



Bhutan Ecological Society
2022

ANNUAL REPORT





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**Helping Bhutan remain climate
resilient and carbon negative**



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From the Executive Director

Bhutan is in the midst of a generation-defining transformation. Building on the dividends of decades of development and growth, the ongoing transformation process is designed to secure Bhutan's prosperity into the near and long-term future.

We intend to play our part in this process. In the last year, with the support of the GEF-UNDP small grants program, we partnered with the Bhutan Foundation, Bhutan for Life, and the Department of Energy to install and commission Bhutan's first off-grid 80 KW stand-alone solar plant at Aja Ney, one of the most sacred tantric Buddhist sites in the Himalayas. We planted over 150K high-value fruit and timber trees across Bhutan. And we are expeditiously exploring how to leverage a growing carbon market to bring carbon revenues to our enterprises and farmers.

On the research and education front, the Center for Climate and Sustainable Futures, a collaborative initiative between the CNR, RUB, SFS, and BES will continue to provide international and Bhutanese undergraduate students with unique and transformative field-based programs.

Given the challenges and opportunities for Bhutan and the region, we are upscaling our ambitions to implement innovative and transformative solutions, within both the built and the natural environment. We feel this is timely and urgent given Bhutan's eminent transition out of the LDC bracket, the framing of Bhutan's 13th FYP, and the imperative to deliver on the 2030 SDG agenda. We will be launching our Ambition 2030 dispatch to articulate our aspirations for the coming years.

We remain committed to our goal of helping Bhutan remain carbon negative and climate resilient by delivering on our impactscales mission to sustain functional urban and rural landscapes to provide for food, energy, water, and species. We believe that such impactscales will create jobs with dignity, enhance incomes, build communities, and support Bhutan's prosperity and wellbeing.

No organization is an island. And success cannot be delivered in isolation. As we continue to expand our network and partnerships, we are grateful for the support which we continue to receive from our partners and collaborators. And forging ahead, we are confident of success, as we continue to be guided, inspired, and led by Her Royal Highness Ashi Chimi Yangzom Wangchuck, our Royal Patron.

Nawang Norbu (PhD)
Executive Director

Jigme Singye Wangchuck Outstanding Environmental Award



Mr. Karma Wangdi awarded the JSW-OESA by Her Royal Highness Ashi Chimi Yangzom Wangchuck

The Jigme Singye Wangchuck Outstanding Environmental Stewardship Award (JSW-OESA) is a biennial award hosted and conferred by the Bhutan Ecological Society. It is a tribute to the selfless service and visionary leadership of His Majesty the Fourth Druk Gyalpo. It honours individuals, groups, and institutions from all backgrounds for their lifelong commitment to ensuring the security and sustainability of Bhutan's pristine environment. The award particularly acknowledges people who have gone above and beyond the normal call of duty in their efforts to protect the environment.

24

Nominations

18

Dzongkhangs

10

Institutions



"I am extremely grateful for this Award which directly comes from the vision of His Majesty the Fourth King of conserving our environment."

-Karma Wangdi (Award recipient)

Image Source : Kuensel

This year's JSW-OESA was conferred upon Mr. Karma Wangdi, a forester working under the Department of Forests and Services at the Ugyen Wangchuck Institute for Conservation and Environment, Ministry of Agriculture and Forests. With over 25 years of dedicated service, Karma has contributed significantly to the promotion, understanding, and conservation of Bhutan's natural heritage.

Karma's interest in research motivated him to contribute towards conservation research on butterflies and moths in Bhutan beyond the requirements of his responsibilities as a forester. His most significant achievement has been the re-discovery of the Ludlow's Swallowtail (*Bhutanitis Ludlow*) in 2009 in Tobrang, Trashiyangtse - 76 years after two known samples were collected from the area by Frank Ludlow, a British botanist, in 1933. Following Karma's re-discovery, Ludlow's Swallowtail has been designated as Bhutan's national butterfly and was also gifted by His Majesty the King to the Butterfly Society of Japan.

In collaboration with the Naturalis of the Netherlands and the National Biodiversity Center of Bhutan, Karma further discovered a total of 60 moth species, of which 34 are new to Bhutan, and 26 are entirely new to science. Karma has published books on butterflies and moths of Bhutan and continues to contribute to science and conservation in Bhutan and the wider Himalayan region.

Environmental Research Agenda

3

Day Workshop

4

Thematic Areas

15

Organisations

1

Research Collective
Group

Over the past few decades, it has become increasingly evident that the climate crisis is already affecting us, and coupled with the loss of biodiversity, it will severely constrain humanity's ability to thrive and prosper. While the rest of the world is making net-zero pledges leading up to 2050 and beyond, Bhutan's current status as the world's first carbon-negative country is truly remarkable. However, Bhutan is not immune to the impacts of climate change, with rapidly melting glaciers and unpredictable monsoons threatening the country's development aspirations and well-being. Scaling and amplifying environmental research is essential to support Bhutan's ambitions and resilience. A collective response is urgently required from Bhutan's research community, which should comprise government agencies, civil society, and academia to address current and emerging research needs.

BES organized a three-day workshop to highlight Bhutan's status in four thematic areas: Water, Energy & Transport, Forest & Wildlife, and Food (Production Systems). The workshop's objectives were to

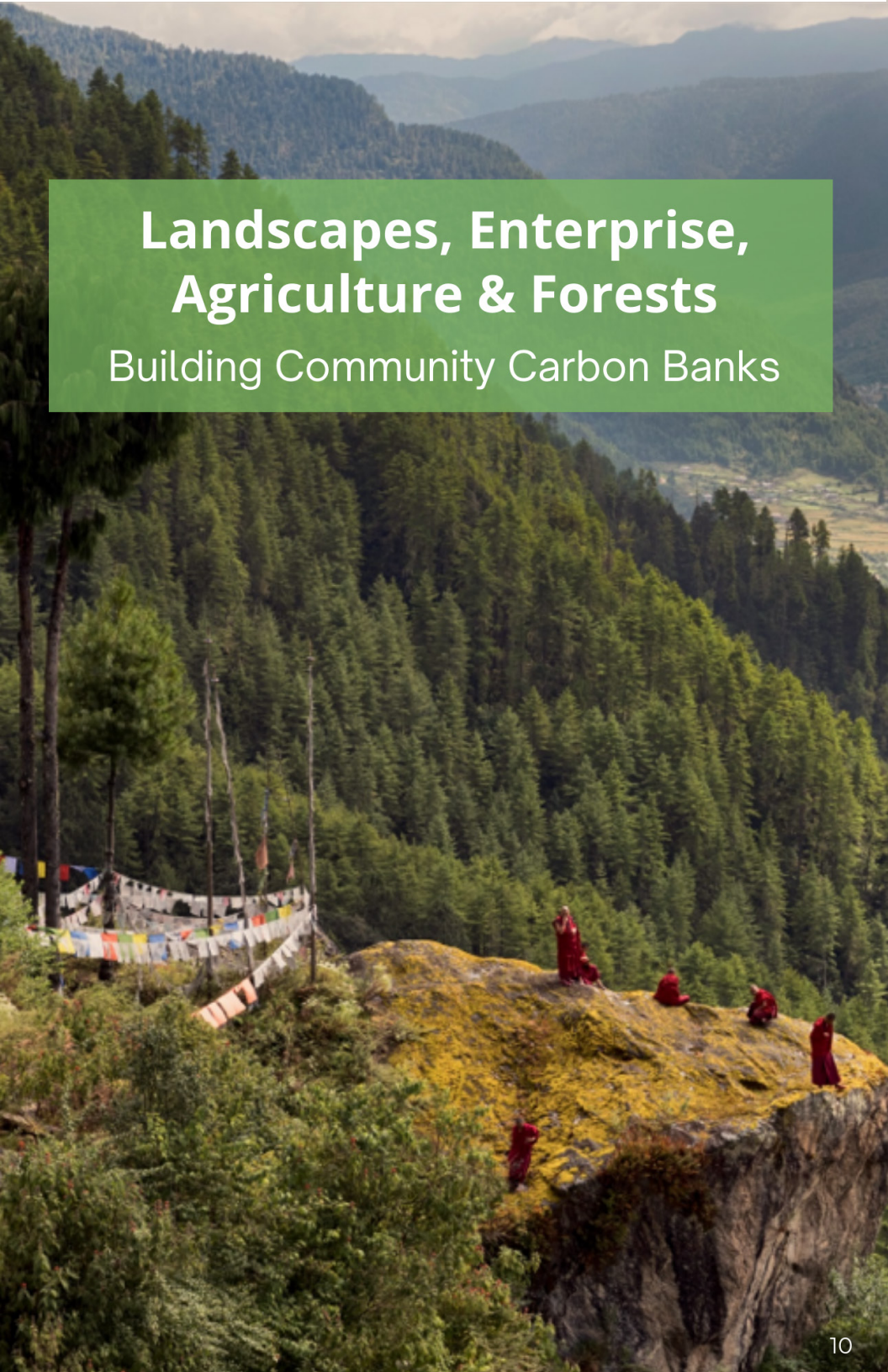
- Define key challenges and forecast risks,
- Prioritize what we need to know and what we do not know, and;
- Define research focus areas from now until 2030.

From the discussions, it was clear that Bhutan has come a long way to fit into this fast-developing world. The country is known for its environment and culture, but with climate change's dilemma and the need to adapt, the question arises whether we should go back in time or move forward to a better future. Climate change is happening, and the best time to intervene was yesterday. However, as custodians of the country's environment, workshop participants representing concerned authorities from all sectors have unanimously formed a research collective group for Bhutan. Through this initiative, we hope to put in efforts to tackle the challenges facing the country's environment.



Landscapes, Enterprise, Agriculture & Forests

Building Community Carbon Banks



10+ million by 2030

50639

Fruit Trees

82290

Wild Trees

76

Villages

1126

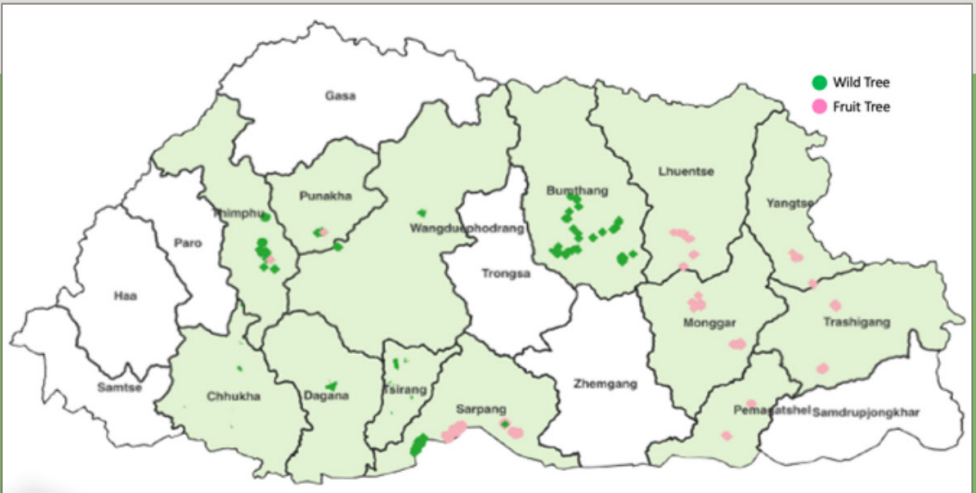
Households

Building Community Carbon Banks:



The 10+ million trees project was launched with the aim of addressing environmental and livelihood challenges in Bhutan. This initiative seeks to build Bhutan's carbon stock, rehabilitate fallow land, and, most importantly increase rural income, through the sale of fruits, nuts, and timber.

To achieve this, BES will plant over 10+ million high-value crop trees and high-value timber species across 20 Dzongkhags (districts) of Bhutan by 2030.



In 2022, BES planted 50,639 fruit trees and 83,290 high-value timber species in 13 Dzongkhags covering 76 villages, and 1,126 households across the country, bringing the total number of trees planted to 133,929 exceeding its target of 100,000 plantation



Planting 10+ Million Trees in Bhutan

As part of the project, BES has established two nurseries in Wangduephodrang and Gelephu, which are geared towards producing saplings for temperate fruit and high-value timber. These saplings will be distributed in the upcoming plantation season.



As of this report, the project has completed 100% of the plantation targeted for 2022. Furthermore, BES has planted an additional 33,929 trees and saplings in response to requests from community farmers. Plantations have primarily been carried out on barren and fallow lands that belong to community farmers, as well as lands owned by institutions, schools, parks, and monasteries. The plantations spanned 13 Dzongkhags, which cover the eastern, central, western, and southern regions of the country.

Building Community Carbon Banks: Planting 10+ Million Trees in Bhutan

BES also launched the Million+ tree dashboard and an App that can be accessed at <https://app.bes.org.bt>.

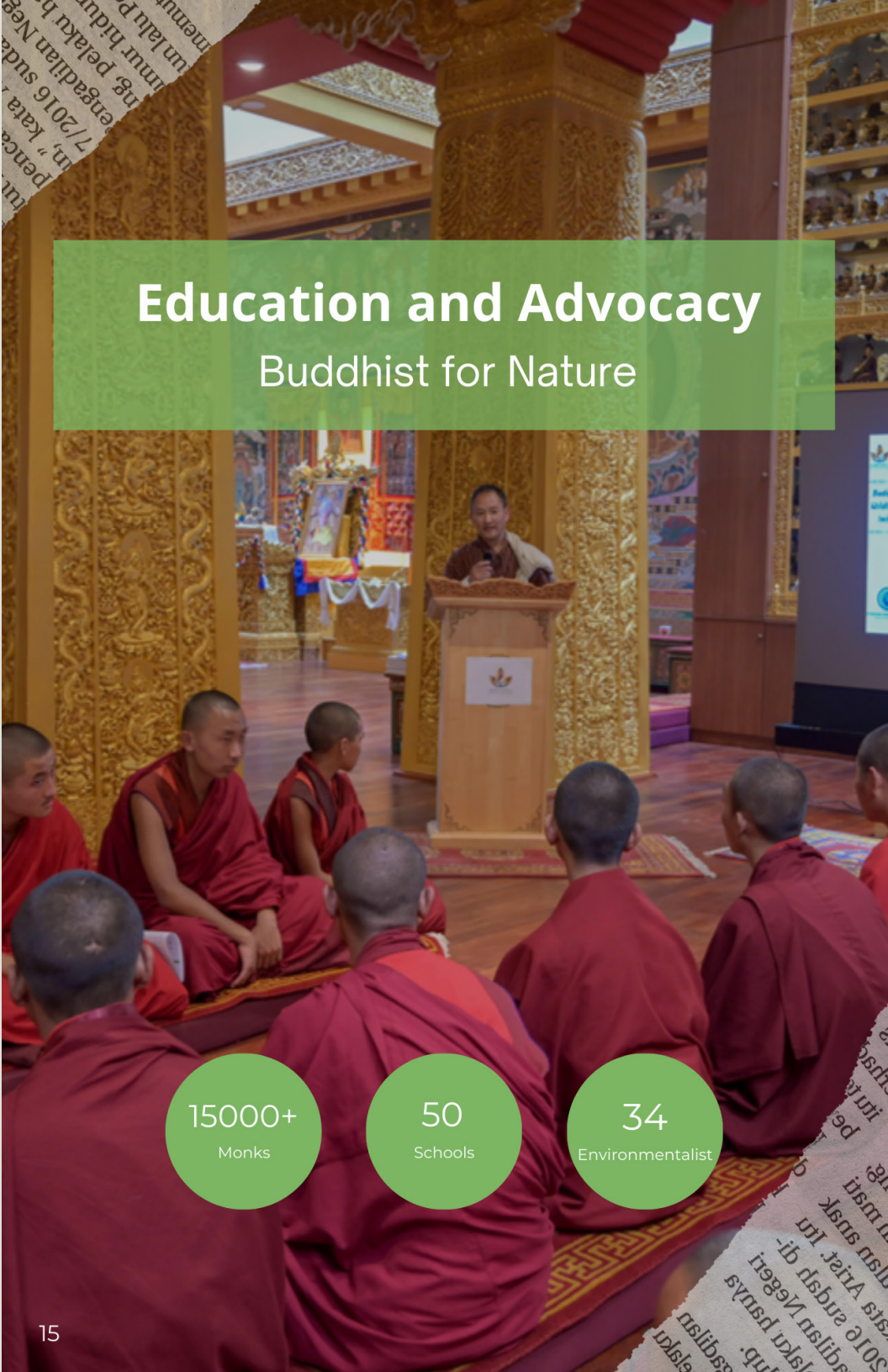
It will serve as a platform for interested fallow land owners to register for requisitions of fruit trees and high-value timber saplings for the upcoming plantation seasons. It will serve as a platform for interested fallow land owners to register for requisitions of fruit trees and high-value timber saplings for the upcoming plantation seasons



Scan the QR code to learn more about the project

Education and Advocacy

Buddhist for Nature



15000+

Monks

50

Schools

34

Environmentalists

A Buddhist Wildlife Trade Demand

BES launched the "Buddhist Wildlife Trade Demand Reduction Initiative in Southeast Asia", shortly known as the "Buddhist for Nature" project in collaboration with the International Buddhist Confederation, NABU



(Nature and Biodiversity Conservation Union), International Foundation for Nature and the Central Monastic Body of Bhutan. The project is a component of a broad awareness-raising effort in Southeast Asian nations, including Bhutan, which are known to be hubs for illegal wildlife trading and poaching. By connecting it to core Buddhist ideals including the notions of compassion for all sentient beings, universal responsibility, and interdependence, the project aims to bring about behavioral changes relating to the use of wild animals for food, medicine, and other uses

It is important to minimize egocentricity, spiritual materialism and anthropocentric nature in human beings and to treat all sentient beings the same and equally. There are many existing ancient beliefs and myths surrounding the use of animal and animal products. However, the primary path of dharma is critical thinking and one must analyse the wrong from the right and make sensible decisions.



Dr. Karma Phuntsho talked about how myth and superstition are fueling illegal wildlife trade and poaching

Reduction Initiative in Southeast Asia



To bring attention to the project to a wider audience, the BES participated in and organized an awareness session during the Kuenkhyen Kabum (oral transmission and empowerment of Kangyur, the teachings, and precepts of sacred scriptures of Lord Buddha), which took place in

Kuensel Phodrang for a month in October. Trulku Jigme Choedra, the 70th Je Khenpo, who presided over the event, spoke about the initiative, the importance of having compassion for all sentient creatures, and the need to abstain from eating meat. To emphasize the significance of this campaign, he encouraged his followers to refrain from animal products at least for the duration of the event. Additionally, no meat or meat-related products were permitted to be served for the whole month. The event witnessed by over 30000 including more than 15000 monks. The recording of His Holiness Je Khenpo's talk is available online to reach larger audience.

We received more than 500 entries from across the country for the art competition themed "Stop illegal wildlife trading!" The competition was a component of a larger awareness-building campaign for the "Buddhist for Nature" initiative.



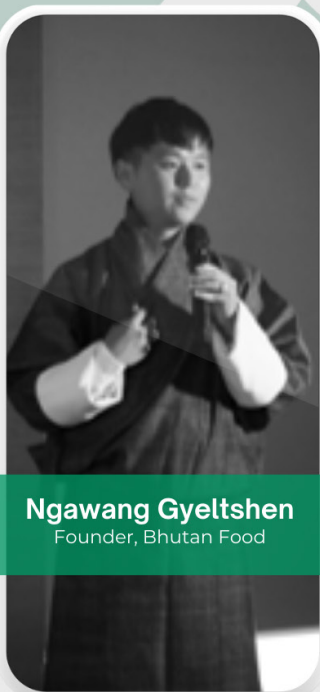
BLISS



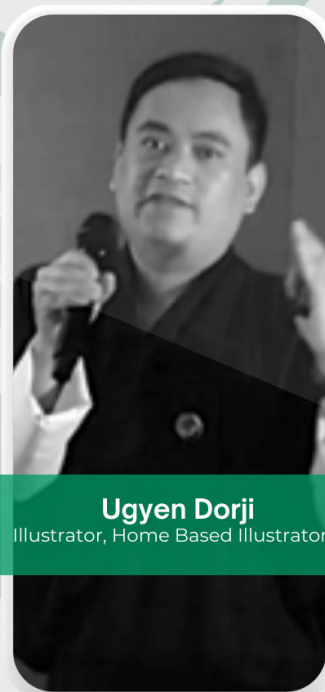
Bhutan Lectures on Innovation, Science and Society (BLISS)

Bhutan Lectures on Innovation, Science and Society (BLISS) is a bi-annual platform showcasing ideas by Bhutanese to a wider audience in order to inform, educate, empower Digital, showcased speakers from digital businesses who leveraged technology to create innovative products and services. The 7th BLISS brought together speakers who focused on security and efficiency in Bhutan.

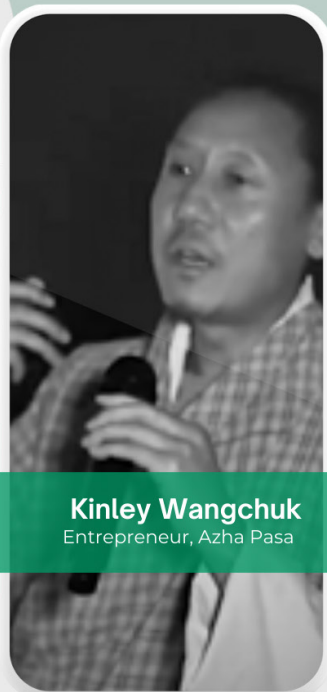
6th BLISS : Driving Digital



Ngawang Gyeltshen
Founder, Bhutan Food



Ugyen Dorji
Illustrator, Home Based Illustrator



Kinley Wangchuk
Entrepreneur, Azha Pasa



public benefit event that aims to bring forward transformative energy, and inspire people. The 6th BLISS, themed 'Driving technology to solve complex problems, streamline operations, and empower stakeholders working in policy and innovation to promote energy

7th BLISS : Energy Security & Efficiency



Dechen Dema

Engineer, Department of Energy



Galey Dorji

CEO, Suntech



Ugyen Norbu

Chief Program Officer, RSTA

Their inspiring talks can be accessed at <https://bes.org.bt/bliss-bhutan>.

Energy

Community-Based Clean and Renewable Energy at Aja Ney – First Off-Grid Solar PV Project



3

off-grid solar
PV plants

34

Households

1000+

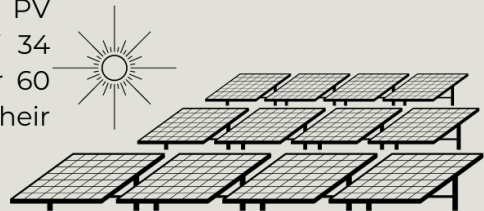
Pilgrims

Community Based Clean and Renewable Energy at Aja Ney – First Off-grid Solar PV Project



The establishment of the first Decentralized Solar PV system of 80 KiloWatt (kW) in Aja Ney has brought electricity access to a rural community, Aja Ney, that previously lived without it. This system will also benefit the thousands of pilgrims who visit the area annually. The 80 kW system was constructed in Dawathang, Pema Yangdzong, and Dungkar Choling, with funding support from Bhutan For Life, Bhutan Foundation, GEF-Small Grants Programme UNDP, and implemented by the Department of Energy, Ministry of Economic Affairs, Royal Government of Bhutan, and the Bhutan Ecological Society (BES). The construction began on 20th October 2021 and was completed on 30th November 2022.

Before the installation of the solar PV plant, the community consisting of 34 households and a population of over 60 relied on fuelwood and kerosene for their cooking and heating needs.



AJA NEY

Aja Ney is renowned as one of the holy sites of the Guru Padmasambhava, and is considered one of the most sacred pilgrimage destinations in Bhutan. This reputation is largely due to the presence of the sacred cave of hundred inscriptions of the syllable “Aa”. Every year, thousands of devotees visit Aja Ney to meditate in its hallowed caves and pay their respects to the religious symbols found there, including several prints left by Guru Padmasambhava.



Despite its spiritual significance, Aja Ney is also known for its remoteness. In fact, it is one of only two communities in the country that is not connected to the national electricity grid, the other being Lunana. This is largely due to the fact that Aja Ney is located within the Bumdeling Wildlife Sanctuary, where the felling of trees to draw power lines is strictly prohibited. Nonetheless, this lack of modern amenities does not deter the many pilgrims who seek out this hallowed destination every year.



Community Based Clean and Renewable Energy at Aja Ney – First Off-grid Solar PV Project

With assistance from the GEF Small Grants Programme, UNDP, in partnership with the Royal Government of Bhutan, BES provided internal wiring and electrical appliances to the community, created and disseminated knowledge about community-based renewable energy projects and enhanced the capacity of locals to use, operate and maintain the solar plant.



The project will contribute to taking clean energy to the community to achieve the common goal of poverty alleviation, environmental conservation, and enhancing the well-being & health of the people which are core to the Sustainable Development Goals (SDGs).

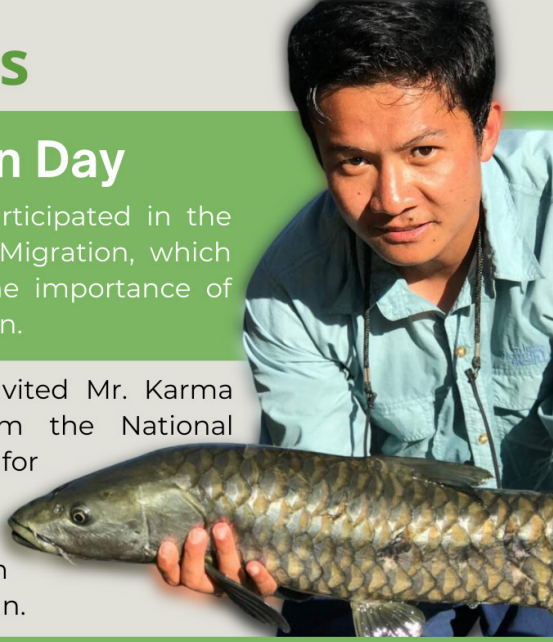


Other Initiatives

World Fish Migration Day

The Bhutan Ecological Society participated in the global celebration of World Fish Migration, which aims to raise awareness about the importance of migratory fish and river conservation.

As part of the event, the BES invited Mr. Karma Wangchuk, a fish biologist from the National Research and Development Centre for Riverine and Lake Fisheries, to speak about the groundbreaking radio-telemetry study conducted on the iconic Golden Mahseer in Bhutan.



Green and Climate Smart Technology

BES partnered with the Ministry of Agriculture and Forests as part of the EU-TACS program to organize a 5-day training on Green and Climate Smart Technology (CST). The purpose of the training was to raise awareness about Green and CST Business development and its benefits to Small and Medium Enterprises (SMEs), including existing and potential start-up SMEs and Local Governments.



On unique domestic and wild biodiversity of Bhutan

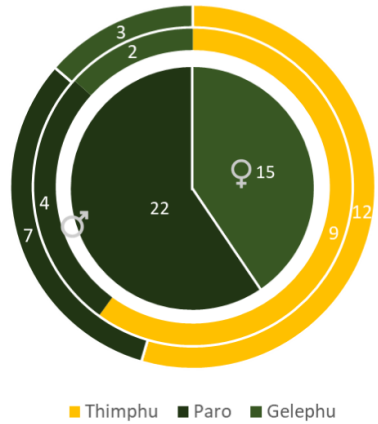
Evening for Biodiversity

Celebrating Bhutan's Nature

BES organized an "Evening for Biodiversity" to highlight the significance of Bhutan's abundant nature and biodiversity. The event aimed to remind citizens of their duty to protect the environment and ensure that it remains intact for future generations. The evening brought together experts who have dedicated their lives to conservation and environmental protection. Their insightful talks can be found on the BES Facebook page.

Staff

Bhutan Ecological Society is committed to, celebrates, and promotes equal opportunity and diversity in the workplace. As of the end of the fiscal year, we had a total of 37 staff members. Out of this total, 22 were male and 15 were female, reflecting our commitment to promoting gender diversity and inclusivity in its workplace. The Thimphu head office had the highest number of staff, with a total of 12 male and 9 female employees. The Paro office had 7 male and 4 female employees, while the Gelephu office had 3 male and 2 female staff members.



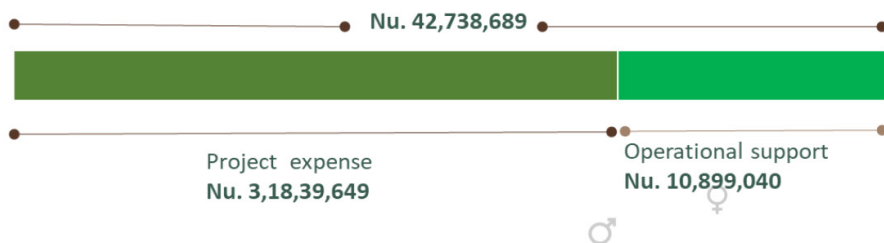
In 2022, we also continued our effort to support young students and graduates by hiring around 20 interns. These interns came from various backgrounds, including some who were studying at the College of Natural Resources and others who had recently graduated. By providing internship opportunities, BES was able to give these individuals valuable experience in the field of ecology while also furthering their own mission to promote sustainable living practices and conservation efforts. We are committed to fostering the next generation of environmental stewards and hope that such efforts will have a positive impact on the future of Bhutan's ecology.

"The internship in BES was worthwhile and provided me with valuable hands-on experiences. The pleasant and supportive work environment is among the additional things that I have cherished the most."

- Dechen Tamang

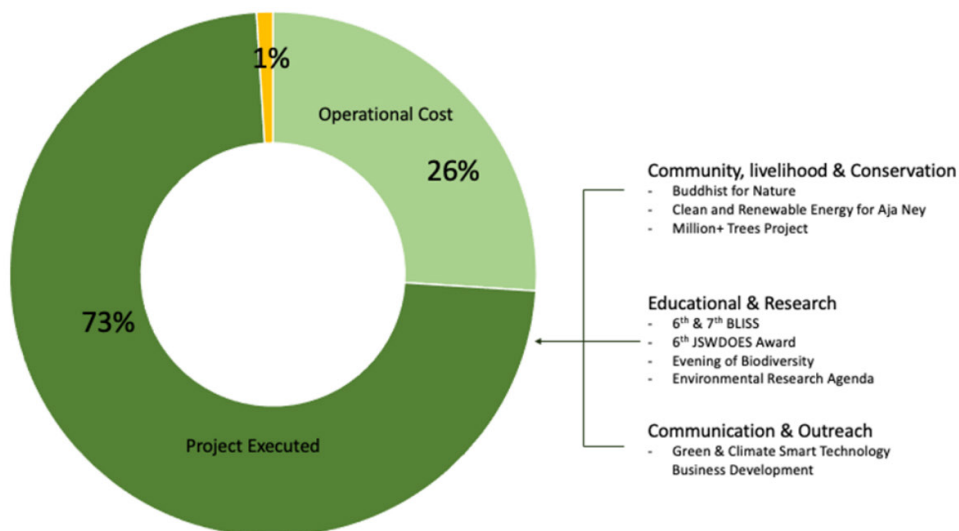
Final year BSc Sustainable Development Studies student, CNR

Financial Report



Ongoing Projects

- Community Based Landscape Approaches for Promoting Biodiversity & Sustainable Livelihoods in Bhutan



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FOUNDATION**



*Empowered lives.
Resilient nations.*



**Food and Agriculture
Organization of the
United Nations**



