate themselves in the context of the culture embedded in interactions, behaviors, non-verbal language, unspoken rules, and norms. Contrary to the scientific method that requires the scientist to observe a phenomenon in a controlled setting expecting to generate objective results, in participant-observation, knowledge is a construct created as a result of the researcher's interaction with the people in the study. The synchronic approach can effectively capture the cultural context of human security based on the people's experienced reality.

8.4.3 Critical and Feminist Approaches

The critical and feminist approaches can be diachronic, synchronic, or a combination of both but with emphasis on the role of power in a cultural context. Critical and feminist theories have undeniable commonalities that lean toward radicalism. Both critique the scientist's positivistic science, including that of the social scientists, that distance the researcher from the people in the study, not taking accountability of the results and not informing or even misinforming them of the aims of the research. Feminism, in particular, is a collective movement addressing inequality, including marginalization of social classes, disenfranchisement of indigenous peoples, misrepresentation, and pursuit of neoliberal agenda that reinforce the highly skewed power dynamics. According to critical and feminist theories, dominant power and knowledge structures direct the attention away from the root causes of vulnerability and constrain the link of adaptation to the decolonizing process. For instance, in vulnerability assessments, indices can measure the magnitude of hazards and socioeconomic capacities to adapt, but they alone do not provide an explanation as to *why* and *how* these present characteristics manifested in this peculiar way. This is because vulnerability assessments and adaptation policies were *framed*, as argued by Colette (2016), by scientists and decision makers themselves. This has consequently reduced the diversity of local contexts and concepts of vulnerability as well as associated terms like risk, susceptibility, and resilience, to a set of quantifiable variables.

In the rapidly growing field of climate change and disaster research that is unequivocally defined by its uncertainty and complexity, a critical view of the practice of science can help one see how hegemonic structures of power and knowledge cause adverse impacts, at times unintended, on the marginalized. In a quote from Balay-As et al. (2018: 22), a Kankanaey elder in the Philippines expressed both optimism and anxiety about scientific knowledge:

> All of us must be engaged in a continuing search for knowledge that will strengthen our warning systems for typhoons. This benefits no other than the people whose lives and livelihoods are threatened by the impacts of typhoons. However, we must ensure that this search for knowledge does not become oppressive to anyone. (Elder 2)

Through the critical and feminist approaches, human security becomes a topic on ethics and social justice, reminding us to consider the inequalities already in place. These approaches recognize social, economic, and political inequalities as the root causes of vulnerability to climate change and disasters and understand the meaning of the set parameters and assumptions for the people themselves. Using this approach, the goal is to dismantle the gap between the empowered and the disempowered and realize people's agential power to positively act for their own and the future generation's welfare. In Box 8.1, a critical approach is used to briefly analyze the root causes of vulnerability of the Calawit Tagbanua in Palawan, Philippines, by looking into the historical narrative of marginalization and entitlements.

Box 8.1: Case Study on the Human Security of the Calawit Tagbanua in Palawan, Philippines

Typhoon Haiyan/Yolanda

Typhoon Haiyan/Yolanda in November 2013 was the strongest that the Calawit Tagbanua experienced. It was most damaging to property and agricultural crops. The Calawit Tagbanua resorted to their own efforts to improve the structural integrity of their houses, particularly the roof, or to evacuation to a more stable shelter such as the elementary school. Farming households in the Calawit Tagbanua community also explored new opportunities to compensate for their low income through marine harvesting. Subsistence fishing was one, as well as fishing for high-value commodity such as the grouper, which is becoming a trend among other coastal Tagbanua communities in Palawan in response to declining yields, increasing debt, and the potential of a new export market (Dressler and Fabinyi 2011).

The story of displacement

Calauit Game Reserve and Wildlife Sanctuary
Photo source: Clarissa Ruzol (July 2014)

Today, many of the life ways of the indigenous Calawit Tagbanua have changed and the indigenous communities are in the continuous process of reasserting their culture and identity as the people of the *teeb ang surublien* (ancestral land and seas). In the recent past, the Calawit Tagbanua were driven out of Calauit Island to give way to the Calauit Game Preserve and Wildlife Sanctuary (Presidential Proclamation No. 1578) in 1976. There are mixed opinions on why the then Marcos dictatorial government funded the transport and creation of a sanctuary of exotic animals, including giraffes and zebras, in Calauit Island. But it was said to result in being the "first successful wildlife translocation experiment in Asia" (Palawan Council for Sustainable Development 2018).

A few years preceding the proclamation of the Calauit Island as a protected area in 1976, the then Bureau of Lands started to survey the island, announcing that the purpose was for landholding titling. Individual resettlement agreements were orderly followed and signed by the Calawit Tagbanua in 1973. In the beginning of the resettlement of the Calawit Tagbanua, villages Halsey and Burabod in the Leper Colony Reservation in Culion Island were identified as resettlement areas through Presidential Proclamation No. 1626 of 1977. Every Calawit Tagbanua family in the island was relocated to Culion Island with accounts of forceful displacement.

The case of the Calawit Tagbanua's displacement remained dormant during the first decade of their settlement in Culion Island. From 1986 to 1987, the Calawit Tagbanua, now organized as the Balik Calawit Movement (Return to Calawit Movement), began to resettle in Calauit Island and filed a complaint against the Conservation and Resource Management

Foundation, Inc.—the organization that handled the management of Calauit Island—and the state government to the Philippine Commission on Human Rights (PCHR). Petitions filed in court by the Calawit Tagbanua detailed that crops could not be grown and essential public utility services were absent in the resettlement areas in the neighboring island of Culion. Aside from the difficulty of sustaining livelihood in the resettlement areas, the displacement has physically detached the Calawit Tagbanua from places of cultural significance, ceasing the traditional ways of knowledge transfer and skill acquisition to the new generation. After a fact-finding mission, the PCHR recommended the (1) repeal of the proclamation of the protected area for being violative of the Calawit Tagbanua's Bill of Rights, as settlers of the island, and (2) the immediate return of the settlers to Calauit Island. Return to Calauit Island was documented to be successful in June 1987 until a Special Order was issued by the Secretary of the Department of Environment and Natural Resources (DENR) commanding the Calawit Tagbanua to vacate the protected area and return to the resettlement areas in Culion Island in July of the same year.

From 1988 to 1994, the Calawit Tagbanua persistently petitioned their case to permanently settle in Calauit Island and rescind the proclamation of the island as a protected area. Assessing the events within almost two decades since the Tagbanua's displacement, the Regional Trial Court has (1) identified the defendants who could stay at the island and those who needed to vacate and live in the resettlement areas; (2) ordered the DENR to procure another suitable relocation site; (3) demanded the DENR to deliver the expected quality of service in the resettlement areas to prevent petitioners from going back to Calauit Island and contribute to the disturbance and destruction of the Calauit Safari. In 2002, the Court of Appeals affirmed the assailed ruling and further disputed the Calawit Tagbanua's claim of ownership to lands of Calauit Island because of absence of proof presuming that the island, as a public domain, belongs to the state. Applications for consideration, including to the Office of the President, by the Calawit Tagbanua have ultimately been denied even with the support of *pro bono* counsels and a letter from the Bishop of the Apostolic Vicariate of Taytay, Palawan, to the Chief Justice requesting for reconsideration.

Not until 2008 did the Calawit Tagbanua gained legitimacy over the island when their Certificate of Ancestral Domain Title (CADT) was issued under Republic Act 8371 or the Indigenous Peoples Rights Act of 1991. The CADT covers 3, 683.2334 hectares of land and water, including barangays Calauit and Quezon of the municipality of Busuanga. The holder of the CADT are the Calawit Tagbanua as represented by the *Balik Calawit Movement*. The application for CADT as well as the formulation of the Ancestral Domains Sustainable Development and Protection Plan (ADSDPP) of the Calawit Tagbanua was supported by other Tagbanua communities in Calamianes, particularly by the organization *Saragpunta Tagbanua Calamian Inc.*, that have also been awarded of CADT prior. Through the initial efforts of the *Saragpunta* federation, the Calawit Tagbanua and the Balik Calawit Movement have been able to outsource technical and financial support from partners such as the province of Antwerp in Belgium and the University of the Philippines.

Negotiating power

The case of the Calawit Tagbanua shows evidence of how dispossession and eviction from the island threaten the human security of the indigenous peoples, while land entitlements that directly addressed some of the issues of marginalization reduced vulnerability. Based on the case of the Calawit Tagbanua, the reorientation and redistribution of power can be achieved through (1) an enabling national policy, that is, the Indigenous Peoples Rights Act, and (2) a combination of resistance to marginalization and conformity to the politics of the state. The transformative period in the history of the Calawit Tagbanua struggle, that is, when they have organized themselves as the Balik Calawit Movement, illustrated these two points. Presenting their indigeneity in terms perceptible by the state (Eder 2013) gained them legitimacy and a level position as a negotiating party to the issue. In particular, organizing into

an identifiable collective of people with definite and clear goals conforming to the necessities of issue-oriented institutions had made them recognizable not only to the state but to other institutional actors as well (Hirtz 2003). The Balik Calawit Movement has outsourced and mobilized resources and partnerships that helped them build a support network and represent the indigenous community in policymaking. For instance, the Calawit Tagbanua is now being represented by the Balik Calawit Movement in consultations for the formulation of the Local Climate Change Action Plan and Disaster Risk Reduction Management Plan of the municipality of Busuanga, among others. Accepting the reality that the Calauit Safari shall continue its existence on the ancestral land, the Calawit Tagbanua hence then coped by adjusting to the political dynamics and gaining "entitlements" that come with the CADT. Data source: Supreme Court of the Philippines document G.R. No. 156022 dated 6 July 2015.

8.5 Conclusion

Anthropology has long been familiar with the intellectual interests that recently emerged from the concept of the Anthropocene (Orr et al. 2015), including human security, climate change, and disaster management. In this chapter, we argue that placing the human condition and experience at the core of the discourse is what human security could offer to improve the prevailing science of climate change and disasters. The incorporation of the concept of human security brings closer to people of different cultures the science of climate change and disasters as well as encourages the rethinking of how science is framed.

The cultural dimension of climate change and disaster risk reduction has been abstracted for the convenience of policy, governance, and management. In response, we describe the cultural dimensions of human security as a complex variety of ways of knowing—each with its own right—and its manifestations in the different tangible and intangible elements of culture. It has reiterated narratives about human–environment interactions alternative to the Western anthropocentric worldview, where people and nature are not seen as separate from one another or when people are not viewed as the superior species. It emphasized how people shape and are being shaped by their particular environment and the power structures that constrain them. Taking these particularities into consideration and learning from the insiders' point of view is what it means to understand the cultural dimensions of human security.

Finally, the notion of culture as place-specific is continuously being challenged by global drivers of change not just by climate change but by globalization, population movements, and the dominance of science and technology. We must take caution in our scientific practice of delimiting the dynamic and complex nature of culture and understand that, for many of the peoples in Asia, switching from one frame of knowing to another is commonplace and people have the agency to negotiate and assess how alternative options can be assimilated into their culture. Perhaps, this is

how human security should be addressed, in a transformative cultural context toward a path for future possibilities.

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