

# Chapter 5

## Opportunities and Challenges in Sustainable Development and Governance in South Asia: Case Study of Bhutan



**Shanawez Hossain and Ahmad Tousif Jami**

**Abstract** The future of the post-COVID, climate “red code” world, hugely depends on good governance and a transition to low carbon. World leaders have repeatedly stated a unified goal of establishing a carbon-neutral society by mid-century. Analysis shows that South Asia’s strong economic expansion has paved the way toward sustainable development, yet the region still has many unsustainable practices, except for Bhutan. As the first-only carbon-negative country globally, it is vital to extensively study, learn, and optimize Bhutan’s best practices to improve global climate practices. Bhutan’s three G model (gross domestic product—GDP, greenhouse gasses—GHG, gross national happiness—GNH) expands development metrics beyond GDP to people’s happiness and environmental well-being. This study demonstrates how adapting practices from Bhutan, which have been molded by local experiences, problems, and opportunities, would effectively bolster green climate practices in the South Asian region.

**Keywords** Bhutan · Carbon negative · Governance · South Asia · Sustainable development · Three G model

### 5.1 Introduction

The world has reached a tipping point of climate change, where we can no longer afford to further trade-off environmental well-being. Environmentalists, politicians, policymakers, and global leaders all reached a consensus in the recent United Nations Climate Change Conference (COP26) held in 2021 at Glasgow, United Kingdom, that everyone must work together to address climate change. However, the recent pandemic of COVID-19 has caused massive economic and social harm. Therefore, environmental policies up ahead must resonate in adjustment with economic

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S. Hossain (✉) · A. T. Jami  
Independent University, Bangladesh (IUB), Dhaka, Bangladesh  
e-mail: [shanawez@iub.edu.bd](mailto:shanawez@iub.edu.bd)

and social development. This framework also aligns with the United Nations (UN) Sustainable Development Goals (SDGs).

Although the goals are similar globally to work toward a more green planet, specific economic, social, and political disparities across regions, countries, and other local contexts make future policy requirements dynamic. So, the challenges for each region and country are uniquely different. The South Asian region here is uniquely crucial given the diverse economic, environmental, and political situations. Most importantly, the world's only carbon-negative country Bhutan is also located in South Asia. Since 1999, Bhutan has embraced a policy framework of development that focuses on social, economic, and ecological sustainability by using the three G model: gross domestic product (GDP), greenhouse gasses (GHG), and gross national happiness (GNH).

This paper presents a case study that analyzes how Bhutan achieved its negative carbon status and examines the lessons that other South Asian countries can put into practice through an extensive literature review. As many South Asian countries continue their path toward sustainable development, this study extracts relevant practices from Bhutan, considering the scope of requisites for local optimization.

## 5.2 Bhutan: World's First Carbon-Negative Nation

A place is considered carbon negative if its greenhouse gas emissions consist of less than zero carbon dioxide (CO<sub>2</sub>) and carbon dioxide equivalent (CO<sub>2</sub>e), based on the net emissions produced, as it is impossible to emit a negative amount of carbon (or any other physical material). Bhutan's greenhouse gas pollution is mitigated by its vast forests covering nearly three-fourths of its total area and reduced by creating and exporting renewable energy. Bhutan is a special case in exporting renewable energy, especially clean energy, from its hydropower resources. Bhutan produces 2.2 million tons of carbon per year, but its wood absorbs three times, creating a carbon sink (Rao 2016).

Such phenomenal achievement of Bhutan is led by strong political agenda and related actions such as banning log exports, a constitutional amendment to keep at least 60% of the country under forest cover, promotion of electric cars, limiting the number of tourist entry in a given time, reducing waste generation, providing free electricity to rural farmers to reduce their dependence on wood stoves for cooking, and replacing fossil fuel-based electricity by renewable sources such as wind, biogas, and solar power among other actions.

Further, Bhutan sets a unique example of sustainable development by establishing three main aims of development: social, economic, and environment, each of which includes quantitative indicators, and adopted a metric of the three Gs sustainability rose as a new worldwide idea in the 1980s due to the failure of single-minded economic expansion (World Commission on Environment and Development (WCSD) 1987). Although economic development is necessary, it should not be the

only dictating factor while creating a development framework. Instead, environmental and social factors must be adjusted while the frameworks are created. So, as countries plan for sustainable development, climate change is a major concern that must be addressed besides economic development. This necessitates nationally determined contributions (NDCs) that demonstrate how each country may fulfill its economic objectives while significantly reducing greenhouse gas emissions. Based on these initiatives and actions carried forward by the government in collaboration with private institutions, Bhutan successfully implemented a sustainable development agenda. This effectively makes Bhutan a country with a net carbon sink and means that they are on track to achieve sustainability in a way that their citizens are also happy.

### 5.3 How Bhutan Became Carbon Negative

In recent decades, the economic growth has been steady, with a 7.6% GDP increase each year. This means that the Bhutanese economy is on a proper track. Furthermore, Asian Development Bank anticipates Bhutan's GDP growth trajectory which will continue to be high until 2030, ranging from 6.6% to 7.4% across potential scenarios (Mitra et al. 2014). The Bhutanese economy underwent major reformations to balance economic development with environmental well-being in the past half a century. Bhutan's economic policies do not compromise the environment and aim to mitigate harm in the most effective ways possible. This suggests that the GNH's socio-environmentally oriented development philosophy has not yet hampered economic progress. As the three G model has not hampered their economic development and is predicted to continue to be helpful even in future, the Bhutanese government will continue to support this model in future as well. The major takeaway here is that the Bhutanese model of three Gs has worked successfully for Bhutan thus far.

One of the three worldwide issues in the twenty-first century is the growing concentration of GHG due to human activity, which contributes to climate change (Newton and Newman 2015). These human activities on a micro-level include unnecessarily using air conditioners and increased consumption of products that require carbon burning. Furthermore, on a macro level, this includes using carbon in instances such as factory production, which also contributes to increased carbon emission. All of this has contributed mainly to environmental shifts, such as changing our climate. This shift will have various consequences on cities, countries, and societies, impacting the citizens.

Bhutan, a small country with a net carbon sink and sparse population, perceives environmental challenges as a danger to sustainable progress despite contributing very little to the phenomenon compared to other significant contributors. That is to say, countries such as the United States of America, China, and Russia contribute to climate change significantly more than Bhutan. If anything, with Bhutan's current net carbon sink status, it is safe to assume that Butan is no longer contributing to climate change at all. Therefore, Bhutan is not as responsive to protecting the environment

as other countries harming the environment. Nevertheless, Bhutan has actively tried to follow its three G model to safeguard environmental well-being. Under the three G model, Bhutan has crafted its policy framework from the national level with local indicators. In fact, the practice of maintaining indicators has been a trend for Bhutan for nearly half a century now. Bhutan created a policy in 1974 to increase total forest coverage by 60% in total, which may be attributed to its strong forest conservation strategy in light of its small population and limited geographical accessibility due to its rugged terrain and the stringent policy mentioned above. According to Bhutan's most recent National Forestry Inventory available to the public, the nation has a forest cover of 71% (Ministry of Agriculture and Forestry 2017). This means that Bhutan was not only able to live up to its initial indicator of maintaining the forest coverage to 60% of its total area, but they have successfully gone beyond that, and now they have a forest coverage of 71%. This also means that Bhutan takes its indicators seriously and tries its best actually to achieve them. Therefore, the policymaking of Bhutan is presumably made realistically as opposed to just having goals that they cannot achieve. Furthermore, this also means Bhutan adapts its local indicator requirements over time given factors such as capacity is subject to change across timelines given the initial 60% forest coverage plan that they had is now at 71%, and they are trying to preserve it further as opposed to stopping it at 60%.

The philosophy of Bhutan's three G model was first discussed and adopted by Majesty Jigme Singye Wangchuck, Bhutan's Fourth King, in the 1970s (Munro 2016). From that point onwards, Bhutan always remained committed to maintaining the three G framework through proper policy support, such as the renaming of the Planning Commission as the GNH Commission (Givel 2015). This renaming is significant because it signifies the heavy importance Bhutan gives to its citizens' happiness. It is worth noting that such renaming measures are unique to the case of Bhutan as well. Furthermore, Bhutan's Constitution currently directs the government to improve the circumstances for pursuing the GNH (Royal Government of Bhutan 2008). This means the foundation of Bhutan requires the country to prioritize people's happiness through securing environmental protection. The GNH is an alternative development model and is seen by Bhutanese people as a paradigm for attaining sustainable development initiatives in Bhutan (Brooks 2013). That is to say that an average Bhutanese citizen would categorize environmental improvement as a nation's development. It is worth noting that the GNH is well known for its innovative approach to well-being policies (Alkire 2015). Because to include the GNH metric in its policy framework, Bhutan being the only country to do this, they do not have the scope to take lessons from other countries. Instead, they have to carefully design their policies and practices such that the success possibility is high and remains sustainable. It is also important to note that these measures have resulted in Bhutan being a very equitable and sustainable country with a mostly happy population despite its low per capita GDP (Ura 2015).

Thus, as a country without a robust economy, Bhutan is still balancing economic growth to allow it to decrease greenhouse gas emissions (Hayden 2015). Environmental policies are still expensive because it requires massive investment from the government. However, with its limited resources, Bhutan found a balance to prioritize

the required investment without compromising the happiness of its citizens and their economic development. Therefore, Bhutan is an example to countries worldwide that are facing challenges in prioritizing environmental policies given the economic limitations. Moreover, Bhutan's efforts have unquestionably elevated the country to the forefront of environmental stewardship globally, which is now inspiring the rest of the globe to follow in its footsteps as well. Before, the goal of becoming a carbon-negative country was unthinkable for many countries, and therefore, they would not even craft policies in that direction. Bhutan successfully achieving the carbon-negative status has changed this, and now, countries can imagine what the direction toward a net carbon sink nation looks like.

## 5.4 Understanding Environmental Practices of South Asia

Over the past few decades, South Asia has experienced significant economic improvements (Bloom and Rosenberg 2011). Countries such as Bangladesh, Maldives, India, Nepal, and Bhutan have achieved mostly good economic development trajectories. Although the degree of development varies within these countries, given that some countries have higher growth rates than others, the overall region has seen substantive improvement. However, many of these developments have come at the cost of significant harm to the region's environment, and South Asia is now plagued by many environmental issues (Alauddin 2002). In addition, it is worth noting that South Asia, with its limited resources, cannot invest heavily in environmental policies.

Besides, the region has seen many political shifts and challenges over the past few decades. Although the nations are mostly of democratic practices, the system has many flaws. Many political leaders do not have the goodwill to do well but instead want to be in power. In instances where they do have goodwill, it is not often to the required extent to overcome the challenges of unhealthy politics and limited resources. Therefore, although the economic development is still in a good track record, the environmental track record, unfortunately, is not as good. The air quality index records of many South Asian countries are literally at the bottom end as well.

Many factors, including urbanization, industrialization, and the combustion of fossil fuels, contribute to increasing CO<sub>2</sub> levels in the atmosphere and creating additional greenhouse gasses (Khwaja et al. 2012). Increasing population increases the usage of the land, the amount of burned fossil fuels, and the need for industrialization that negatively impacts the environment. The lack of attention toward forestation practices and climate-oriented frameworks at the national level are significant contributors to harmful climate impacts in most South Asian countries. For instance, deforestation is not punishable by law in most countries.

Most importantly, South Asian countries other than Bhutan do not consider happiness and environmental well-being part of their development indexes. Therefore, they often do not have a solid balance between the SDGs and their overlapping modalities with the environment. Moreover, because environmental well-being is not considered

a key development indicator, other traditional metrics such as GDP are more important. So, the priority to protect the environment is heavily compromised. Hence, there is a mismatch between economic development and environmental development in the South Asian region.

## **5.5 Conclusion and Policy Recommendations**

Most South Asian countries have achieved overall economic growth; however, many unsustainable practices remain. For instance, decreasing the usage of fossil fuels and adopting clean energy are still unadopted practices. Despite some efforts by other South Asian countries to create a sustainable environment, Bhutan is the only country to actualize it by becoming a first-ever carbon-negative country both within the region and in the world.

### ***5.5.1 Balancing GDP Growth***

Bhutan considers the three Gs (GDP, GHG, and GNH) and ensures that they are balanced with one another. Although other South Asian countries use GDP as a growth metric, the unique difference is that those countries do not consider GHG and GNH as balancing metrics, unlike Bhutan. So, countries need to determine local indicators and a framework that adjusts the focus on GDP, GHG, and GNH. The metrics should be created based on the local requirements of each country. However, there should be an effort to prioritize all three indicators to the greatest extent possible equally.

### ***5.5.2 Focusing on GHG***

Reducing greenhouse gas usage is another major factor that South Asian countries must prioritize. Often, these countries fail to take strict measures here to prioritize the growth of GDP, given that many actions required have an economic tieback. Therefore, if GDP is considered the primary factor with a balance of GHG reduction, greenhouse gasses can be reduced more. That is to say, while the requirements of GHG reduction may seemingly harm the growth of GDP in the short term, it may plausibly be beneficial in the long term when the country can reach a relatively sustainable environmental situation. Moreover, greenhouse gas may be fought by ensuring more forestation. Although most countries may fail to attain a high forestation percentile of 71%, such as that of Bhutan, it is still beneficial if they can increase the percentile from whatever they have in the status quo. Even if the countries can

achieve only 33% of their area to be forest-covered, that would be a massive improvement. Over time, these indicators may be adjusted with higher goals. So, an initial goal of 33% may go up to 50% and higher eventually, just as Bhutan's initial 60% goal has resulted in a 71% forest coverage.

### ***5.5.3 Incorporating GNH***

Adopting the model of GNH is not limited by financial concerns, unlike GHG, because people's happiness in this metric is contingent on citizens' contentment, and it ties back to the environment instead of economic metrics only. South Asian countries should prioritize GNH in their sustainable development pathway and can have a dedicated authority to measure the GNH of their respective countries. They should use this data to balance GDP and GHG so that there remains a balance between people's happiness and sustainable development. Countries may acknowledge GNH as a constitutional requirement if feasible. If not, countries may have dedicated ministries to protect and uplift the GNH metric. If that is also not feasible, then countries must ensure GNH is at least being considered in drafting GDP and GHG improvement policies.

### ***5.5.4 Political Goodwill***

Although South Asian countries face many challenges in their political environment, there must be a strong will to overcome those challenges of the political leaders. Efforts must be taken at national and regional levels to address challenges of common interest and the maintenance of public goods. For this, the development of the political situation and action is needed both at the local and regional levels. Countries may take inspiration from Bhutan's goodwill in protecting the environment. It is worth noting that often the demand for the citizen's carbs is the priority of the political leaders. Therefore, awareness programs regarding environmental sustainability for the citizens may also be considered. Additionally, environmental concerns may be included in election mandates and discussed more in the parliament sessions. Non-government actors can also carry forward their advocacies independently and in collaboration with the government actors. Accurate data reports of the actual status of the environment, citizens' well-being, and economic progress should be recorded as well. All of this would strengthen the scope to carry forward goodwill of proper environmental protection.

To conclude, Bhutan's government aims to secure people's happiness and subsequently considers environmental well-being a key development agenda. Furthermore, they ensure that GHG emissions are neutral while ensuring a steady rise in their GDP. Bhutan has systematically achieved this by creating dedicated ministries, including the aims in the constitution, political goodwill, and ensuring that there is available

data to track the progression and balance it with the SDGs to reach its carbon-negative status. Unfortunately, most other South Asian countries are yet to adopt such strict and realistic measures for environmental sustainability and implement them. By incorporating such practices, South Asian countries can secure economic development and increase environmental well-being while also contributing to the global fight against climate change, enhancing the region's holistic approach to global environmental sustainability.

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