



ANNUAL REPORT



2023



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LETTER FROM THE EXECUTIVE DIRECTOR

Bhutan stands at a pivotal juncture in its development journey, with the promise of economic prosperity tempered by the looming specter of climate change. The urgency of this situation cannot be overstated, particularly as we strive to avert the dire consequences of exceeding the Paris Agreement's temperature limits. As stewards of Bhutan's natural heritage, we are acutely aware of the challenges ahead, including the pressing need to bridge the "ambition gap" and address the "implementation gap" within our own borders.

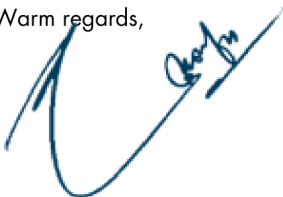
In reflecting on our endeavors in 2023, I am heartened by the strides we have made in humanizing development and fostering a more symbiotic relationship between our environment and human well-being, with our functional landscapes portfolio remaining the most impactful portfolio.

Bhutan is embracing a regenerative and circular economy, as evidenced by our contribution to a sourcing study for a climate-smart forest economy. We continued our 10+ Million Trees project, establishing community carbon banks to bolster livelihoods and enhance climate change mitigation and adaptation efforts. We also undertook a comprehensive agroecological mapping of farming zones, enabling the use of technology for climate smart agriculture. Urgent resilience measures are imperative. We are also proud to have contributed to numerous impactful stakeholder engagement and stock taking efforts leading up to Bhutan's participation at the COP28 with its first ever Bhutan Pavilion. This also involved joining the Great People's Forest initiative as one of its encore members to scale conservation and reforestation efforts by planting a billion trees by 2030 throughout the Eastern Himalayas.

I am also proud to share our progress in renewable energy projects, including the initiation of innovative ventures such as biodigesters for clean energy production and waste-to-energy commercial biogas facilities. Looking ahead, we are eager to expand this portfolio in the coming years, further solidifying our commitment to renewable energy and environmental stewardship.

Your support and engagement are invaluable as we navigate these critical issues together. I extend my heartfelt gratitude for your continued partnership and dedication to our shared mission.

Warm regards,

A handwritten signature in blue ink, appearing to read 'Nawang Norbu', with a large, stylized flourish extending from the bottom left.

Nawang Norbu, PhD



Building Smarter

Construction in Bhutan has witnessed rapid growth in the last two decades, resulting in the building sector gutting more than a third of total energy consumed in Bhutan. We want to spur a new generation of energy efficient buildings, promote innovative designs, encourage use of wood and integration of renewables.



Sourcing Study: Towards a Climate Smart Forest Economy

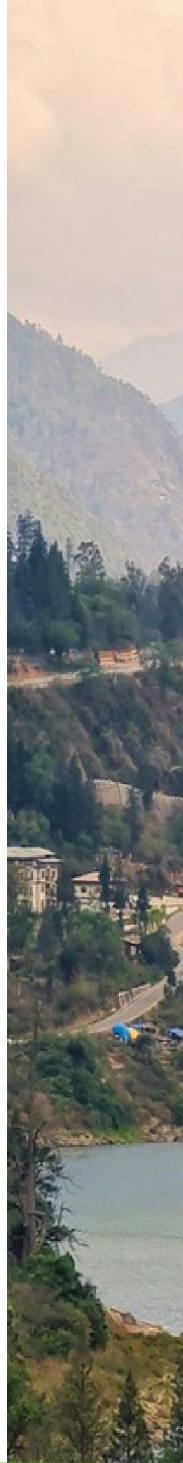
BES conducted a study in the pilot regenerative infrastructure in Bhutan, commissioned by the Climate Smart Forest Economy Program that examined a critical initiative driven by His Majesty King's vision for sustainable urban development. With Bhutan's urbanization posing threats to both natural ecosystems and cultural heritage, the study underscored the urgent need for transformative action in the construction sector. By transitioning away from extractive practices and embracing regenerative forestry, Bhutan aims to reshape building supply chains and construction practices, fostering a circular economy model. Collaborating with renowned entities like Bauhaus Earth, Arup, and the Climate Smart Forest Economy Program, Bhutan is pioneering a pilot project for a mixed-use commercial building constructed with sustainable timber, showcasing the potential for environmentally friendly alternatives to conventional construction materials. The study comprehensively analyzed sourcing demands for the pilot project, prioritizing suppliers based on cost, proximity, experience, legal compliance, and environmental safeguards.

It also evaluated environmental, ecological, and social considerations to ensure ethical practices, identifies key risks in sourcing trees, and explored the impact of urbanization and population growth on forests to anticipate additional pressures on sourcing practices.

Furthermore, the report provided comprehensive recommendations to ensure the sustainable management of Bhutan's forests and the adoption of advanced technologies in timber harvesting. From strengthening forest governance and promoting sustainable logging practices to investing in remote sensing techniques and modern harvesting equipment, Bhutan seeks to enhance efficiency while minimizing environmental impact. Through capacity building, research initiatives, and international cooperation, Bhutan can position itself as a global leader in sustainable forest management, advocating for policies that prioritize environmental conservation and community engagement. This study not only highlighted Bhutan's commitment to sustainable development but also the potential to serve as a blueprint for integrating regenerative principles into construction practices and forest management strategies, aligning with the country's overarching goal of promoting Gross National Happiness.

Functional Landscapes

Forests cover about 71% of Bhutan's total land area, with Protected Areas and Biological Corridors covering an estimated 51%. We help ensure that these large forest landscapes are effectively managed and guarantee that the social, economic and environmental benefits from these landscapes flow into perpetuity. Ensuring the functional integrity of these large forest landscapes is a significant climate change mitigation strategy.



FUNCTIONAL LANDSCAPES



Building Community Carbon Banks

Our 10+ Million Trees project is cultivating a sustainable legacy, enriching both the environment and the lives of generations to come. With the support from Bhutan Foundation and One Tree Planted, we have planted a total of 525,155 high-value fruit trees and timber species across 18 dzongkhags since its inception in 2021. In 2023, BES planted 80,736 fruit trees and 102,917 high-value timber species spanning 12 dzongkhags, reaching 47 gewogs and touching the lives of 942 households nationwide.



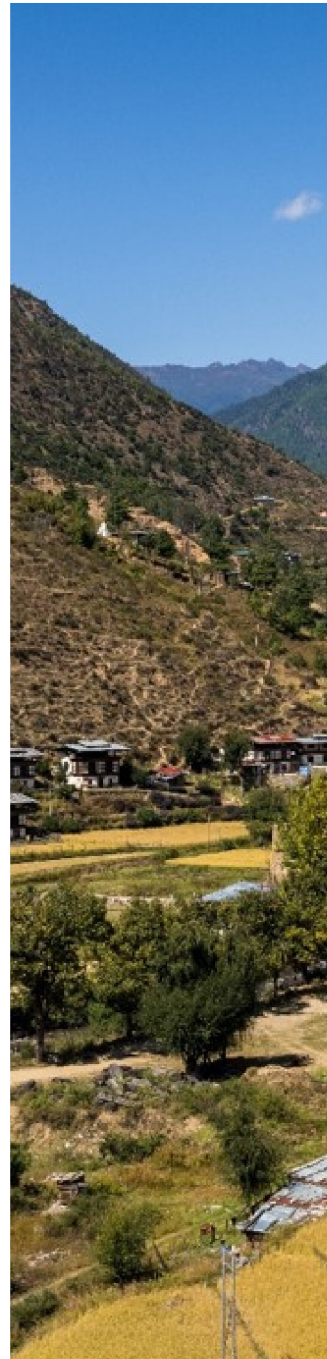
FUNCTIONAL LANDSCAPES



Mapping Farming Zones

While recognizing the need for a more diversified, nutrition-sensitive, climate-resilient, and sustainable approach to agriculture and food systems, Bhutan faces challenges in scientific capacity, particularly in adopting the latest innovations and digital technologies. Consequently, the agricultural sector is not realizing its full potential, with productivity growth hampered by environmental degradation, limited arable land availability, and the impacts of climate change.

BES led a project that mapped potential areas for growing nine targeted crops, that includes Pineapple, Asparagus, Avocado, Almond, Black Pepper, Quinoa, Dragon Fruit, and Strawberry. The benefits include the development of remote sensing image analysis methods for modeling and mapping potential areas, providing essential data for precision decision-making and policy formulation.



FUNCTIONAL LANDSCAPES





In collaboration with the Department of Agriculture, BES organized a capacity building workshops for relevant government agencies focused advanced skills and techniques required to accurately update and map the Agro Ecological Zones of Bhutan and gain a deeper understanding of the intricate relationships between climate, soil, and agriculture,



FUNCTIONAL LANDSCAPES



enabling them to identify the most suitable agro-ecological zones for various farming practices in Bhutan. Comprehensive training in earth observation, data applications, machine learning, geospatial data analysis, and rice area mapping were also delivered.



FUNCTIONAL LANDSCAPES

A user interface was developed for the people to access and visualize the outcomes of this project online. This can be accessed by scanning the QR code. This project was supported by the Hand-in-Hand Initiative of FAO, Bhutan.



Great People's Forest

The Great People's Forest aims to raise US\$1 billion, plant 1 billion trees and protect and restore 1 million hectares of land while placing the Eastern Himalayan ecosystem – and the 1 billion people who rely on it – on the global conservation agenda. BES along with the Bhutan Trust Fund for Environment Conservation joined the Great People's Forest initiative as encore organizations from Bhutan and submitted scale plans for conservation and reforestation. Led by the Balipara Foundation of Assam and Conservation International, the Great People's Forest will be delivered by a network of leading local organisations from Bhutan, Northeast India, Nepal and Bangladesh.



FUNCTIONAL
LANDSCAPES

THE GREAT
**PEOPLE'S
FOREST**

OF THE EASTERN
HIMALAYAS



Championing Renewables

Hydropower is Bhutan's dominant export and primary producer of electricity. However, given hydropower's reliance on river flows, which is becoming increasingly erratic and unpredictable due to climate change, it is imperative and urgent that Bhutan's energy mix be diversified. We champion renewables and help unleash the potential of solar, wind and biomass based energy. The timing is opportune given technological breakthroughs and cost competitiveness of solar, wind and biomass in relation to hydropower. We pilot and upscale renewables across Bhutan to create and build community energy banks which will help buffer reliance on hydropower and add to Bhutan's energy endowment. Doing so, we will light and bring the benefits of energy to the last unconnected communities in Bhutan.





CHAMPIONING RENEWABLES

Bio-digesters for Clean Energy: Transforming Rural Energyscapes

BES piloted 20 bio-digesters in collaboration with Sistema.bio with the potential to scale it to 10, 000+ units, helping farmers in Bhutan access clean energy, improve soil health, generate income and help mitigate climate change. The pilot was conducted in Chukha, Paro, Punakha, Thimphu and Wangduephodrang.

Waste to Energy

BES is in the process of developing a commercial biogas facility project in collaboration with the Department of Environment and Climate Change and Thimphu Thromde to establish a biogas canning facility (20-tonne per day capacity) in the outskirts of Thimphu aligning with Bhutan's various waste reduction as well as carbon emissions reduction mitigation goals. To establish the commercial biogas facility, BES is partnering with VNV Advisory Services – a carbon project developer, who are pre-financing the project in return for voluntary carbon market (VCM) credits generated through the facility.

20 Pilot Bio-digester Locations



CHAMPIONING RENEWABLES





CHAMPIONING RENEWABLES



Leveraging Carbon Finance

We are leveraging carbon markets to bring innovative technology, capacity building and financing for projects that have real climate change mitigation benefits as well as benefit our communities in a just and equitable way. We are working with partners to design, register and certify carbon projects in the voluntary and compliance (Article 6) markets.

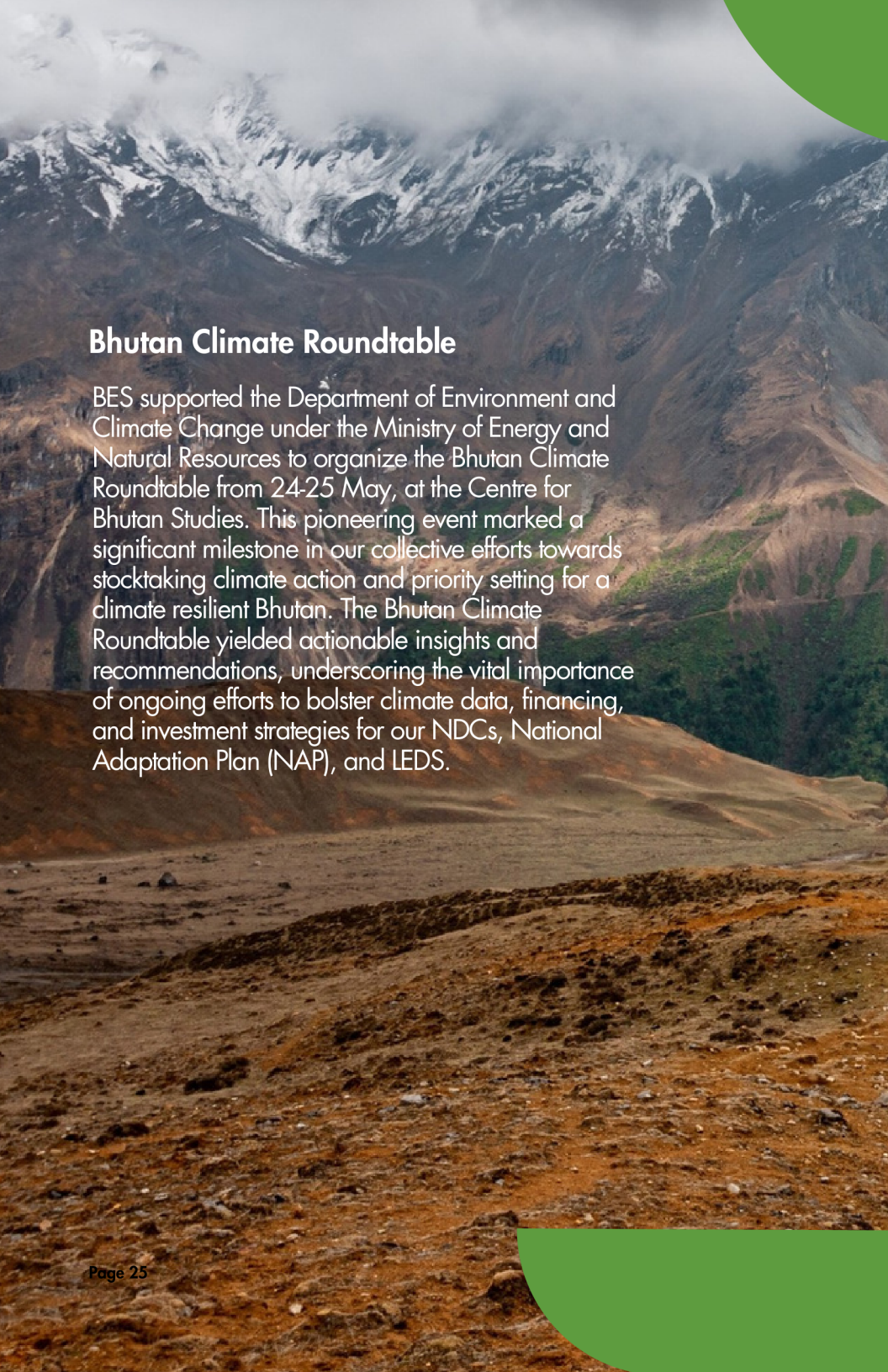


DELIVERING ENVIRONMENTAL EDUCATION, PROMOTING SCIENCE & DISCOURSE

Regional Bhutan Eastern Himalayan Naturenomics Forum

The Regional Bhutan Eastern Himalayan Naturenomics Forum was held on 6 July, organized by the Balipara Foundation in partnership with Conservation International and regional partners in Bhutan – BES and the Bhutan Trust Fund for Environment Conservation. The forum brought together 30 stakeholders from NGOs such as WWF Bhutan, Bhutan Foundation, and Bhutan for Life, as well as the Ministry of Agriculture & Livestock and the Department of Forests Parks and Services and small grant Programme beneficiaries from Zhemgang, Trongsa, Wangdiphodrang, Punakha, and Paro.

The vision of the Forum was to set agenda for the ‘Great People’s Forest of the Eastern Himalayas’ for re-wilding forests and terrestrial ecosystems, implementing regenerative agroforestry, and supporting community-led conservation efforts in the Eastern Himalayan region, particularly in Bhutan. During the Regional Forum, discussions focused on opportunities for large-scale restoration plans, existing policies that support restoration efforts, and the challenges hindering the achievement of such large-scale restoration. The participants explored potential avenues and collaborations to overcome these obstacles.



Bhutan Climate Roundtable

BES supported the Department of Environment and Climate Change under the Ministry of Energy and Natural Resources to organize the Bhutan Climate Roundtable from 24-25 May, at the Centre for Bhutan Studies. This pioneering event marked a significant milestone in our collective efforts towards stocktaking climate action and priority setting for a climate resilient Bhutan. The Bhutan Climate Roundtable yielded actionable insights and recommendations, underscoring the vital importance of ongoing efforts to bolster climate data, financing, and investment strategies for our NDCs, National Adaptation Plan (NAP), and LEDS.

DELIVERING ENVIRONMENTAL EDUCATION, PROMOTING SCIENCE & DISCOURSE

Road to Dubai : 7th BES Symposium

As a lead up to Bhutan's participation at COP28, Dubai, BES organized its annual symposium: "Road to Dubai: The Bhutan Story at COP28." The symposium centered around critical focus areas for climate action in Bhutan to drive a sense of urgency, action, the mobilization of finances and partnerships. The Symposium also explored what solutions and thought leadership Bhutan can bring to the climate crisis that may be presented at the first ever Bhutan Pavilion at COP28. Over 3 days, the Symposium engaged 30 experts engaged as presenters, moderators and panelist, many who would go on to attend COP28 and had over a 100 participants recorded.



DELIVERING ENVIRONMENTAL EDUCATION, PROMOTING SCIENCE & DISCOURSE





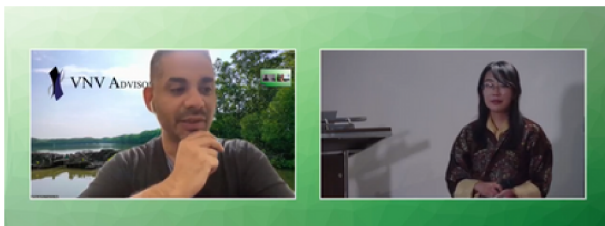
The 8th Bhutan Lectures for Innovation, Science, and Society (BLISS) intended to support Bhutan to strengthen its position as a key player in global efforts to combat climate change while reaping the benefits of a thriving carbon market. Within the framework of the Paris Agreement, Article 6 presents a significant opportunity for Bhutan to leverage its carbon neutrality as a "mitigation outcomes" (MOs) seller.



Unlocking the potential of carbon markets in Bhutan is critical for several reasons. Firstly, it offers avenues for engaging businesses and attracting private sector investments to support essential mitigation activities. This is particularly vital as Bhutan faces a reduction in development assistance following its graduation from Least Developed Country (LDC) status. Secondly, establishing centralized markets through a United Nations framework ensures broader market access, enhancing the nation's economic prospects.

DELIVERING ENVIRONMENTAL EDUCATION, PROMOTING SCIENCE & DISCOURSE

The lessons from Bhutan's past participation in Kyoto Protocol mechanisms underscore the importance of adept negotiations to seize opportunities effectively. Speakers delved deeper into the intricacies of Article 6 and discussed the practical steps needed to navigate this transformative journey towards a sustainable and carbon-neutral future.



BLISS is an annual public benefit event that aims to bring forward transformative ideas by Bhutanese to a wider audience in order to inform, educate, empower and inspire people. BLISS is a platform where ideas, solutions, knowledge and possibilities are presented and discussed in order to build a sustainable, just, harmonious and prosperous Bhutan, with the long term vision to expand our inquiry within the region and the world at large.



BES at COP28 in Dubai, UAE

At COP28, Bhutan organized its first-ever pavilion with the theme “Sustaining Carbon Neutrality” to demonstrate Bhutan's unique journey as a carbon-neutral country and highlight Bhutan's climate priorities, adaptation, and mitigation strategies. The Pavilion showcased Bhutan's sustainable and green development initiatives, explored opportunities for green financing, and sought sustainable investments. BES's participation at the Bhutan Pavilion underscores its commitment to sustainable development, carbon mitigation, and the conservation of vital ecosystems in Bhutan as well as the region. An enriching panel discussion with Balipara Foundation, Conservation International, Friendship NGO and Bhutan Trust Fund or Environmental Conservation on the Great People's Forest initiative explored the Great People's Forest initiative's ambitious portfolio of programs, unveiling scale plans, and projecting the impactful changes anticipated in the coming year.



DELIVERING ENVIRONMENTAL EDUCATION, PROMOTING SCIENCE & DISCOURSE



We showcased projects that we have been working on to leverage carbon financing to transform the rural as well as urban energy landscapes in Bhutan while uplifting livelihoods. These projects will also offer financing, capacity building and long term monitoring and services. BES signed a MoU to accelerate collaboration with Sistema.bio / Sistema Biobolsa with whom BES is currently piloting 20 proprietary biodigesters around rural Bhutan with the potential to scale it to 10, 000+ units. BES also signed an Agreement with VNV Advisory Services to establish a commercial biogas facility that turns waste to biogas in Thimphu.



Partners & Supporters

Royal Government of Bhutan

Karuna Foundation

Bhutan Foundation

Bhutan Trust Fund for Environmental Conservation

Food and Agriculture Organization, Bhutan

School for Field Studies

Sistema.bio

VNV Advisory Services

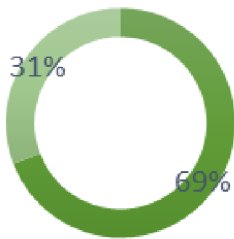
One Tree Planted





Financial Report

EXPENDITURE



■ Project expenses ■ Operational Support

Budget Report

Particulars	Budget
Projects	39,737,950.87
Operations	17,661,343.86
Fund Received	57,399,294.73



LEADERSHIP



Our Royal Patron

Her Royal Highness Princess Chimi Yangzom Wangchuck

Board

Dasho Paljor J. Dorji

Special Advisor to the National Environment Commission
and Founding President of the Bhutan Ecological Society.

Dasho Nidup Dorji

Vice-Chancellor of the Royal University of Bhutan

Dr. Tashi Samdrup

Former Director General of Bhutan Agriculture and Food
Regulatory Authority

Kesang Choden Dorji

Former Dzongdag, Bumthang Dzongkhag

Phento Tshering

Former Director for the National Environment Commission



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Executive Director

Norbu Wangdi (PhD)

Specialist (Forests and Water)

Tempa Tshering (PhD)

Specialist (Conservation and Water)

Sonam Phutsho

Director (Education and Research)

Sonam Wangmo

Lead (Energy and Waste)

Namgyel Wangdi

Lead (Restoration)

Namgay Choden

Lead (Climate Solutions)

Pema Eden

Lead (Information and Technology)

Tashi Wangmo

Liaison, Procurement and
Communications

Ugyen

Head of Administration and
Operations

Kinley Yoezer

Program Finance

Administration Support

Chador Wangmo

Kinley Dema

Yeshe Zangmo

Tashi Dhendup

Jurmi Tenzin

Nima Choden

Thinley Penjor

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