



A RAIA profile on: **Secretary of the National Environment Commission of Bhutan**

**Sonam Phuntsho Wangdi**

First part of a six part series on climate leaders ahead of the 2024 United Nations Climate Change Conference

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## Introduction

Sonam Phuntsho Wangdi is the Secretary of the National Environment Commission for the Royal Government of Bhutan<sup>1</sup>, one of the eight carbon neutral countries in the world<sup>2</sup>. Under Wangdi's tenure, Bhutan has taken a step further to become the first carbon *negative* country, offsetting about four times its carbon dioxide emissions<sup>3</sup>. This has been achieved through the government's commitment, enshrined in the constitution, to protect the country's forest cover of 60% of the surface land, which currently stands close to 70%<sup>4</sup>. Bhutan's location makes it especially vulnerable to changes attributed to climate change, due to its susceptibility to floods caused by heavy monsoon rains and glacial melts<sup>5</sup>. This is why it is so important for the country to maintain its efforts to find long term solutions that will ensure the safety of its citizens<sup>6</sup>. Wangdi has played an important role in the development of climate related policies within the country since he assumed his post in 2019, which also led him to be selected as one of the 100 most influential people in climate policy by Apolitical<sup>7</sup>.

Bhutan is located between the two powerful nations of India and China, in Central Asia. Since the government shifted to a democratic constitutional monarchy in 2008, it has focused on developing strategies based on the principle and philosophy of Gross National Happiness (GNH)<sup>8</sup>. This progress measuring tool is used by the government, instead of the gross domestic product (GDP) to ensure an emphasis on environmental protection<sup>9</sup>. This strategy has led Bhutan to become both the most sustainable and one of the happiest countries in the world according to global rankings<sup>10</sup>. This has been achieved by tapping into the country's vast natural resources and forming their economy around hydropower and renewable energy sources.

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<sup>1</sup> Sonam Phuntsho Wangdi (kingdom of bhutan). (n.d.). *LDC Climate Change*. Retrieved June 30, 2024, from <[https://www ldc-climate.org/group\\_chair/sonamphuntshowangdi/](https://www ldc-climate.org/group_chair/sonamphuntshowangdi/)>

<sup>2</sup> These 8 countries have already achieved net-zero emissions. (2022). *World Economic Forum*. Retrieved June 30, 2024, from <<https://www.weforum.org/agenda/2022/12/these-countries-achieved-net-zero-emissions/>>

<sup>3</sup> Climate Council. (2017). How did Bhutan become the first carbon negative country? *Climate Council*. Retrieved June 30, 2024, from <<https://www.climatecouncil.org.au/bhutan-is-the-world-s-only-carbon-negative-country-so-how-did-they-do-it/?ref=hir.harvard.edu>>

<sup>4</sup> Rai, A. (2023). REDD+ Fact Sheet Series: Bhutan. *Asian Forest Cooperation Organization*. Ministry of Energy and Natural Resources (MoENR), Royal Government of Bhutan. Retrieved June 30, 2024, from <[https://afocosec.org/wp-content/uploads/2023/11/AFoCO-REDD-Fact-Sheet-LAOS-PDR\\_20231124.pdf](https://afocosec.org/wp-content/uploads/2023/11/AFoCO-REDD-Fact-Sheet-LAOS-PDR_20231124.pdf)>

<sup>5</sup> World Bank Climate Change Knowledge Portal. (n.d.). *Vulnerability | Climate Change Knowledge Portal*. Retrieved July 3, 2024, from <<https://climateknowledgeportal.worldbank.org/country/bhutan/vulnerability>>

<sup>6</sup> How Bhutan is addressing climate change | inter-parliamentary union. (2023). *Inter-Parliamentary Union*. Retrieved July 1, 2024, from <<https://www.ipu.org/news/case-studies/2023-05/how-bhutan-addressing-climate-change>>

<sup>7</sup> Apolitical 100 most influential people in climate: 2022. (n.d.). *Apolitical*. Retrieved June 30, 2024, from <<https://apolitical.co/list/en/most-influential-climate-100-2022>>

<sup>8</sup> Tzung, S. (2022). Carbon negativity in Bhutan: An inverse free rider problem. *Harvard International Review*. Harvard International Review. Retrieved July 1, 2024, from <<https://hir.harvard.edu/carbon-negativity-in-bhutan-an-inverse-free-rider-problem/>>

<sup>9</sup> Nguyen, L. (2023). Bhutan: The first carbon negative country in the world. *Earth.Org*. Earth.Org. Retrieved July 1, 2024, from <<https://earth.org/bhutan-carbon-negative-country/>>

<sup>10</sup> Royal Government of Bhutan. (2018). Sustainable development and happiness - the united nations. *United Nations*. Retrieved July 1, 2024, from <[https://sustainabledevelopment.un.org/content/documents/19369Bhutan\\_NSDGR\\_Bhutan\\_2018.pdf](https://sustainabledevelopment.un.org/content/documents/19369Bhutan_NSDGR_Bhutan_2018.pdf)>



More than half of the population work in agriculture, services and manufacturing, accounting for 87% of the GDP, which is growing thanks to hydropower exports to India<sup>11</sup>. Despite Bhutan's growth in the agricultural sector, it is still a relatively poor country which struggles to diversify its economy due to limited private sector activity, which has been aggravating unemployment in recent years.<sup>12</sup>.

Buddhism is the dominant religion in the country, the basis of the constitution, and the pillar for policies in Bhutan. Bhutanese people are mainly Mayahana Bhuddists, whose purpose is the wellbeing of others. This has resulted in the 1998 document 'The Middle Path' which is considered to be the moderation between pleasure and asceticism, and has become the basis of the GNH. Even though the constitution states that Bhutan is technically secular, the government does subsidise religious institutions, yet assures religious pluralism under the patronage of the King.

However, the reality showcases a Bhuddist advantage, and discriminatory policies on Nepalese Hindus and Christians<sup>13</sup>. Therefore, the influence of Buddhism on politics and culture, coupled with GNH philosophy has allowed 'human rights to become the new religion'<sup>14</sup>. This notion, so implicated in the country, has made environmental policy a cornerstone in Bhutan's national and international plans<sup>15</sup>. Accordingly, this report analyses the relationship between the two: how 'buddhist values' have affected the overall building of Bhutan as a nation, and Sonam's policy making.

This report explores the impact of Wangdi's policy action within the domestic and international plane. The UNFCCC defines a climate leader as someone that strengthens climate action and ambition, at any level, to help combat climate change<sup>16</sup>. Therefore, this report considers him a climate leader, despite previous achievements in environmental goals, as he accomplished international visibility of Bhutan's efforts in addressing climate change.

## Background

Literature regarding Sonam's career is scarce, although his financial background is clear. Wand's first contact with environmental studies might have been at the University of Bern, where he graduated magna cum laude with a Masters in

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<sup>11</sup> Mason, D. (2019). Bhutan's service sector is booming-will its cities cope? *World Bank Blogs*. Retrieved July 7, 2024, from <<https://blogs.worldbank.org/en/endpovertyinsouthasia/bhutans-service-sector-booming-will-its-cities-cope>>

<sup>12</sup> The World Bank In Bhutan. (2023). *World Bank*. Retrieved June 30, 2024, from <<https://www.worldbank.org/en/country/bhutan/overview>>

<sup>13</sup> Arora, V. (2014). Bhutan's human rights record defies 'happiness' claim. *The Diplomat*. Retrieved July 7, 2024, from <<https://thediplomat.com/2014/04/bhutans-human-rights-record-defies-happiness-claim/>>

<sup>14</sup> Van Norren, D. E. (2023). Gross national happiness in Bhutan: Is Buddhist constitutionalism legitimate in the age of secularism? A post-colonial view. *MDPI*. Multidisciplinary Digital Publishing Institute. Retrieved July 7, 2024, from <<https://www.mdpi.com/2077-1444/14/1/72#B3-religions-14-00072>>

<sup>15</sup> Long, W. J. (2019). 5 gross national happiness: A Buddhist model of development. *Oxford Academic*. Retrieved July 1, 2024, from <<https://academic.oup.com/book/11155/chapter-abstract/159615458?redirectedFrom=fulltext#>>

<sup>16</sup> Climate Leaders. (2021). *UNFCCC*. Retrieved June 30, 2024, from <<https://unfccc.int/climate-action/momentum-for-change/climate-leaders>>



International Law and Economics<sup>17</sup>, as the university is recognized as the world's leading hub for environment and sustainability research<sup>18</sup>. His education on economics and commerce partaken in Asia, as well as studying at one of the top universities in Switzerland connotes his more fortunate background, as well as a plenitude of perspectives by having studied in Delhi, India. His early interest in the financial field gave him a unique understanding of how the economy is intertwined with climate policies. This knowledge has allowed him to be particularly outspoken on the international stage on the lack of monetary funding that LDCs (Least Developed Countries) face, in particular during the yearly Conference of the Parties, on the importance of addressing climate change.

Mr. Wangdi started working for the Ministry of Economic Affairs in 1988, where he served as deputy chief negotiator for Bilateral and Regional Trade Agreements for Bhutan's accession to the World Trade Organization (WTO) from 2005 to 2008<sup>19</sup>. His experience in the economic sector at policy, enforcement and corporate domains made him the perfect candidate to become Chair of the LDC Group under the United Nations Framework Convention on Climate Change (UNFCCC), where he achieved renewed support for vulnerable countries with climate change adaptation actions to protect millions of lives<sup>20</sup>.

His contribution to making Bhutan recognized in the international sphere as a leader of the climate transition made him recipient of the Civil Service Gold Medal for 30 years of distinguished service. Yet, beyond his economic background, his post as Director-General of the Department of Hydropower and Power Systems, as well his becoming a member of Bhutan's National Happiness Commission, completed his expertise in the trade and industry focused areas. This has allowed him to make targeted contributions to Bhutan's needs through the development of thorough policies, aimed at maintaining the country's net zero policy. Given Bhutan's vulnerability to climate change due to its proximity to the Himalayas, once the glacier waters start melting, the country needs to ensure water, food and energy security<sup>21</sup>. The resulting natural disasters and consequences are outlined in the stake section of the report, in which Bhutan's main environmental challenges are explored.

This report delves into how a WTO negotiator became the main architect for a net-zero national environmental plan in his country. Economics and

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<sup>17</sup> Sonam Phuntsho Wangdi (kingdom of bhutan). (n.d.). *LDC Climate Change*. Retrieved June 30, 2024, from <[https://www.ldc-climate.org/group\\_chair/sonamphuntshowangdi/](https://www.ldc-climate.org/group_chair/sonamphuntshowangdi/)>

<sup>18</sup> Mathieu. (2023). Bern to become the world's leading hub for Environment and Sustainability Research. *Greater Geneva Bern area*. Government of Switzerland. Retrieved July 1, 2024, from <<https://goba.swiss/en/bern-to-become-the-worlds-leading-hub-for-environment-and-sustainability-research/>>

<sup>19</sup> Sonam Wangdi. (n.d.). *UNCTAD*. Retrieved June 30, 2024, from <<https://unctad.org/node/33151>>

<sup>20</sup> Least developed countries call for increased focus on climate adaptation. (2021). *LDC Climate Change*. Retrieved June 30, 2024, from <[https://www.ldc-climate.org/press\\_release/climateadaptation/](https://www.ldc-climate.org/press_release/climateadaptation/)>

<sup>21</sup> Mahagaonkar, A., Wangchuk, S., & Al, R. (2017). (PDF) Glacier Environment and Climate Change in Bhutan—an overview. *Research Gate*. Journal of Climate Change. Retrieved June 30, 2024, from <[https://www.researchgate.net/publication/319072768\\_Glacier\\_Environment\\_and\\_Climate\\_Change\\_in\\_Bhutan-An\\_Overview](https://www.researchgate.net/publication/319072768_Glacier_Environment_and_Climate_Change_in_Bhutan-An_Overview)>



environmental policy both require international cooperation, an area where Wangdi has earned a reputation as an expert and influential advocate. He led the small nation of Bhutan, hidden in the tall mountains of the Himalayas, to achieve a carbon negative economy, decades before the most powerful nations of the world. This report will examine whether Bhutan's achievement can be attributed to their emissions offsetting forest cover, or to any particular policy, and whether the policies developed within the country are sustainable in the long term, as well as analysing how well they would transfer to an international plan adopted by all nations in order to address the climate emergency.

## Sonam Phuntsho Wangdi's Stake

To understand the environmental challenges Bhutan faces today, it is important to outline the arguable root cause. Bhutan remains vulnerable to the increasing rate of natural disasters caused by climate change. This vulnerability stems from both natural causes and the lack of infrastructure preparedness in the country. Bhutan has faced 12 major earthquakes in the past 50 years, most of which read over 7.0 on the richter scale<sup>22</sup>. These earthquakes have caused significant infrastructural damage which have impeded the process of development in Bhutan. An example of this damage is a 2009 earthquake that generated \$97 million in losses and needs<sup>23</sup>.

Additionally, Bhutan faces flooding, droughts, wildfire and monsoon weather which made up 80% of the average annual natural hazard occurrences from 1980-2020<sup>24</sup>. Both manmade and natural disasters cause infrastructural issues for Bhutan, prompting multiple programmes in coalition with the United Nations Office for Disaster Risk Reduction (UNDRR)<sup>25</sup>. These aim to increase infrastructural defence and thus resilience to these disasters. The significance of these infrastructural issues will become more evident throughout this section.

However, before delving into the three main climate challenges this report will focus on, it is important to recognise the overarching achievement that is Bhutan's carbon neutrality. Shelby Tzung argues that 'Bhutan has found a way to overcome the pull of free riding and emerge as a champion of sustainability, without any guarantees that other countries will catch up in time to prevent Bhutan from suffering'<sup>26</sup>. Essentially, Bhutan has become a pillar for sustainable action whilst being unable to influence the overall global environmental situation.

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<sup>22</sup> World Bank Climate Change Knowledge Portal. (n.d.). *Vulnerability | Climate Change Knowledge Portal*. Retrieved June 5, 2024, from [https://climateknowledgeportal.worldbank.org/country/bhutan/vulnerability#:~:text=The%20country%20is%20exposed%20to,losses%20and%20needs%20\(GFDRR\)](https://climateknowledgeportal.worldbank.org/country/bhutan/vulnerability#:~:text=The%20country%20is%20exposed%20to,losses%20and%20needs%20(GFDRR))

<sup>23</sup> World Bank Climate Change Knowledge Portal. *Vulnerability | Climate Change Knowledge Portal*.

<sup>24</sup> World Bank Climate Change Knowledge Portal. *Vulnerability | Climate Change Knowledge Portal*.

<sup>25</sup> Bhutan is protecting its vital infrastructure systems by strengthening resilience to disasters. (2024). *UNDRR*. Retrieved June 12, 2024, from

<https://www.undrr.org/news/bhutan-protecting-its-vital-infrastructure-systems-strengthening-resilience-disasters#:~:text=Bhutan%20faces%20escalating%20challenges%20from,landscape%20driven%20by%20climate%20change>

<sup>26</sup> Tzung. Carbon negativity in Bhutan: An inverse free rider problem.



Despite this achievement, there is serious doubt whether it can be maintained in tandem with economic growth. Much of this success derives from Bhutan's lack of industrialization. Yqangka, Rauland and Newman developed the LEAP model to assess the longevity of carbon neutrality, and concluded that it will derail between 2037 and 2050 in return for necessary economic growth<sup>27</sup>.

## Water Management

The first of the key environmental challenges that Bhutan faces is water management. Bhutan has an abundant access to water which has both helped and hindered the country<sup>28</sup>. They have one of the highest water resource availability per capita in the world with 94,500 m<sup>3</sup>/capita/annum<sup>29</sup>. However, it is severely underused; only 78% of the population has access to safe drinking water, with 12.5% of the land being irrigated<sup>30</sup>. Additionally, there is an abundance of unsafe water during monsoon seasons and a severe lack of water during the dry season, which often falls in dry winter seasons<sup>31</sup>. As a result, there are serious implications on human health and agriculture. The infrastructural grid is critically impacted by natural disasters which often weakens efforts to improve water management in the country<sup>32</sup>. Consequently, Bhutan is likely hurtling towards a severe lack of usable water by 2030<sup>33</sup>. Overall, the issues with water management has made Bhutan more vulnerable to water scarcity and natural disasters themselves.

## Conservation

The second environmental challenge is conservation challenges. This refers to the forest conservation that has enabled Bhutan's carbon neutral status. Bhutan has a total land area of 4.024 million hectares<sup>34</sup>, and has promised to keep 60% of that forest covered. This is overseen by the Forestry Services Division which has been working on forest management plans in ten year increments since 1964<sup>35</sup>. Protected Areas have played an important role in achieving this amount of forest conservation within the country, in tandem with the GNH core tenets<sup>36</sup>. Despite its

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<sup>27</sup> Yangka, D., Rauland, V., & Newman, P. (2023). Carbon neutral bhutan: Sustaining carbon neutral status under growth pressures. *Sustainable Earth Reviews*, 6/1. DOI: 10.1186/s42055-023-00053-8

<sup>28</sup> Tariq, M. A., Wangchuk, K., & Muttill, N. (2021a). A critical review of Water Resources and their management in Bhutan. *Hydrology*, 8/1: 31. DOI: 10.3390/hydrology8010031

<sup>29</sup> Tariq, et al., A critical review of Water Resources and their management in Bhutan.

<sup>30</sup> National Happiness Commission Bhutan (N.d.). *Bhutan Water Vision and Bhutan Water Policy*.

<sup>31</sup> National Happiness Commission Bhutan. *Bhutan Water Vision and Bhutan Water Policy*.

<sup>32</sup> Chathuranika, I. M., Sachinthanie, E., Zam, P., Gunathilake, M. B., Denkar, D., Muttill, N., Abeynayaka, A., et al. (2023). Assessing the water quality and status of water resources in urban and rural areas of Bhutan. *Journal of Hazardous Materials Advances*, 12. DOI: 10.1016/j.hazadv.2023.100377

<sup>33</sup> Tariq, M. A., Wangchuk, K., & Muttill, N. (2021a). A critical review of Water Resources and their management in Bhutan. *Hydrology*, 8/1: 31. DOI: 10.3390/hydrology8010031

<sup>34</sup> Dhital, D. B. (1998). *Forest management in Bhutan . Forest Operations in Himalayan Forests with Special Consideration of Ergonomic and Socio-Economic Problems* . reading, Thimphu, Bhutan : Thimphu, Bhutan .

<sup>35</sup> Dhital *Forest management in Bhutan . Forest Operations in Himalayan Forests with Special Consideration of Ergonomic and Socio-Economic Problems*

<sup>36</sup> Choden , T., Oyama, N., & Bailey, J. (2016). Conservation Challenges in Bhutan: A Case Study of Phrumsengla National Park, Central Bhutan. *International Conference on Environmental Security and Sustainable Development in South Asia*.



successes, the conservation programme faces threats from both manmade and natural factors.

Illegal timber and human wildlife conflicts have posed threats to the conservation efforts in Bhutan<sup>37</sup>. However, natural disasters, particularly forest fires, pose a much larger threat to the forest cover that Bhutan relies on. National statistics show that there has been a worrying increase in forest fires in the past years. In 2019 there were 40 cases, damaging 352.72 hectares, increasing to 43 cases destroying 4380.05 hectares in 2021<sup>38</sup>. This amount of damage threatens to not only break Bhutan's promise of maintaining at least 60% forest cover but also remove their carbon neutrality. Overall, conservation challenges threaten the pillar of Bhutan's climate action and remain in a precarious state.

### **Sustainable energy**

The final challenge this report will focus on is the implementation of sustainable energy sources. This has been a notable struggle for Bhutan, once again harking back to the infrastructural issues the country is facing. Given its lack of significant reserves of fossil energy resources<sup>39</sup>, Bhutan imported 39,389 MT of petroleum and oil from India in 2022 alone<sup>40</sup>. The country uses these resources for their own use, mainly in the industrial sector. However, they export clean energy sources, despite having their own energy security concerns<sup>41</sup>.

The source of renewable energy that shows the most promise in Bhutan is hydropower, running on the abundance of water within the nation. However, winter poses an issue as this is when 'hydropower generation is at its minimum and the domestic energy demand is at its maximum'<sup>42</sup>. Hydropower has a potential of 37,000 MW with only 33,000 MW currently viable due to economic and technological constraints<sup>43</sup>. In reality, even less is currently being utilised despite numerous programmes to aid in their implementation.

On the other hand, biomass is a viable option, especially at community-level use. Bhutan has the opportunity for 20,000 biomass plants on a rural level, but ensuring these communities have enough cattle to power them has been a challenge<sup>44</sup>. Infrastructural issues are the main challenge within providing the country with sustainable energy sources, but they have provided one positive result. As a result of infrastructural issues, many rural communities already rely on

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<sup>37</sup>Choden et al., Conservation Challenges in Bhutan: A Case Study of Phrumsengla National Park, Central Bhutan.

<sup>38</sup> Kim, J., Roh, M., Kinley, T., Lee, W.-K., & Wangyel, W. S. (2023). Prediction of forest fire risk according to climate change in Bhutan using a shared socioeconomic pathways (SSP) scenario and Random Forest. *Journal of Climate Change Research*, 14/4: 385–93. DOI: 10.15531/ksccr.2023.14.4.385

<sup>39</sup> UDDIN, S. N., TAPLIN, R., & YU, X. (2007). Energy, environment and development in Bhutan. *Renewable and Sustainable Energy Reviews*, 11/9: 2083–103. DOI: 10.1016/j.rser.2006.03.008

<sup>40</sup> Department of Energy, (2023). *Energy Data Directory 2022*.

<sup>41</sup> Jamtsho, S. (2015). Sustainable Energy in Bhutan: Opportunities for Energy Efficiency. *The International Journal on Green Growth and Development*, 1/2: 75–102.

<sup>42</sup> Jamtsho, Sustainable Energy in Bhutan: Opportunities for Energy Efficiency.

<sup>43</sup> Department of Energy, *Energy Data Directory 2022*.

<sup>44</sup> Department of Energy, *Energy Data Directory 2022*.





hydropower and biomass to power their communities as they cannot access national energy infrastructure<sup>45</sup>.

Despite this, it is important to recognise that the use of fossil fuels is necessary within the kingdom of Bhutan, as it is still moving towards modern industrialisation. While the implementation of sustainable energy is a significant goal for Bhutan, it is also aware that fossil fuels will remain a significant part of their energy sector. Overall, sustainable energy, especially hydropower, has great potential, however, goals must remain realistic in relation to the demands of growth and development.

Though, in regards to Wangdi himself, a myriad of life experiences has built his motivation as a climate leader. Throughout his career there is a clear path of him working on an international level then returning back to the national level, each time bringing new experiences and lessons into his work. As mentioned previously, his first role is as Deputy Chief Negotiator for Bhutan in World Trade Organisation negotiations from 2005 to 2012<sup>46</sup>. During his time he would have seen the shockwaves the 2008 financial crash sent through Asia, as it affected their economies slightly later than Western ones. His education, in combination with this international experience, have given him extensive knowledge on the economic workings of different countries and how they interact with each other. This is crucial in climate policy, as the economy and financing is often the centre of discussions.<sup>47</sup>

Wangdi then spent thirty one years working in the Ministry of Economic Affairs of Bhutan and the National Happiness Committee (NHC)<sup>48</sup>. Here, he would learn the core tenets of the GNH model and how Bhutan adapts its policies around national values. Working in the Economic Affairs Ministry, he gained experience in Bhutan's particular economic situation. This experience was the reason behind Bhutan's heavy cooperation with the international community and its agencies. However, his role in the NHC was more significant, allowing him to determine policies regarding the GNH, which holds environmental goals very closely. This is where his 'spark' for climate policy started, which is why it is his defining moment, to be discussed shortly.

Wangdi was then appointed chair of the Lesser Developed Countries committee on climate in 2019<sup>49</sup>. By this point he had a thorough understanding of the economic situations of these countries, as Bhutan is an LDC itself. Additionally, he had knowledge on how climate policy has been effective in Bhutan through his

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<sup>45</sup> Department of Energy, *Energy Data Directory 2022*.

<sup>46</sup> LDC. (n.d.). Sonam Phuntsho Wangdi (Kingdom of bhutan). *LDC Climate Change*. Retrieved June 3, 2024, from [https://www.ldc-climate.org/group\\_chair/sonamphuntshowangdi/](https://www.ldc-climate.org/group_chair/sonamphuntshowangdi/)

<sup>47</sup> LDC. (n.d.). Sonam Phuntsho Wangdi (Kingdom of Bhutan).

<sup>48</sup> LDC. Sonam Phuntsho Wangdi (Kingdom of Bhutan)

<sup>49</sup> LDC. (n.d.). Sonam Phuntsho Wangdi (Kingdom of Bhutan)



national experiences. This combination of experiences gave him a unique outlook.

Similarly, when he was appointed Secretary of the National Environmental Commission<sup>50</sup> he carried these experiences onwards. When analysing his career there is a fluctuation between his levels of employment, from being posted internationally to deeply nationally. His first international position was serving majoritively national interests, however his second was a new responsibility entirely. He was thrust upon an international stage to lead not only his country but others in a similar position towards realistic climate goals. Thus this is where the focus should be placed when looking into Wangdi's change in attitude but also career trajectory.

### **Sonam Phuntsho Wangdi's Defining Moment**

In order to understand what makes a climate leader, more than a definition is needed. It is important to understand how Wangdi became the person he is, and the moment he decided to trade his longlife career in economy to become the face of Bhutan's climate leadership. However, during his time at the Ministry of Economic Affairs, he was entrusted to organise one of the biggest policies in environmental conservation history: the Bhutan Trust Fund for Environmental Conservation (BT FEC) in 1991<sup>51</sup>. The fund's creation sparked his interest and commitment to the cause, as it combines environmental policy and his expertise of economic policy into one. His insight into the needs that LDCs have for environmental conservation funds compelled him to advocate for them through his position at the WTO, and work for Bhutan to open to international trade<sup>52</sup>. Bhutan's vulnerability served as a pressure point due to the heavy reliance of the economy on the service sector, directly affected by external changes, coupled with external debt, which worsened Bhutan's economic situation after the 2008 financial crisis<sup>53</sup>.

After years of being Bhutan's chief negotiator for the WTO, Wangdi reached a defining moment: being appointed member of the Gross National Happiness Commission of Bhutan (GNHC), which enabled him to have unrestricted access to the commission that oversees environmental policies in Bhutan. This important body of government in Bhutan is responsible for screening all official policies in the country, before they are endorsed by the Cabinet<sup>54</sup>. His authority within the

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<sup>50</sup> LDC. (n.d.). Sonam Phuntsho Wangdi (Kingdom of Bhutan).

<sup>51</sup> GCF Bhutan Trust Fund for Environmental Conservation . (2024). *Bhutan Trust Fund*. Kingdom of Bhutan. Retrieved June 3, 2024, from <<https://bhutantrustfund.bt/public/>>

<sup>52</sup> Bhutan likely to join WTO by 2009. (2008). *The Economic Times*. Retrieved July 1, 2024, from <<https://economictimes.indiatimes.com/news/economy/foreign-trade/bhutan-likely-to-join-wto-by-2009/articleshow/3119361.cms?from=mdr>>

<sup>53</sup> Bisht, Dr. M. (2009). Bhutan in 2009: A Retrospective View. *ETH Zurich*. Institute for Defence Studies and Analyses. Retrieved July 1, 2024, from <[https://www.files.ethz.ch/isn/137434/IB\\_bhutan\\_2009.pdf](https://www.files.ethz.ch/isn/137434/IB_bhutan_2009.pdf)>

<sup>54</sup> DOLKAR, J., DORJI, S., DORJI, T., CHODEN, K., WANGMO, N., & PATEL, S. S. (2013). Public awareness of environmental policies in Bhutan. *Bhutan Journal of research & Development*. Retrieved July 1, 2024, from <[https://uvice.gov.bt/admin\\_uvice/publications/publication\\_files/Research-Articles/2013/UWICERA-PAEPB.pdf](https://uvice.gov.bt/admin_uvice/publications/publication_files/Research-Articles/2013/UWICERA-PAEPB.pdf)>



GNHC gave him access to the policy making sphere of the government, where he focused on environment programs focused on raising funds abroad. The GNHC functions under the royal government of Bhutan, which has been criticised for diminishing ethnic minority rights<sup>55</sup>. Therefore, it is in the government's interest to be seen as a trailblazer in environmental policy, so that other aspects of the government are overseen<sup>56</sup>.

Wangdi's most important life decision happened with the recognition that developing countries face a particular disadvantage with regards to the impacts of climate change at both an environmental and structural level, whilst contributing the least to global warming<sup>57</sup>. In 2019, when asked about it, he said '*countries must urgently scale up their climate action and the level of support they provide to developing countries*'<sup>58</sup>. Therefore, when he was appointed chair of the Least Developed Countries (LDC) the following year, he took the international sphere as his stage, where he has been advocating for allocation of funds and international collaboration in order to tackle the climate emergency.

During COP25 hosted in Madrid, Wangdi addressed the delegates emphasising that 'The WIM must enhance action and support to address loss and damage in developing countries.'<sup>59</sup> Wangdi was not only denouncing the unfairness of the burden of the impacts of climate change on underdeveloped nations, in a step further, he was also advocating for "loss and damage" payments from high income countries, a form of climate change reparations. Being chair of the LDC is arguably the pinnacle of his career, where on multiple occasions he revealed the widespread struggle for economic funding developing countries face. It undeniably established his reputation within the international community as the spokesperson for environmental policy in Bhutan. This led him to get selected as Secretary of the National Environment Commission, granting him a proactive role in shaping Bhutan's climate policies. This position of power within the international sphere is what has allowed him to deliver positive results when it comes to advocating for the countries participating in the LDCs.

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<sup>55</sup> Bhutan: Freedom in the world 2021 country report. (2021). *Freedom House*. Retrieved July 1, 2024, from <<https://freedomhouse.org/country/bhutan/freedom-world/2021#:~:text=The%20government%20has%20for%20decades,were%20denied%20reentry%20to%20Bhutan.>>

<sup>56</sup> Banki, S., & Karki, R. (2024). Bhutan's Democratic growing pains. *University of California Press*. University of California Press. Retrieved July 1, 2024, from <<https://online.ucpress.edu/currenthistory/article-abstract/123/852/147/200310/Bhutan-s-Democratic-Growing-Pains?r-edirectedFrom=fulltext>>

<sup>57</sup> Wangdi, S. P. (2019). Disaster, duty and destiny: The decision is ours. *LDC Climate Change*. Retrieved July 1, 2024, from <<https://www.ldc-climate.org/disaster-duty-and-destiny/>>

<sup>58</sup> Expectations of the least developed countries at UN Climate Negotiations. (2019). *LDC Climate Change*. Retrieved July 1, 2024, from <[https://www.ldc-climate.org/press\\_release/expectations-of-the-least-developed-countries-at-un-climate-negotiations/](https://www.ldc-climate.org/press_release/expectations-of-the-least-developed-countries-at-un-climate-negotiations/)>

<sup>59</sup> Expectations of the least developed countries at UN Climate Negotiations. (2019). *LDC Climate Change*. Retrieved July 1, 2024, from <[https://www.ldc-climate.org/press\\_release/expectations-of-the-least-developed-countries-at-un-climate-negotiations/](https://www.ldc-climate.org/press_release/expectations-of-the-least-developed-countries-at-un-climate-negotiations/)>



## Sonam Phuntsho Wangdi's Solutions

This section analyses Wangdi's implemented policies during his tenure as Secretary of the National Environment Commission. Firstly, background to Bhutan's previous advancements in the field are identified, which showcase the tools Wangdi had to become architect of the modernisation of Bhutan's environmental policies. This is followed by three of his main policy contributions with detailed analysis of their content. Later on, in the impact section of this report, the ramifications of these policies are explored.

### Country's advancement background

Wangdi's ability to transform Bhutan was built on pre-existing policies that were introduced before he became secretary. The national strategy 'Middle Path', introduced in 1998, aimed to raise living standards without compromising people's cultural integrity<sup>60</sup>. However, efforts to approach environmental sustainability began in the 1970s when the country started opening up to international trade. During this period, King Jigme Singye Wangchuck introduced the concept of GNH<sup>61</sup>, which became the guiding principle for the country's development. This way, rather than creating protection laws merely directed at reducing environmental damage, Bhutan integrated environmental development as a core national strategy, ensuring all development efforts aligned with this principle. This approach allowed for sustainable growth that prioritised environmental preservation and cultural integrity.

Through this approach, Bhutan established a system of national protected areas, covering 38% of the country's landmass, as reviewed by the World Wildlife Fund (WWF). These newly designated areas were protected by legal frameworks to ensure conservation goals. Additionally, Bhutan focused on forest management by implementing restrictions on tree felling and commercial logging. This effort was solidified with the 1995 Forest and Nature Conservation Act which aimed to maintain 60% of the land as forest cover (seen in *Figure 1*). This goal was later enshrined in Article 5 of the 2008 Constitution.

While such measures are not typical in Western countries, where they are perceived as constraints on economic growth, Bhutan's approach has allowed employment opportunities for the rural poor and supplied them with fodder, fuel wood, and building materials<sup>62</sup>. The Forest and Nature Conservation Act also provided crucial protection and maintenance of soil and water, essential for Bhutan's reliance on hydropower. Especially important given that the hydropower

<sup>60</sup> National Environment Commission (2020). 'The Middle Path. National Environment Strategy'. Retrieved July 1, 2024.

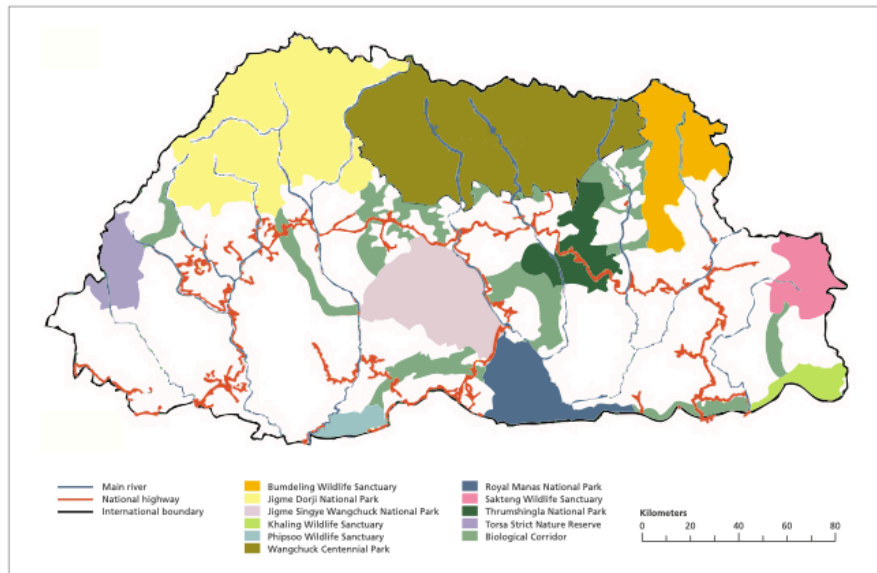
<sup>61</sup> Brown, J., & Bird, N. (2011). Bhutan's success in conservation: Valuing the contribution of the environment to Gross National Happiness. *Overseas Development Institute*. Retrieved July 8, 2024, from <[https://media.odi.org/documents/somaliland\\_report\\_-\\_master\\_o.pdf](https://media.odi.org/documents/somaliland_report_-_master_o.pdf)>

<sup>62</sup> Dhital, D. B. (2009). Bhutan Forestry Outlook Study - FAO. *FOOD AND AGRICULTURE ORGANISATION OF THE UNITED NATIONS REGIONAL OFFICE FOR ASIA AND THE PACIFIC*. Retrieved July 25, 2024, from <<https://www.fao.org/fileadmin/templates/rap/files/APFSOS/2009-04Bhutan.pdf>>



industry contributes about 20% of the country's GDP through domestic use and exports<sup>63</sup>. Moreover, water conservation efforts have significantly improved access to drinking water, with the percentage of population increasing from 45% in 1990 to 93% in 2007<sup>64</sup>.

Figure 1: Bhutan's national protected areas and biological corridors



Source: [www.bhutantrustfund.bt/parks-of-bhutan](http://www.bhutantrustfund.bt/parks-of-bhutan).

Figure 1, GCF Bhutan Trust Fund for Environmental Conservation . (2024). Bhutan Trust Fund. Kingdom of Bhutan. Retrieved June 3, 2024, from <https://bhutantrustfund.bt/public/>

Furthermore, there was a focus on economic development through environmental conservation with the Bhutan Trust Fund for Environmental Conservation (BT FEC). Through it, Wangdi played a key role in raising \$20 million USD to finance conservation plans. Since then, it has been focused on providing grants for long-term conservation, and managing finance in the effort of conservation. Multiple agencies oversee the assessment of environmental strategies that have allowed for Bhutan's success to become mainstream, such as the Strategic Environmental Assessment (SEA) regulation agency<sup>65</sup>. Another key agency is the GNHC, which Wangdi also played an important role in, as he was in charge of coordinating all sectoral policies and programmes, such as integrating environmental considerations into all sector development plans.

<sup>63</sup> Forest and Nature Conservation Act of Bhutan, 2023. (2023). FAOLEX. Retrieved July 26, 2024, from <https://www.fao.org/faolex/results/details/en/c/LEX-FAOC224230/>

<sup>64</sup> International Bank for Reconstruction and Development. 'BHUTAN COUNTRY ENVIRONMENTAL ANALYSIS: Taking the Green Growth Agenda Forward'. Retrieved July 3rd, 2024. Page 30. From <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099031124064513492/p1765551e2cf100fd1b2f71e406524b802a>

<sup>65</sup> Annandale, D., & Brown, A. L. (2012). Bhutan: Strategic Environmental Assessment and Environmental Mainstreaming: Read Online. OECD. Retrieved July 26, 2024, from [https://read.oecd-ilibrary.org/development/strategic-environmental-assessment-in-development-practice/bhutan-strategic-environmental-assessment-and-environmental-mainstreaming\\_9789264166745-8-en#page1](https://read.oecd-ilibrary.org/development/strategic-environmental-assessment-in-development-practice/bhutan-strategic-environmental-assessment-and-environmental-mainstreaming_9789264166745-8-en#page1)



Additionally, the country's reliance on hydroelectricity has allowed it to closely link conservation with economic development, as more than half of the GDP can be attributed to sectors dependent on natural resources<sup>66</sup>. Therefore, Bhutan had an economic incentive to preserve and protect the environment as a key to reduce poverty<sup>67</sup>. Lastly, Bhutan has taken a cautious approach to tourism, implementing what they call 'controlled tourism', by overpricing tourist spots and implementing capacity constraints on tourism infrastructure<sup>68</sup>.

## **National Environment Strategy of 2020**

Building on the past policies, Wangdi has emerged as the architect for modernising Bhutan's environmental policy and action. Even though he had been involved in key stakeholder organisations, he had never directly implemented policies under the Royal Government of Bhutan. However, as he found himself in a position of leadership, with a myriad of issues to tackle, he decided to revisit the iconic 'Middle Path', and create a new policy; the National Environment Strategy of 2020<sup>69</sup>. This policy framework is focused on balancing conservation and development by focusing on four strategic objectives: Land, Air, Water, and Life<sup>70</sup>.

In the land-related section, policies outline issues stemming from a lack of agricultural land which threatens food security, due to upward trends in urbanisation and infrastructure development. It then creates eight strategic objectives based on the identified issues, which thoughtfully are assessed and targeted, giving specific recommendations and solutions to the issues. For example, in the Strategic Objective one; Plan for Balanced Land Use, Bhutan devises solutions such as leasing out state land, using Land Use Certificates (LUC) to create job opportunities for the youth<sup>71</sup>.

Moreover, the document further strengthened the environmental impact assessment and SEA regulations by creating an Environmental and Social Management Regulation (ESMF) to ensure stricter adherence to the legislation. Lastly, the policies ensure optimum utilisation of arable land by improving government support to farmers when possible.

The rest of the objectives focus on enhanced disaster preparedness and response, creating specific plans like issuing early warnings to vulnerable

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<sup>66</sup> BTI 2024 Bhutan Country Report. (2024). *BTI 2024*. Retrieved July 26, 2024, from <<https://bti-project.org/en/reports/country-report/BTN>>

<sup>67</sup> Bhutan: Poverty reduction strategy Paper. (2010). *IMF*. IMF. Retrieved July 25, 2024, from <<https://www.imf.org/external/pubs/ft/scr/2010/cr10180.pdf>>

<sup>68</sup> Scheyvens, R. (2015). Tourism and poverty reduction. *Research Gate*. Retrieved July 25, 2024, from <[https://www.researchgate.net/publication/275342095\\_Tourism\\_and\\_Poverty\\_Reduction](https://www.researchgate.net/publication/275342095_Tourism_and_Poverty_Reduction)>

<sup>69</sup> The Middle Path NATIONAL ENVIRONMENT STRATEGY 2020. (2020). *FAOLEX Database | Food and Agriculture Organization of the United Nations*. National Environment Commission Royal Government of Bhutan. Retrieved July 8, 2024, from <<https://faolex.fao.org/docs/pdf/bhu207785.pdf>>

<sup>70</sup> National Environment Strategy (NES) 2020-2030. (2020). *FAOLEX*. National Environment Commission, Royal Government of Bhutan. Retrieved July 8, 2024, from <<https://www.fao.org/faolex/results/details/en/c/LEX-FAOC207785/>>

<sup>71</sup> National Environment Strategy (NES) 2020-2030. (2020). *FAOLEX*. National Environment Commission, Royal Government of Bhutan.



communities, and on combating land degradation by reducing it and restoring the degraded landscapes. Focus on the promotion of environmentally friendly roads and infrastructure is also taken into consideration by creating climate-proof transport, which will substantially reduce the cost of rebuilding. Additionally, efforts are combined to achieve sustainable and climate-resilient agriculture, manage mineral extraction wisely, ensure green and sustainable settlements, and manage waste responsibly.

Objective two on water is equally a central part of the strategy. It places importance on the agriculture sector, which consumes over 90% of water resources, employs over half the population, and contributes 15% to the country's GDP. They highlight main challenges surrounding the lack of infrastructure, such as an underdeveloped sewage treatment network, water shortages, and challenges related to climate-intensified disasters. Based on existing policy, Wangdi was able to institutionalise and implement integrated water resource management, prevent freshwater pollution, improve access to safe drinking water and sanitation, ensure sustainable development of hydropower and ensure efficient use of water resources. The impact of the water strategy will be examined in the following section.

The development of these comprehensive solutions, which address the issue from all angles, demonstrates that Wangdi's contribution to this policy is both well-rounded and thoroughly considered. Similarly, for the other three focuses, Air, Water and Life, there are detailed objectives designed to tackle these issues in depth. Therefore, by revisiting the 'Middle Path', Wangdi has been able to successfully balance a policy on conservation and development, underscoring his significant contributions to Bhutan's environmental conservation efforts.

## **Second Nationally Determined Contribution 2021**

Another policy which Wangdi played a major role in was the Second Nationally Determined Contribution (NDC) to the UNFCCC in 2021<sup>72</sup>. Not only does it restructure all of the institutions created to ensure the conservation of Bhutan as a climate neutral country, but also analyses an adaptation component for issues like Covid-19, as well as means of implementation.

The NDCs are reports which countries make every five years, as required per the Paris Agreement, as climate action plans to reduce emissions for the United Nations in compliance of the 2030 Agenda<sup>73</sup>. Given Wangdi's financial background, and his time at the BTFEC, he knew that international support and investment is the key for achieving his goals, which is why this policy document

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<sup>72</sup> Kingdom of Bhutan Second Nationally Determined Contribution. (2021). *UNFCCC*. Retrieved July 8, 2024, from <<https://unfccc.int/sites/default/files/NDC/2022-06/Second%20NDC%20Bhutan.pdf>>

<sup>73</sup> All about the ndcs. (n.d.). *United Nations*. United Nations. Retrieved July 8, 2024, from <<https://www.un.org/en/climatechange/all-about-ndcs>>



begins with a call from Bhutan 'on the international community to continue and enhance the support for Bhutan's efforts to mitigate and adapt to climate change'<sup>74</sup>. It then explains the mitigation component of the policy, detailing the implementation of frameworks such as forest conservation, Low Emission Development Strategies (LEDS) for food security, industries, surface transport, waste management, and alternative renewable energy. For example, among the mitigation measures of LED for food security is the switch from synthetic to organic fertilisers at the rate of 5% annually, increased biomass through increased perennial crop production and improved dairy cattle production through breed improvement and feeding management<sup>75</sup>.

Additionally, it provides an overview of the implementation methods and the financial aspects of the projects, noting that funding will be sourced nationally as much as possible. However, they acknowledge that 'as Bhutan is a landlocked LDC with limited financial resources, international financing will be needed to implement the actions in the NDC over the next 10 years,' clearly indicating the necessity for external support<sup>76</sup>.

### **First National Adaptation Plan 2023**

The third important policy which Wangdi implemented is the First National Adaptation Plan of 2023<sup>77</sup>, which was developed to identify medium and long term adaptation needs, by aiming to build adaptive capacity and resilience while integrating climate change adaptation needs<sup>78</sup>. It builds from the 2020 NES, by expanding focus to sectors like water, agriculture, forest and biodiversity, energy, and health. Wangdi went on record, 'I believe that the information provided in this report will be useful for both national and international policy makers, development partners and the private sectors to mobilise potential resources of global climate initiatives'<sup>79</sup>.

The policy outlines a projected temperature rise of 0.8°C– 1.6°C by 2050, and a 1.8°C– 2.8°C by the end of the century, along with an increase in precipitation from 10-30% in annual rainfall. Three climate scenarios stem from this to assess future risks and hazards across six vulnerability sectors. Adaptation options, namely crop modelling and fire risks, including controlled burning and research into optimal burning cycles. The health sector's future risk assessments come with recommendations to mitigate outbreaks for dengue, malaria and diarrhoea. With

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<sup>74</sup> All about the ndcs. (n.d.). *United Nations*. United Nations. Retrieved July 8, 2024.

<sup>75</sup> All about the ndcs. (n.d.). *United Nations*. United Nations. Retrieved July 8, 2024.

<sup>76</sup> All about the ndcs. (n.d.). *United Nations*. United Nations. Retrieved July 8, 2024.

<sup>77</sup> National adaptation plan (NAP) of the Kingdom of Bhutan. (2023). *UNFCCC*. Department of Environment and Climate Change, Ministry of Energy and Natural Resources, Royal Government of Bhutan. Retrieved July 8, 2024, from <<https://unfccc.int/sites/default/files/resource/NAP-Bhutan-2023.pdf>>

<sup>78</sup> National Adaptation Plans. (n.d.). *UNEP*. Retrieved July 8, 2024, from <[<sup>79</sup>](https://www.unep.org/topics/climate-action/adaptation/national-adaptation-plans#:~:text=The%20NAP%20process%20seeks%20to,develops%20strategies%20to%20address%20them.></a></p></div><div data-bbox=)





regards to water management, the strategic objective is to improve natural capacity for infiltration, resulting in a resilient functioning ecosystem for water services. In agriculture and livestock, the strategic objective is to secure natural resources for livestock grazing, to reduce farmer's vulnerability. The forest and biodiversity section includes methods to strengthen forest fire management, while the health section aims to build resilience of critical public health systems and infrastructure and long-term climate risks.

This detailed analysis highlights Bhutan's proactive efforts towards global warming. Wangdi stresses in the plan that even though Bhutan is climate negative and therefore contributing to the regulation of atmospheric CO<sub>2</sub> levels, it is still subject to the impacts of climate risks associated with the man-made trend of global warming.

All three sections showcase the imperative need for Bhutan's adaptation in regards to the risks posed by global warming. Wangdi's commitment to address all possible solutions and assess the given risks in order to anticipate the problems that Bhutan will face in the future showcase the crucial steps policy makers in developing countries have to take. The following section will dive into the impact these policies have had in Bhutan.

## **Sonam Phuntsho Wangdi's Impact**

The impact of these policies is widespread and ongoing. Thus, it is important to note that many of the policies are not yet at completion, as many work on 5 or 10 year bases, starting in 2019 and 2020, so data is not available to form a complete picture. That being said, some of their impact can already be analysed. Bhutan has been able to find their niche of achieving carbon neutrality through adapting their policy to Bhutan's capacity for forest cover. As a result, each successful policy and programme Bhutan implements can aid in giving them more legitimacy in the field. Consequently when looking at the impact of these policies, this principle must be kept in mind.

These policies all contribute to one central idea: that Bhutan remains a leading country in climate policy worldwide. As a result, Wangdi has led the National Environment Commission to many successes. These policies will be mentioned to give Bhutan and Wangdi legitimacy as a leader and influence on the international sphere, and this has concrete examples behind it. At COP28 in Dubai, the Bhutan Pavillion was established<sup>80</sup>. It is an organisation headed by the National Environment Commission and Wangdi as the face of Bhutan at these conferences. It serves as a platform for 'bringing together governments,

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<sup>80</sup> National Environment Commission(2023). Our stories. *Bhutan Pavilion*. Retrieved July 18, 2024, from <https://bhutancoppavilion.com/>



development partners, philanthropists, CSOs, youth, women, climate champions, and experts all under one roof<sup>81</sup>.

This is one example of a leadership project that has enabled Wangdi to claim leader status. The Bhutan Pavillion is based on national policies that have allowed Bhutan to achieve and maintain carbon neutrality. Thus, it can be seen that each policy that strengthens the environmental progress of Bhutan, directly reinforces this international position. Still, these leadership projects do not solely have an international impact, domestically it ensures his position as a climate leader. Many states and organisations, such as LDCs and COP conference members, recognise Wangdi as the leader of climate policy, and it is very likely that without his advocacy on an international level, there would be less support for Bhutanese climate policy.

### **The National Environment Strategy 2020**

The National Environment Strategy 2020 has an implementation strategy of ten year plans, the most recent will span from 2020-2030. At the time of writing this report no updated evaluations exist. The intention of this policy is to set clear standards for the country to follow, adapting their 1998 Environmental Strategy to more modern initiatives. It reiterates the country's commitment to five year plans which the country has been implementing since 1961<sup>82</sup>. As mentioned in the fourth section, it outlines specific policies relating to the four elemental sectors, which cover all of the environmental challenges outlined in this report.

This broad scope is expected to make significant progress in hydropower, agricultural and industrial development and the conservation of resources in Bhutan. Essentially, it synthesises previous policies and plans for more coherent and consistent implementation.

For example, the strategy includes the National Integrated Water Resource Management Plan (2016) which aims to integrate water resources around the country<sup>83</sup>. The National Environmental Commission is the leading competent authority throughout the entire report, meaning Wangdi is the leading authority on this policy. However, it is also an internationally connected plan that is mainly supported by Japan<sup>84</sup>. It builds upon the Bhutan Water Security Index (BWSI) and the Water Act to be able to adapt current frameworks. Its progress is not available

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<sup>81</sup> National Environment Commission, 2023, *Bhutan Pavillion*

<sup>82</sup> (1961). *1st Five Year Plan*

(1961-1966). <https://policy.asiapacificenergy.org/node/91#:~:text=The%201st%20Five%20Year%20Plan,transport%20%2C%20agriculture%20and%20animal%20husbandry>

<sup>83</sup> National Environment Commission (2019). *The Middle Path: National Environment Strategy 2020*. Royal Government of Bhutan.

<https://policy.thinkbluedata.com/sites/default/files/National%20Environment%20Strategy%202020%20%28EN%29.pdf>

<sup>84</sup> FAO. (2016). National Integrated Water Resource Management Plan (NWIRMP). *FAOLEX*. Retrieved July 18, 2024, from <https://www.fao.org/faolex/results/details/fr/c/LEX-FAOC175150/#:~:text=The%20Plan%20gives%20an%20comprehensive,the%20water%2Drelated%20agencies%20and%2C>



in literature but it is expected to increase water security levels from the 36% safely managed water levels in 2017<sup>85</sup>.

The position Bhutan has worked towards placing itself on the international climate stage means that they are the champion of climate policy success. Wangdi is already the face of Bhutan's international climate position, frequently attending COP conferences. His legitimacy, however, is secured by policies implemented by his agency. As a result, this policy is deeply impactful for Wangdi himself, as this gives him great influence on climate policy and implementation within Bhutan. Overall, the policy tackles climate challenges through a broad based approach, focusing on the specific shortcomings Bhutan faces.

## **Second Nationally Determined Contribution**

The Second Nationally Determined Contribution outlines Bhutan's commitment to the United Nations 2030 Agenda, which is in implementation until 2030. However, part of the report was commenting on the progress of the 12th Five Year Plan (2018-2023)<sup>86</sup>. It outlines how 'climate neutrality, climate and disaster resilience'<sup>87</sup> was integrated successfully into the national and local level development planning. Additionally, it reports on their renewable energy master plan (2017-2032), which they state is gradually being implemented through the five and ten year plans<sup>88</sup>.

This policy is directly connected with the international community through the UNFCCC and is the main forum for climate transparency for Bhutan. By exemplifying their successes through this document, Bhutan once again solidifies its position as a climate champion. They build legitimacy through implementing solutions to national problems that are catered to local needs. From a different lens it also addresses global warming on a larger scale, especially in regards to implementing hydropower and increasing energy efficiency.

Wangdi himself played a large role in this policy as it outlines policies he spearheads such as the National Adaptation Plan, meaning he reaps the same benefits the policy does. Overall, this policy gives Bhutan more transparency and legitimacy on an international stage, through its comprehensiveness and the NDC programme itself.

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<sup>85</sup> Asia and the Pacific Finance Ministers' Meeting. (2020). *The Kingdom of Bhutan Overview* sanitationandwaterforall.org. [https://www.sanitationandwaterforall.org/sites/default/files/2020-12/2020\\_Country%20Overview\\_Bhutan.pdf](https://www.sanitationandwaterforall.org/sites/default/files/2020-12/2020_Country%20Overview_Bhutan.pdf)

<sup>86</sup> Royal Government of Bhutan (2021). *Second Nationally Determined Contribution*. UNFCCC. <https://unfccc.int/sites/default/files/NDC/2022-06/Second%20NDC%20Bhutan.pdf>

<sup>87</sup> Royal Government of Bhutan (2021)

<sup>88</sup> Royal Government of Bhutan (2021)



## National Adaptation Plan 2023

The National Adaptation Plan has had a comprehensive implementation and integration process, despite it falling under multiple five year plans that have not yet concluded<sup>89</sup>. It has both national and local level actions while attempting to maintain the economy as a whole. It does this through working in tandem with the National Adaptation Programme of Action and the aforementioned Nationally Determined Contribution<sup>90</sup>. It heavily reflects the ethos of the GNH system which makes implementation easier within Bhutan. Additionally, \$2.9 million has been allocated to it in collaboration with Green Climate Fund and the UNDP, which was given in 2019<sup>91</sup>.

Some progress can be seen, especially the formation of two new projects, the first of which is a new five year plan named 'Advancing Climate Resilience of the Water Sector in Bhutan (ACREWAS)'<sup>92</sup>. It has \$8.9 million in funding from the Global Environment Facility's Least Developed Countries Fund (GEF-LDCF) and the UNDP, with an additional \$25 million from the Bhutanese government<sup>93</sup>.

The second project focuses on building urban resilience, especially fixing infrastructural elements Bhutan has struggled with. It is part of a larger \$63 million project headed by the Least Developed Countries Fund and Special Climate Change Fund<sup>94</sup>. However, it is important to note that while this policy has many more updates available, much of the progress is still unclear as the first five year plan is not even halfway through.

Nevertheless, it has had great reception both nationally and, especially, internationally, as a very comprehensive plan on top of their carbon neutrality. It once again gives them legitimacy, and exemplifies the support Bhutan has from international organisations. This is seen through the sheer amount of collaboration and funding that they have and are being given throughout these programmes. It also achieves the goal of tackling global warming as a whole by focusing on medium and long term adaptation priorities. Additionally it places emphasis on project based implementation that is wide scale and multifaceted. Overall, this policy provides a comprehensive review of Bhutan's place in international climate policy and the role that they are set to play in the future.

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<sup>89</sup> Sharma, N. B., & Yangtsho, T. (2023). A milestone in Bhutan's journey to adapt to climate change. *UNDP*. Retrieved July 4, 2024, from <https://www.undp.org/blog/milestone-bhutans-journey-adapt-climate-change>

<sup>90</sup> Sharma, N. B., & Yangtsho, T. (2023). A milestone in Bhutan's journey to adapt to climate change.

<sup>91</sup> Sharma, N. B., & Yangtsho, T. (2023). A milestone in Bhutan's journey to adapt to climate change.

<sup>92</sup>UNDP. (2023). Bhutan launches a new \$8.9m project to build climate resilience of its water sector. *UNDP*. Retrieved July 4, 2024, from

<https://www.undp.org/bhutan/stories/bhutan-launches-new-89m-project-build-climate-resilience-its-water-sector>

<sup>93</sup> UNDP. (2023). Bhutan launches a new \$8.9m project to build climate resilience of its water sector.

<sup>94</sup> gef. (2023). LDCF and SCCF provide new targeted support for Vulnerable States. *Global Environment Facility*. Retrieved July 4, 2024, from

<https://www.thegef.org/newsroom/news/lDCF-and-sccf-provide-new-targeted-support-vulnerable-states>



These policies outline the important work that Bhutan is doing to tackle their environmental issues. However there is an overshadowing factor that is the socio-economic situation within Bhutan. Despite their successes in the environmental sector, issues such as poverty, unemployment and violence against women remain rampant. Poverty in rural areas, which are those disproportionately affected by natural disasters and the lack of infrastructure, sits at around 12%<sup>95</sup>. These high levels of poverty are paired with high unemployment rates, especially within younger generations. While youth unemployment has decreased from 29.6% in 2022 to 29.2% in 2023<sup>96</sup>, and is projected to continue falling, these levels remain very high. Additionally, literacy rates are very low despite recent growth and high enrollment rates, with literacy rates for adults being 72%<sup>97</sup>.

These figures have a profound impact on the reality of environmental policies. Considering much of the implementation of these policies work on a community level, the lack of ability to educate and provide employment can prevent these policies from performing to their full potential. Flailing literacy rates and poverty rates have become a driving factor in lack of youth commitment to education, forcing young people to work instead.

In addition to this Bhutan remains under-industrialised and thus a lower-middle level economy. This poses great economic challenges for policy implementation, especially without large financial support from the international community. However, each five year plan, which is the base for policy implementation, promises to provide a certain amount of employment opportunities. For example, the current five year plan (Twelfth Five Year Plan, 2018-2023) brought 61,811 new job opportunities<sup>98</sup>. Five year plans aim to tackle these issues, but they have not had the intended effect, with the levels of inequality remaining high. Nevertheless, levels of unemployment and poverty are projected to fall in the coming years which will allow these policies to become more effective. Overall, it raises the question of the government's policy priorities. However, social welfare policy and climate policy are not mutually exclusive. While social factors impact the effectiveness of these climate policies, there is still positive progress being made on both fronts.

Overall, there are both positive and negative arguments to be made. The implementation of these policies have given Bhutan greater advocacy on the international stage, with each success reinforcing their place as climate leaders. Wangdi, as the face of Bhutanese climate policy, reaps the benefits of this and

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<sup>95</sup> Ranjan, A. (2020). Not a Happy Place: Bhutan Faces Serious Socio-economic Problems. *ISAS.NUS.EDU.SG*. National University Singapore. Retrieved July 18, 2024, from <https://www.isas.nus.edu.sg/papers/not-a-happy-place-bhutan-faces-serious-socio-economic-problems/>

<sup>96</sup> World Bank Group . (2023). Unemployment, youth total (% of total labour force aged 15-24) (modeled ILO estimate) - Bhutan.

<sup>97</sup>World Bank Group . (2022). Literacy rate, adult total (% of people ages 15 and above) - Bhutan .

<sup>98</sup> Ranjan, A. (2020). Not a Happy Place: Bhutan Faces Serious Socio-economic Problems.



has solidified his tenure as both a climate and policy leader. However, the socioeconomic context of Bhutan occasionally overshadows the successes of these climate policies. With the lack of progress updates available it is difficult to infer to what extent this will impact the effectiveness of these policies. Overall, the impact of these policies will become clearer in the coming years, but at the present moment they show mostly positive progress being made in the climate sector and attempted progress in regards to socio-economic development.

## **Conclusion**

The government, specifically Wangdi's departments, are acutely aware of Bhutan's individual struggles in the wider context of global climate change. Yet, this report highlighted three key facts of Wangdi's career: his development as a policy leader, the question of his climate leadership and his impact on an international level.

Firstly, regarding Wangdi's position as a policy leader, his position is solidified as an effective and experienced policy leader. From his time as an economist for Bhutan, he would have been heavily involved in Bhutan's management of the 2008/9 financial crisis. However, he has also been an effective policy leader as a climate leader. As Secretary of the National Environment Commission he has overseen the implementation of policies such as the National Environment Strategy. Despite this, position is not the sole determiner for policy leaders, the ability to influence is key to becoming an effective policy leader. Wangdi has gained this ability to influence through both nationally entrenched and personal factors. On a national level, the Gross National Happiness system is the core enabler for policy making in Bhutan. It is used as a justification for policy with almost automatic support for policies that align with its core values. In terms of climate policy, this becomes easier as environmental concerns are part of the core tenets of the GNH. On a personal level, Wangdi was part of the National Happiness Committee and as a result is acutely aware of how to appeal to this system through policy.

Additionally, Wangdi's experiences have contributed greatly to his effectiveness as a policy leader. His time as an economist during turbulent financial times will have given him key crisis management skills. Despite this, it is his tenure and sheer level of experience that makes Wangdi stand out as a policy leader. Not only is this experience on an international level but he has also been awarded the Civil Service Gold Medal for 30 years of distinguished service to the Bhutanese government. This tenure gives Wangdi inherent influence, as he has seen mostly successes within his decades of civil service. It also implies that Wangdi is a trusted and valued civil servant in Bhutan, which makes his policy making more reliable. Overall, though Wangdi's history of climate policy making is short, it proves to be fruitful and reliable.



Secondly, this report aimed to determine whether Wangdi has become a climate leader. This report has found that he is indeed a climate leader, through his modernisation of climate policy. While Bhutan has a rich history of environmental conservationism, it lacked adaptation to modern struggles. However, the policies implemented under Wangdi's leadership have shown greater modernisation, through the introduction of technology and efficiency. Technological advancements are seen through the emphasis on infrastructure building and the concern for renewable energy source implementation. For example, the National Environment Strategy's focus on building modernised water irrigation systems and modernising the agriculture sector to be more sustainable. Efficiency can be seen in multiple ways; through the multifaceted approach of his policies, the adaptation to domestic issues and monetary support.

Policies made under Wangdi's leadership have taken broad but specified approaches. They do this by utilising the expertise and competencies of different agencies to be able to tackle multiple sectors in a single policy. The National Environment Strategy focuses on land, air, water and life, and is able to do so without sacrificing the importance of any sector. By taking this approach Wangdi has been able to modernise the actual approach that climate policy takes in Bhutan. Regarding adaptation to domestic issues, Wangdi's policies follow the combating of key environmental issues for the country, these being water management, conservation challenges and the implementation of sustainable energy. Due to the broad approach taken, most climate policies created under Wangdi have tackled one or more of these issues within their scope.

The most prominent example of this is the National Adaptation Plan, from which the most comprehensive water management plans in Bhutanese history arose. Adaptation plays a key role in efficiency, in any regard, so by specifying to prominent issues Wangdi has streamlined the process of climate action in Bhutan. The final factor that allows for further efficiency is the monetary support that Wangdi has been able to garner. As seen in the impact of policies, incorporating international monetary support has been key to streamlining climate action in Bhutan. He has prioritised using international funds in a justified and transparent manner in order to garner further trust and thus support. Overall, this report reaches an interesting conclusion on Wangdi's role as a modernising climate leader.

Finally, this report outlines how Wangdi's role as a modernising force regarding climate change extends to the international level. It has been previously established that Bhutan is a leader of exemplary climate policy, but Wangdi himself has gained this descriptor. Despite being an underfunded and undeniable victim of climate change, they have become a beacon for carbon neutrality and adaptable climate policy. However, this arguably was brought to the attention of international actors by Wangdi, through his advocacy and policy making. Wangdi



is the public face of Bhutanese climate policy, due to his presence in COP conferences and role as the LDC Chair. These positions allowed him to advocate directly in front of international leaders and other policy makers. As a result he has been able to advocate for Bhutan's progress in climate action and request the support needed to continue their work. He has been able to commit to holding not only Bhutan accountable, but other states too. Regarding this, it cannot be understated that Bhutan was the first carbon neutral country in the world, the achievement of which kickstarted Bhutan's advocacy on the international stage. Overall, It exemplifies how an LDC uses a combination of national traditions and systems, and international funding to be able to effectively implement climate action.

In conclusion, this report shows how Wangdi has used his past experiences as an economist to transition into a broad and modern thinking climate leader. He has utilised adaptation and international support to drive climate action both domestically and internationally. Throughout his leadership, Bhutan has taken the place of a leader and example of efficient climate action. In addition, he arguably helped modernise international climate policy, as there has been a reversal of roles in global climate policy. Bhutan becoming a leader has changed the narrative of fully industrialised large economy states preaching climate action to smaller states. Now, Bhutan has set a precedent that smaller states can take up space regarding climate action, which encapsulates Wangdi's impact as a climate leader. The UNFCCC defines a climate leader as 'leaders who are not only taking such action, but providing an inspiring example for other governments, businesses, cities and communities to follow'. This report outlines how Wangdi has come to encapsulate both a policy maker and an advocate, providing an example to the international community on overcoming adversity in favour of progress.





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