

PERSPECTIVE



Understanding indigenous beliefs and traditions in enhancing public health in Bhutan



Nidup Dorji¹ , Wangchuk¹ , Ugyen Dorji²

ABSTRACT

Development and economic modernisation have often driven natural resource exploitation and ecological degradation, which, in turn, are closely linked to public health challenges and decline in overall well-being. Amidst this, Bhutan has committed to sustainable development, prioritising long-term environmental and societal well-being over short-term economic gains. Bhutan's approach to ecological conservation through careful exploration, folktale narration, sacred beliefs, and restoration practices serves as a critical health-enabling strategy, benefiting both the environment and human well-being. While many regions face severe ecological degradation and resource exploitation, Bhutan has successfully conserved and sustainably utilised its natural resources, guided by indigenous beliefs and the developmental philosophy of Gross National Happiness. Together, these approaches offer significant public health co-benefits and support biodiversity, and help sustain ecological systems. This dedication has garnered international acclaim, including several prestigious conservation awards. Bhutan's indigenous belief systems and conservation strategies warrant preservation and intergenerational transmission. This also underscores the need for scientific research to better understand how these indigenous beliefs may positively impact health, well-being, and quality of life. This Perspective examines selected indigenous beliefs and traditions in Bhutan – including the importance of folktales, terrestrial ecosystem, reverence for sacred mountains and lakes, festival of the Descent of Blessed Water, taboos against open defecation and urination in sacred places, philosophical beliefs concerning mindfulness, karma, and impermanence – and their potential roles in promoting public health and well-being in Bhutan.

Keywords: Ecosystem; Health Belief Model; Herbal Medicine; Spiritualism; Social Determinants of Health; Social Environment

INTRODUCTION

Bhutanese culture and traditions encompass a complex spiritual ecology and harmonious coexistence between humans and non-human spiritual entities, including the god of territory (*Yullha*) and lords of settlement (*Zhidak*), collectively known as *Nedak Zhidak*. Bhutanese beliefs in the powerful and invisible natural forces, each with distinct characteristics, temperaments, powers, behaviours, and existential statuses alongside humans, animals, birds, and insects, have profoundly shaped the nation's history, cultural identity, and communal life. Transmitted orally across generations, these belief systems have played a critical role in fostering ecological conserv-

Corresponding author ✉ : Nidup Dorji, Faculty of Nursing and Public Health, Khesar Gyalpo University of Medical Sciences of Bhutan, Thimphu, Bhutan. Email: nidupdorji@fnph.edu.bt

¹Faculty of Nursing and Public Health, Khesar Gyalpo University of Medical Sciences of Bhutan, Thimphu, Bhutan

²College of Science and Technology, Royal University of Bhutan, Phuentsholing, Bhutan

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ation, maintaining harmonious human-environment relationships, and promoting collective well-being [1].

In Bhutan, the conservation of natural resources is vital for ensuring continued access to culturally relevant and affordable healthcare. From a public health perspective, conserving natural ecosystems provides significant benefits. Preserving and maintaining natural ecosystems minimises human-wildlife contact, thereby lowering the risk of physical injury and zoonotic diseases. Evidence suggests that clean and healthy environments promote physical and mental health, offering protection against stress, anxiety, and depression [2]. Bhutan's identity as the Land of Precious Medicinal Herbs (*Menjong Norbuling*) further underscores the importance of biodiversity conservation in sustaining traditional healing systems such as *Sowa Rigpa*.

More than 1,000 medicinal plant species have been recorded and documented in Bhutan. In addition to medicinal plants, fungal species such as *Ophiocordyceps sinensis*, which is an ascomycete fungus, known as *Yartsa Guenbub* in Bhutan, is considered to have high medicinal value and has been used for centuries in Chinese and Bhutanese traditional medicine to treat conditions such as cancer, diabetes, lung and kidney diseases, heart disorders, and sexual dysfunctions [3]. Widely utilised across different demographic groups, traditional medicine remains an integral component of Bhutan's healthcare system. This Perspective discusses indigenous

beliefs and traditions that play important roles in promoting public health and well-being in Bhutan.

FOLKTALES AS LIVING HERITAGE – THE IMPORTANCE OF THEIR CONTINUITY

Rapid economic development and urbanisation increasingly challenge the relevance, preservation, and transmission of traditional belief systems. As access to safe and clean drinking water remains a cornerstone of public health, the preserving both the ecosystems and the narratives that safeguard them is critical. The erosion of folklore, such as that of *Nyala Dhuem*, poses a potential threat to Bhutan's pristine environment and protected landscapes. For instance, the continued preservation of deep forests, such as the *Nyala-Drangla* range in Trongsa, and the limited exploration of several mountain ranges in Bhutan may be closely associated with deeply rooted local belief systems (Figure 1). Forests are believed to be inhabited by the demonesses, lakes guarded by mermaids (*Tshomen*), landscapes serving as pathways for spirits, and water sources occupied by subterranean beings (*Lu*), which have historically discouraged resource exploitation and may have contributed to environmental conservation. Furthermore, alongside the national policy of maintaining at least 60% of Bhutan's total land under forest cover for all time, such belief-driven conservation practices also contribute to important public health benefits. Spiritual sanctification acts as a non-regulatory and informal form of environmental protection practice. Sustain-



Figure 1. View of Nyala-Drangla region in Trongsa, Bhutan. Photo by Nidup Dorji

ing public health therefore requires the continued transmission of indigenous knowledge and folklore that support environmental conservation.

Terrestrial ecosystem – the sacred relationship with forest and land

Approximately 69.71% of Bhutan's land area remains under forest cover, supporting exceptionally rich biodiversity and diverse populations of rare flora and fauna (Figure 2). Environmental policies and regulations should empower local communities to manage community forests while integrating traditional ecological knowledge and spiritual values associated with nature into local livelihoods and everyday life. Equally important is fostering the transmission of these values through youth-led conservation initiatives, local festivals, and storytelling traditions, including the legend of *Nyala Dhuem*, to ensure long-term environmental stewardship and community ownership.

The use of trees as metaphors and symbols is among the oldest practices in human history. Sacred trees are revered across religious and cultural traditions as representations of health, renewal, wisdom, longevity, healing, and fertility. In many cultures, cutting down a sacred tree is often associated with the loss of health and well-being. Likewise, in Bhutan, trees are not only revered but also hold spiritual and cultural significance. For example, a cypress tree (*Tsenden Shing*) at Kurjey Lhakhang in Bumthang is believed to have grown from Guru Rinpoche's walk-

ing stick and is revered as a sacred tree and carefully preserved. Such cultural beliefs may foster respect for nature and contribute to the conservation of forest.

The natural environment is widely recognised as a key determinant of human health. Exposure to natural environments is associated with a range of health benefits, including improved cardiovascular health, better mental health and well-being, and more favourable pregnancy and birth outcomes. Evidence also suggests associations with reduced depressive symptoms and improved cognitive and behavioural outcomes, although the strength of evidence varies across health outcomes [4]. Physiologically, exposure to forest environments has been shown to increase parasympathetic nervous system activity while significantly reducing sympathetic activity, thereby contributing to stress reduction and improved health and well-being [5]. One nature-based intervention that facilitates such exposure is “forest bathing,” which involves slow and mindful engagement with the sensory experiences of the forest, including its sights, sounds, smells, and physical sensations, to promote physical and mental well-being. Empirical evidence suggests that spending time in forests can alleviate anxiety and depression, enhance positive affect, and reduce negative emotions such as tension and fatigue [5], while also improving quality of life.

LAKES IN BHUTAN – BEYOND THE WATERS OF BOATING

Bhutan has approximately 567 glacial lakes across



Figure 2. Forest coverage on the Himalayan ranges, Bhutan. Photo by Nidup Dorji



Figure 3. Meandering Punatsangchu river at Punakha, Bhutan. Photo by Nidup Dorji

four major river basins, accounting for 19.03% of the country's water bodies and 0.14% of land area. Unlike in many other countries, Bhutanese lakes remain undisturbed by recreational activities. These lakes and their associated watersheds provide vital ecosystem services, including clean drinking water, hydropower generation, irrigation, and water for industrial use, while reducing reliance on non-renewable energy (Figure 3). However, climate change poses serious threats through glacial lake outburst floods, erosion, and declining water availability, with nearly 26% of Bhutan's water sources drying up or at risk of scarcity. Traditional beliefs, indigenous taboos, and sacred narratives surrounding lakes continue to promote environmental stewardship and play a crucial role in safeguarding fragile freshwater ecosystems for future generations.

DESCENT OF BLESSED WATER CELEBRATION – CONNECTION WITH MOTHER NATURE

The Descent of Blessed Water (*Thrue Bab*) is an annual Bhutanese observance held in September, marking the end of the monsoon season. Rooted in Buddhist tradition, it celebrates the spiritual sanctification of water, with ritual bathing believed to cleanse negative energies, purify the body and mind, and promote physical and spiritual renewal. As a public holiday, the observance brings family and communities together through shared meals, traditional games, and outdoor activities, thereby

reinforcing social cohesion, community vitality and cultural identity. For Bhutanese people, *Thrue Bab* embodies a deep reverence for the rhythms of nature and a spiritual connection with the environment. The belief in the sacredness and restorative qualities of the water reflects the indigenous ecological wisdom. Through the ritual use of water as a medium of healing, renewal, social bonding, and community participation, *Thrue Bab* highlights the importance of preserving clean water sources for both cultural continuity and public health.

While the water rituals of *Thrue Bab* are rooted in spiritual and cultural meanings rather than biomedical intent, they nonetheless converge conceptually with principles of water, sanitation, and hygiene (WASH) practice. Scientific evidence consistently underscores the critical role of safe water, sanitation and hygiene in shaping public health, including through reductions in diarrheal diseases, improvements in nutritional status, and reductions in parasitic infections [6]. Thus, the traditional reverence for water expressed through *Thrue Bab* may foster a cultural appreciation of water as a valued and sacred resource, complementing contemporary public health efforts to protect water quality and promote sanitation and hygiene.

UNTOUCHED HEIGHTS – BHUTAN'S REVERENCE FOR SACRED MOUNTAINS

In a predominantly agrarian society such as Bhutan, cultural beliefs surrounding the sanctity of ice-capped



Figure 4. Mountains and mountain peaks untouched by anthropogenic activities, Bhutan. Photo by Nidup Dorji

mountains may reinforce the imperative to conserve glaciated highlands, which are important sources of freshwater and contribute to long-term ecological resilience. Longstanding Bhutanese beliefs regard mountain peaks as abodes of higher spiritual beings (Figure 4). Historically and culturally, mountains have also served as sites of spiritual retreat and transformation of ascetics, renunciants, and truth seekers. This spiritual reverence is cited as one of the factors contributing to Bhutan's large number of unclimbed mountain peaks. Mountains also provide numerous benefits for the body, mind, environment and relationships. For example, a longitudinal study from Switzerland revealed that dying from heart diseases and stroke significantly decreased with increasing altitude [7]. Populations residing in alpine environments have also been reported to exhibit favourable health indicators, including greater life expectancy, which may be potential benefits of a better-quality environment, healthy behaviour and lifestyles [8]. However, these findings stem from ecological and observational study designs and should therefore be interpreted cautiously due to confounding factors. Nonetheless, preservation of mountain ecosystems yields not only ecological and health-related benefits but also spiritual and socio-economic advantages.

OPEN DEFECACTION AND URINATION IN SACRED PLACES – A TABOO

Bhutan has strong cultural norms against urinating or defecating in sacred places. This cultural prohibition of open defecation and urination represents a

plausible contributing factor to the low prevalence of soil-transmitted helminth infections in Bhutan [9], although other environmental, socio-economic, and public health factors are also likely to play important roles. The sacred landscape of Kurje, for example, is believed to bear self-arising mantra syllables within its meadow grasses – a spiritual phenomenon regarded as sacred in accounts associated with prominent Buddhist saints such as Lama Drukpa Kinley alias Divine Madman and the 12th and the 13th Je Khenpos of Bhutan. As such, no domestic animals were allowed to graze on grounds near Kurje during the reign of the 2nd King of Bhutan. Such reverence continues to safeguard the sanctity and cleanliness of the site today.

PHILOSOPHICAL BELIEFS FOR MENTAL RESILIENCE

Acknowledging mind and mindfulness

Mindfulness, understood as being fully present and aware without judgment, is closely associated to Bhutanese culture. Bhutan continues to embrace modernisation with mindfulness because economic development with ever increasing consumption is perceived as environmentally unsustainable, potentially contributing to global challenges such as climate change, biodiversity loss, food insecurity, and environmental degradation. Although societal mindfulness may contribute to sustainable lifestyles and wellbeing, the nature, magnitude, and the causal pathways of this relationship remain insufficiently understood. Going by the greater loss of resources



Figure 5. Statue of Guru Rinpoche at Takila, Lhuentse, Bhutan. Photo by Nidup Dorji

elsewhere, Bhutan's mindful use of resources reflect Bhutanese leaders' fortitude. Mindfulness has gained popularity in modern therapeutic and wellness contexts. However, its broader applications across health, sustainability, and social cohesion remain an area of ongoing research. Evidence from systematic review suggests that mindfulness-based interventions may improve quality of life and reduce psychological symptoms among people with cancer. A systematic review and meta-analysis of 29 randomised controlled trials involving 3,476 cancer patients found that mindfulness-based interventions were associated with reductions in anxiety, depression, fatigue, and stress, as well as improvements in quality of life [10]. Other studies also affirm that mindfulness practices contribute positively to physical and mental health, and resilience. Thus, mindfulness may be understood not merely a contemplative practice but as a vital, integrative approach to life that supports sustainable well-being and societal flourishing.

Karma and impermanence

Karma and impermanence are the core concepts of many Eastern philosophical systems, especially in Buddhism that deeply shape one's perspectives on both physical and mental health (Figure 5). Karma refers to the law of cause and effect, wherein mental, verbal, and physical actions result in corresponding consequences. The belief that individuals will eventually experience the consequences of their actions may influence health-related behaviours and coping strategies. The concept of karma can be used to interpret and give meaning to stressors, such as viewing illness as a karmic consequence, which in turn may

promote psychological acceptance and resilience.

Impermanence, understood as the transient nature of all phenomena further influences how individuals relate to health and life circumstances. Recognising that all experiences, including bodily states, emotions, and life events, are constantly changing can foster emotional flexibility and reduce psychological distress. In a recent study on COVID-19-related fear found that belief in impermanence was associated with lower levels of fear, suggesting that individuals who accept the ever-changing nature of existence may be better able to cope with fear arising from negative life events [11]. Although empirical research on the health-related impacts of karma and impermanence remains limited, emerging evidence supports their psychological and behavioural relevance. These concepts may serve as culturally grounded frameworks that promote adaptive coping, emotional regulation, and holistic well-being.

ONGOING STRUGGLES AND CHALLENGES OF THE TRADITIONAL BELIEFS AND CULTURAL PRACTICES

Recognising the pivotal role that beliefs and traditions play in safeguarding public health and well-being, it is evident that numerous challenges persist and are likely to continue in the future. The erosion of traditional knowledge and practices has been well documented. Notably, the decline in human-nature connection, estimated at 60% over the past two centuries and projected to persist through 2050 [12], is of considerable concern and urgency. The Bhutanese worldview, which venerates all beings and environmental elements as sacred, embodies a profound

cultural ethos that encourages positive engagement with nature and warrants deliberate efforts to ensure its transmission to the next generation. Reinforcing intergenerational knowledge transfer through parental engagement programmes and the integrating of nature-based/indigenous learning into the educational curricula are therefore warranted [12].

Substantial evidence indicates that acculturation presents a significant threat to indigenous knowledge systems and practices. For example, challenges facing Bhutanese Traditional Medicine (*Sowa Rigpa*) include scepticism about scientific validity; nevertheless, many people continue to use and report satisfaction with its services [13]. With increased exposure of the Bhutanese communities to diverse culture and belief systems, acculturation risks undermining indigenous epistemologies and traditions. For instance, the death rituals of the Lhop community are challenged by modernisation, threatening the continuity of these traditional practices.

The advent of rapid modernisation and urbanisation has introduced values such as gender equality, individualism, and scientific rationalism that often stand in opposition to traditional belief systems. Moreover, the scientific advancements and the process of rationalisation may challenge or contradict established religious, spiritual, and mythological frameworks. The forces of globalisation have further eliminated dominant cultural norms, accompanied by frequent overshadowing and dilution of local traditions. This dynamic is evident in younger generations, who increasingly question and, in some cases, abandon the beliefs upheld by their elders. This trend is particularly pronounced in many Western contexts, where traditional belief systems are witnessing and experiencing significant decline.

Thus, change in indigenous beliefs does not necessarily have to be progressive, but respecting continuity can honour and acknowledge the deep, intrinsic and inherent knowledge embedded in longstanding ways of life. Therefore, preserving beliefs and traditions, not out of nostalgia but out of respect for their intrinsic value, can offer ecological wisdom rooted in sustainable practices, psychological and emotional grounding through identity and belonging, sense of community, ritual and culture. However, shared narratives, their continuity, and spiritual frameworks can foster social cohesion, humility, and reverence for life in accommodating indigenous beliefs.

STRENGTHS AND LIMITATIONS

This paper presents the authors' viewpoints and the interpretation of the available evidence. However, such interpretations may not be applicable in other social settings and contexts. Therefore, the opinions and recommendations are intended to stimulate discussion, safeguard the seemingly dwindling rich cultural and traditional beliefs, generate new ideas and draw hypotheses rather than provide definitive conclusions.

CONCLUSION

Indigenous belief systems and traditions play a crucial role in promoting health and well-being, offering time-tested, holistic approaches rooted in the interdependence of individuals, communities, and ecosystems. Reverence for forests, rivers, mountains, and other natural elements forms a foundational ethic in many indigenous cultures, including in Bhutan, encouraging a harmonious human-environment relationship and offering a culturally grounded framework for addressing pressing global challenges such as environmental degradation, climate change, and biodiversity loss.

As we have advanced into the 21st century, there is a call for interdisciplinary approaches that respect and integrate indigenous wisdom into health and environmental policy, with policymakers encouraged to meaningfully engage with local belief systems.

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Consent for publication

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Author contributions

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