



The Interaction of Buddhism and Forestry Conservation in Bhutan

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ABSTRACT

While much of the world has struggled to adequately respond to the climate crisis, Bhutan, a small state at the eastern edge of the Himalayas, has successfully applied an extensive forest conservation program. The Bhutanese constitution mandates the protection of 60% of the state's forests in perpetuity, though conservation efforts over the last 20 years have led to their surpassing this goal by over 10%. Bhutan sequesters twice its annual carbon footprint, and climate change is considered both a key policy priority and a pressing concern in daily life. The interaction of Buddhist faith and ecosystem management in Bhutan has led to an unprecedented and globally unique degree of conservation.

Introduction

Balancing conservation with increasing demands for resources has proved difficult for many states due to the overwhelming weight of market considerations in government decision-making. This has deeply destabilized the ecosystem health of over half of the world's forests, and, lacking a dedicated effort at broader forest management, large-scale exploitation has the potential to produce a global crisis and exacerbate climate change (Grantham et al. 2020). Bhutan is perhaps the most prominent outlier to this figure, vastly exceeding ambitious conservation goals and maintaining high public support. The interaction of Buddhist faith and ecosystem management in Bhutan has led to an unprecedented and globally unique degree of conservation. Despite its adjacency to two global superpowers, Bhutan has been highly isolated throughout much of its history, largely due to its rugged geography. Having never been colonized, Bhutan has enjoyed continuous and uninterrupted cultural development going back thousands of years. The isolated nature of their culture and beliefs has made them much more comfortable charting a globally distinct path and privileging spiritually derived values. The success of this policy in fulfilling the conservation goals set out by the Bhutanese constitution has required a high degree of ideological consensus, a non-linear conception of time, a limited engagement with the market, and the need to respond to the climate emergency.

Profile of Bhutan

Bhutan, a small state at the eastern edge of the Himalayas, is unique in many key respects,

which have allowed it to successfully apply an extremely rigorous program of conservation. 62% of Bhutan's population of 730,000 people live in rural areas and survive through small-scale, community-based subsistence farming (AFoCO-EML 2021). The natural segmentations within Bhutan are so stark that different dialects and cultural groups can exist in adjacent valleys (Tshewang et al., 2021). The same effect can be seen in its forests, many of which contain globally unique species. In addition to being the backbone of rural subsistence lifestyles, forests provide recreational, aesthetic, and spiritual benefits.

Conservation efforts are also borne in part out of practical concerns, as Bhutan's rugged terrain makes it highly vulnerable to extreme weather events and the effects of climate change (Tshewang et al. 2021). Many overlapping trends, such as the increasing rate of glacier melt, risk producing environmental catastrophe if left unchecked. Bhutan began conservation efforts in 1958, the most prominent change being the nationalization of forests in 1969, following an increase in natural resource exploitation that threatened to upset its delicate ecosystems (Wangdi et al. 2013). Most of Bhutan's population lives in a very limited altitude range at the bottom of the sharp Himalayan valleys, meaning clearing forests has the potential to destabilize topsoil, exacerbate flooding, and disrupt the network effects of ecosystems at higher altitudes (Chogyel et al. 2020). The Bhutanese constitution mandates the protection of 60% of the state's forests in perpetuity. 72% of the state is covered by forests, up from 66% in 2000. Bhutan sequesters twice its annual car-

bon footprint, and climate change is considered a key policy priority and a pressing concern in daily life. Under the Environmental Assessment Act (2000), Bhutanese legislators are required to verify the sustainability of their policies in the processes of formulation, implementation, modification, and renewal (Wangdi et al. 2013). Whether this approach is determined by faith, history, or a necessary pragmatism cannot be said for certain, but all three factors hold enormous importance in determining policy.

Bhutan engages minimally with the global market and measures the aggregate productivity of the state through Gross National Happiness (GNH) rather than Gross Domestic Product. GNH focuses on four key pillars: sustainable and equitable socio-economic development, environmental conservation, the preservation and promotion of culture, and good governance. The trending of this measure, which is derived from the findings of an annual survey revealing the roots of the nation's happiness and discontent, serves to guide the decisions of the state and inform good development (Karma et al. 2012, 8).

The decision to measure the performance of the state according to levels of happiness has deep historical roots. The first Zhabdrung (regional religious leader) Ngawang Namgyal, the founder of Bhutan, embodied both political and spiritual authority and established the penultimate imperative of government as assuring the greatest good for its subjects (Ginsburg & Schonthal, 2023). The GNH was first established as the measurement of progress and growth by Bhutan's fourth king, Jigme Singye Wangchuck, in 1972, as the Gross Domestic

Product was seen to be incapable of delivering widespread happiness and well-being (Tshewang et al. 2018). This departure from international norms and its underlying rationales is extremely important in understanding Bhutan's policy formation and governance. Their transition to democracy is relatively recent and occurred through a royal mandate, as the Bhutanese head of state viewed the granting of political agency as necessary to advance collective happiness.

The Gross National Happiness Commission is a government organization which attempts to assess the means by which policy can best improve the lives of its citizens and enhance the "harmonious co-existence of the people with their varied traditions and the natural world" (Tshewang et al. 2018). The Commission considers a wide variety of aspects it deems necessary for an enjoyable and fulfilling life, including community vitality, enhanced living standards, and education, among many others (Karma et al. 2012). The interlinkage between the human quality of life and the health of the surrounding biosphere is a non-negotiable rationale for development (Tshewang et al. 2018).

The Impacts of Buddhist Faith on Conservation Efforts

A key point in understanding the means by which Bhutan is capable of achieving such a high degree of publicly sanctioned environmental conservation is the religious faith shared by the overwhelming majority of its inhabitants. Though Buddhism was not established as the state religion, it served as the guiding philosophy for much of the foundational legislation

and is, therefore, deeply embedded in government (Ginsburg & Schonthal 2023). Bhutan first emerged as a constitutional democracy in 2001 through a royal order for the writing of its first constitution, which was completed in 2008 (Ginsburg & Schonthal 2023). The constitution frames Buddhism as the “spiritual and cultural heritage of Bhutan, which promotes the principles and values of peace, non-violence, compassion, and tolerance.” The deep devotion of the Bhutanese to their Buddhist faith cannot be overstated; spiritual and political authority are considered to be deeply intertwined, and Bhutan has been governed by bodies of senior religious figures throughout most of its history. Mahayana Buddhism, the most popular religion in Bhutan, places a strong emphasis on community and the duty of the enlightened to pass on their enlightenment to others.

Ethical conduct under Mahayana Buddhism is derived from three key foundations, the first of which is karma. Karma is not applied by any individual or spiritual entity but is rather a universally applicable natural phenomenon which serves to balance individuals’ fortunes according to their conduct (Long 2019). The second principle is that moral actions and ethical virtues serve as the antidote to damaging and antisocial behaviour such as anger and greed. The third is that good conduct flows from treating others as you would want to be treated. These principles manifest most prominently in a collective obligation to both the community and the environment.

Another key contributor to Bhutan’s success, which is both culturally- and spiritually-derived, is their non-linear conception of

time. Time is imagined as a spiral, with actions in the present affecting and being affected by the future and the past (Ginsburg & Schonthal 2023). The obligation to preserve the environment extends both forward and backward in time as well as to others in the community. This philosophy, embodied by the government in conservation policy, entirely avoids issues of uncertainty in long-term conservation by defining consumption patterns and the relationship with nature in Buddhist terms. Ecosystems in Western understandings of forest management are characterized as large and vastly complicated technologies or networks, whereas in Buddhism, they are a karmic entity (Carse 2012). Care for the ecosystem brings generational prosperity, and reckless exploitation brings disaster and ruin. Though arriving via faith and cultural belief more than scientific evidence, Bhutan understands the mutualistic network approach to ecology and embeds long-term consequences in its environmental policy better than the vast majority of other states.

Conservation Initiatives

Bhutan’s conservation network includes five national parks, four wildlife sanctuaries, and one strict nature reserve in which all human presence is prohibited (Tshwang et al. 2018). Nine biological corridors connecting the protected zones were established by the monarchy in 1999 to limit harmful ‘edge’ effects and increase the genetic diversity of the animals within them (Tshewang et al. 2018). All forests in Bhutan are required by law to have a management plan focusing on sustainability and must actively remove any barriers which prevent such a plan from being imposed (AFo-

CO-EML 2021).

The connection of agriculture and local resource extraction with welfare –and often survival– means conservation efforts and their enforcement are an extremely difficult issue. Enforcement of strict conservation mandates without the support of rural peoples who rely heavily on forests succeeds only in growing resentment towards the government, an issue Bhutan has effectively circumvented with their community forest initiative (Sears et al. 2018). Community forests, a system which grants some autonomy to communities to establish a sustainable program of natural resource exploitation, are a key mechanism through which the state balances the needs of rural peoples with conservation (Wangdi et al. 2013). There currently exist 804 functioning community forests covering 40,000 hectares (51% of the land) in Bhutan, each of which is policed by a village forest guard elected by their community on an annual or biannual basis (AFoCO-EML 2021). Communities are allocated 2.5 hectares per rural family (FAOUN 2007). This system recognizes that forests – even those of the same type – are not generalizable and that the communities attached are best equipped to determine the ideal course of action. The natural segmentations within Bhutan are so stark that different dialects and cultural groups can exist in adjacent valleys (Tshewang et al. 2021). The same effect can be seen in its forests, many of which contain globally unique species. In addition to being the backbone of rural subsistence lifestyles, forests provide recreational, aesthetic, and spiritual benefits (Wangdi et al. 2013). In surveying forests, the Bhutanese government

found them to have highly specific material and spiritual value attached to communities, often containing religious spaces whose importance was highly localized (Sears et al. 2018). The cultural segmentation in Bhutan under the umbrella of a common Buddhist faith has produced common and community-specific imperatives to conserve forests.

There are several overlapping trends which have the potential to wreak havoc on Bhutan and, therefore, make widespread sustainability efforts an attractive policy direction. Included in Bhutan’s forest conservation efforts are a wide range of accessory initiatives such as soil and watershed integrity, both of which are deeply interlinked with forestry. Bhutan, like many other South Asian countries, has an extreme precipitation cycle, and 70% of its rainfall is concentrated in an approximately two-month period (Tshewang et al. 2021). In addition to monsoons, much of Bhutan’s water comes from glacial melt in the Himalayas. Increased annual melt, similarly confined to a single season, places a greater strain on watersheds and increases the risk of floods (Tshewang et al. 2021). Paired with increased timber extraction and heightened risk of forest fires caused by a warming climate, these trends have the potential to do enormous and irreversible damage to the ecosystem in a short period.

Globally, the parameters of forest management tend to be determined largely by demand rather than genuine concern for the ecosystem’s integrity. Bhutan has proven that it can establish a set amount of land and time necessary to ensure sustainable forestry through its community-managed planted-forest initiatives, thus

removing considerable ambiguity from sustainable forestry practices (Rai et al. 2020).

Barriers and Policy Gaps

This strict program of conservation has not been without drawbacks; as a result of their refusal to exploit their natural wealth, Bhutan is lacking in financial resources. This manifests most clearly in their inability to conduct high-level research on the integrity of their forests, thus producing a serious bottleneck of the state's research and monitoring capacities. The tools necessary to conduct such research on the health of Bhutan's ecosystems are largely beyond the means of the state, research which would likely have only limited generalizability due to the enormous biodiversity created by its geographic segmentations and sharp differences in altitude. Without knowledge of the specific consequences of extraction, Bhutan can choose to be stricter about regulations to avoid the issue entirely, but it also lacks the means to adequately police its forests to prevent rising illegal exploitation (Wangdi et al. 2013). Bhutan is highly selective about the foreign aid they accept in order to avoid trade conditions, relying in large part on philanthropic organizations and the United Nations Convention on Biodiversity fund.

There are serious tensions between conservation and economic development in Bhutan, as is often the case. Among the most serious pressures faced by Bhutan is the reconciliation of the increasing development of the energy sector and forest preservation. The export of hydroelectric power to India is among the largest contributors to Bhutan's GDP (14.3%), and

trends of increasing urbanization have increased domestic demand (Tshewang et al. 2018). Despite sustainability being a key consideration, the expansion of Bhutan's hydroelectric generation infrastructure has the potential to wreak havoc on sensitive watersheds and undo decades of conservation work (AFoCO-EML 2021). Large swaths of the forest must be cut to make way for hydro lines, which have the potential to nullify the progress made by the establishment of conservation corridors – though there is functionally no other choice. Although GDP growth is not a central consideration for the Bhutanese government, the funds produced by the sale of power are key to financing the increasingly expensive infrastructure necessary for the surveillance and management of protected areas.

Related to this issue is the reliance on wood heat in rural areas, which has driven increases in illegal exploitation in protected zones and air pollution (Wangdi et al. 2013). Consumption patterns are extremely low compared to their more developed counterparts but have the potential to be extremely damaging given the limited resource base from which they are drawn. The Bhutanese government has sought to enact a program of infrastructure improvement which would make electric heat more widely available, though a further expansion of the hydro network would require cutting disruptive pathways through forests (AFoCO-EML 2021).

Rural lifestyles and growing populations have placed increasing political and resource pressures on the state. The benefits of forestry conservation tend to appear extremely diffuse (slightly less so in Bhutan due to flood

risk), while their consequences affect the small neighbouring communities in measurable ways. Livestock are an important source of income in rural areas, but grazing on common lands is highly limited due to a fear that clearing the underbrush will push out animals that are necessary for the health of forests. This is a difficult political issue; many such animals are considered pests. It is exceptionally difficult to convince rural peoples of the importance of tigers to the ecosystem while their livestock are being killed.

Though forestry policy and decisive action to mitigate the effects of climate change are broadly supported, they can be locally controversial. Community forests are not a perfect system, and prohibitions on extraction combined with population pressures have produced some localized resentments. Social stratification is widely considered to be a serious issue in Bhutanese society, and extraction rights in communal forests have been found to be scaled according to social stature (Buffum et al. 2010). Just as members of the community are best equipped to assess its needs, they are also vulnerable to being influenced by its petty dynamics.

At the same time, rural people are increasingly choosing to move to urban centres. While Buddhism has allowed conservation processes to be self-regulating, population pressures and the allure of consumption-heavy urban lifestyles have strongly influenced preferences and behaviours. The move from rural to urban lifestyles has the potential to make conservation efforts much easier. However, it produces a different set of political and economic de-

mands which will likely manifest as greater incorporation with the liberal economic regime. Bhutan is not immune to the adverse effects of modernity, and some trade-offs must therefore be made.

Conclusion

Bhutan is a case study of the successes and limits of non-economic governance. Buddhist principles of governance have allowed Bhutan to preserve the majority of its biodiversity and its associated cultural value by essentially internalizing the butterfly effect and a direct spiritual imperative to conserve the environment. Bhutan's success is, in large part, a matter of non-linear time and the obligations produced by Buddhism. Policy decisions for the present are made by considering their long-term consequences, which have a clear potential to be extremely severe. Western forest management has recently begun to imagine forest health as a largely immaterial but invaluable piece of infrastructure, a concept which has existed in Bhutanese culture since time immemorial (Carse 2012).⁴¹

Though inevitability has increasingly entered discussions of the effects of climate change, Bhutan is a clear example that this sort of evaluation is entirely determined by ideological frame. As to whether Bhutan holds any generalizable keys to success in improving forest management, the answer is both yes and no. Though they have not received the global renown they deserve, Bhutan's policies have been influential within their cultural sphere. Community forests have been established in India and Nepal and have succeeded in increasing

conservation mostly due to their shared ideological and cultural foundations (Buffum et al. 2010). Bhutan is located at the top of vitally important watersheds which serve many populous regions throughout southeast Asia, meaning their conservation policies have concrete impacts which go beyond their borders. Bhutan has achieved something remarkable through the coalescence of its religious faith and collective obligation, clearly demonstrating that large-scale conservation is possible without compromising the quality of life.

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