

BALIPARA FOUNDATION

Assam • India

Naturenomics™ : Building Rural Futures

FORESTS FOR ALL

**PROGRESS AND
IMPACT REPORT
2022-23**



NOTHING ELSE WILL MATTER **OUR FORESTS. OUR FUTURE**

Our verdant forests hold the key to the Eastern Himalayas' future, and that of the entire planet. They're not just a breathtaking sight to behold, but also a vital source of life-sustaining resources such as fresh air, water, and nourishing food. To secure a sustainable future for generations to come, we must prioritize the protection and preservation of these precious ecosystems. For the Eastern Himalayas' predominantly rural population, these forests are a crucial lifeline, providing income through forest-based livelihoods like non-timber forest products, timber, and fuelwood. In some mountainous regions, community forests can even account for over a third of household spending. By promoting sustainable forest management and forest-based livelihoods, we can help break the cycle of poverty and ensure that communities thrive while living in harmony with their natural environment. Remember, our forests are our future, and breaking poverty starts with preserving these precious ecosystems.

YOUTH

AT THE HEART OF CHANGE

Empowering younger generations as catalytic agents of transformation towards sustainable forest development is key to unlocking the full potential of forests as a solution to many of our world's most pressing challenges.

-Ranjit Barthakur
Founder Forester, Balipara Foundation

Shikali Awomi

Sukhai, Zunheboto, Nagaland

Shikali Awomi, a 29-year-old woman hailing from the serene Sukhai village nestled in the verdant state of Nagaland, stands at the forefront of her community's pursuit towards sustainable development through her unwavering dedication to community agroforestry and conservation programs. Driven by her ardor for preserving the rich biodiversity of her ancestral lands, Shikali found

her calling in the Rural Futures program, which not only enabled her to fulfill her aspirations but also augmented her earnings through agroforestry. Her resolute commitment to environmental sustainability and rural development is a testament to the power of the youth in fostering positive change in their communities.



Since the program began, I've seen positive changes in the community and individuals, with people of all ages recognizing the importance of biodiversity and interdependence. The program has provided opportunities for youth to learn and earn, and I'm proud to have played a part in creating this change.

Zeinorin Stephen Angkang
Ukhrul, Manipur

Zeinorin Angkang is an indigenous leader from the Tangkhul Naga Tribe of Manipur and is an ardent advocate for combating extreme poverty and promoting the rights of indigenous communities. Through her enterprise, Hill Wild, she empowers underprivileged indigenous farmers in North East India through sustainable organic farming and agroforestry practices.

In 2022, Zeinorin was honored with the Rural Futures Rewilding the Eastern Himalayas grant. Through this grant, she has succeeded in bringing together a community of farmers to eliminate the cultivation of marijuana and poppy, and to focus on

cultivating crops such as sugarcane, tree tomato, and perilla. This transformative effort not only promotes environmental sustainability, but also creates economic opportunities for the farmers, underscoring Zeinorin’s steadfast dedication to empowering her community.

As a young leader herself, Zeinorin Angkang recognizes the crucial role of youth in creating positive change in their communities. She sees the potential of young people as agents of change, who can lead the way in promoting environmental sustainability, empowering marginalized communities, and preserving indigenous cultures.



I aspire to share the rich and unique flavors of indigenous culture with the wider world, while also improving the livelihoods of indigenous communities and promoting their stories. My mission centers around ensuring food security for these communities, encouraging sustainable farming practices to generate better income, safeguarding indigenous seeds, and amplifying the voices of indigenous people.

Jayaram Khakhlary
Bogijuli, Sonitpur District. Assam

Jayaram Khakhlary, a community supervisor in Bogijuli, Sonitpur District, Assam, is a young and passionate individual who is committed to making a difference for forests. As a youth leader, Jayaram has taken on the responsibility of mobilizing communities and promoting sustainable practices to restore the natural habitats of his region. His efforts have been instrumental in helping the communities in Bogijuli achieve lasting changes that have improved their livelihoods and the health of their environment.

As a community supervisor, Jayaram Khakhlary has been working closely with local NGO, MASK, and 139 members of the community from 110

households in Bogijuli. With his support and leadership, the communities have seen a 50% increase in their annual income, and his own income has doubled as a result of the program. He has been able to use this additional income to manage household expenses, renovate his house, and provide better education for his children.

Jayaram Khakhlary’s dedication and hard work has been critical in mobilizing the community and achieving lasting changes in Bogijuli. His use of a gas cylinder for cooking, rather than using wood from the forest, demonstrates his commitment to sustainable living.



I now use a gas cylinder for cooking instead of using wood from the forest. This program has made a huge difference in our lives, and I am proud to have been a part of it. The youth are driving this change in our village.

FOREWORD

INVESTING IN NATURAL WEALTH OF THE EASTERN HIMALAYAN NATIONS

Ranjit Barthakur, Founder Forester



The Eastern Himalayas are facing an unprecedented crisis. Our rural economies have been in a slow decline for the past decade. Young people are leaving their homes in search for jobs, battling the dangers of human trafficking and economic precarity for the slender pickings of hope. Across the region, they are leaving their homes because they are caught between the sea, the rivers and the heat. In 2022, nearly 1.5 million people were forced to leave their homes because of extreme weather events.

Some of these crises are the result of global crises which require global action to turn back the dial. But there is a second, more dangerous crisis on our

homefront that only we have the power to solve: the biodiversity crisis.

Every year, our region loses over 80,000 hectares of green cover.

We don't feel the consequences of this loss in the cities, but our immediate economy benefits from the money earned by selling the timber. Instead, this loss is carried by rural communities in the form of rivers changing courses because of siltation, the loss of fertile topsoil because of increased erosion, the depletion of groundwater because of increased runoff, ever-increasingly devastating floods, human-wildlife conflict and at the heart of it: the loss

of their daily livelihoods. This is the invisible, unaccounted value of the forests we lose annually to deforestation – or are converted into infertile, monoculture, timber plantations.

This is an economic crisis that can easily be solved locally, with local solutions – and with the power of local communities.

The rest of this report delves into some of these solutions: restoring our forests, transforming our farmlands to be more biodiversity-friendly (and in doing so, turning farms from carbon emitters to sequesterers), supporting communities in protecting their forests and more. We planted over a million trees this year, across Assam and Nagaland, with the support of the communities we work with. This transformation of forest and farms increased incomes by an average of 17% in this last year. With this increase, people told us how they planned to build toilets in their homes or how they could now send their children to school without fearing for their family's finances.

There are more solutions waiting to be unlocked.

This year, I have been inspired by the young people I see around me, fighting hard for a better, secure future for their families and their communities. In all of the locations that we work in, our work would be impossible if not for youngsters who put their heart and soul into mobilising their communities, leading these programmes and driving change. Many of these young people could easily leave their villages – as so many of their peers have – for more lucrative job options in cities.

But as we learned, through focus group discussions and interviews with people, young people don't necessarily want to leave home. They move because of economic necessity, but when presented with a counterfactual thought experiment – if you could stay in your community, with decent work that also positively impacts the environment – many of them preferred that option over leaving for cities where they do not have the strong support networks that they do at home.

Young people are hungry for change and hungry for opportunities. What they lack is resources and the chance to explore and innovate without facing economic precarity. At the same time, they also fear for their communities. Riverine communities that we work with in Assam face an existential risk: in a decade or more, some of them fear their lands will no longer exist as the Brahmaputra continues to swell and rise with melting glaciers.

We need young people to lead future generations to a better world. But young people also need us: for our leadership, for resources, knowledge and experience. Only cross-generational learning and collaboration, can help us marshal the action needed to meet the scale of the challenge this region faces head on – for people, for livelihoods, for climate resilience and for its biodiversity and ecosystems.

Last year at our first international annual Eastern Himalayan Naturenomics™ Forum in Dhaka, we launched the Rural Futures Fellowship – specifically to build a next-generation of young leaders with the skills and capacities to restore farms and forests across the Eastern Himalayan region. Many of our partners run programmes to not only train young people, but inculcate an ethos of conservation, restoration and regeneration for our ecosystems and biodiversity. Regional governments are putting in place policies and budget support for young people, especially to foster entrepreneurship and critical leadership skills among the youth. But we need so much more and we need to move fast.

The IPCC's synthesis report on the state of climate change paints a dire picture for the region. South Asia is projected to be one of the most climate vulnerable in the coming decade. We already see this in everyday ways: farmers who are landless because of soil erosion, farmers who no longer are certain of when to plant their crops because of an erratic monsoon and unusual heatwaves. Seeing the passion of young people to change the Eastern Himalayan story fills me with optimism for our future.

We already know many of the answers to the perennial question: what do we do? Our annual forum has been a platform where many of these solutions and innovations have been discussed in the past. But we are at a tipping point. We need to stop talking and start building: take innovative solutions and invest in them to scale rapidly, build collaborations to innovate solutions where none exist. And above all, we need to put our young people front and centre, because they are the ones who will inherit this region from us.

So my question to everyone who reads this is very simple. We know what is to be done: what will you do to achieve it?

CONTENTS

12

What We do

27

Agroforestry as
a Catalyst for
Livelihoods and
Environmental
Restoration

42

10th Eastern
Himalayan
Naturenomics™
Forums: 2022-23

61

The Great
People's Forest
of the Eastern
Himalayas

71

Partnerships
For Community
Impacts

15

Rural Futures
For All

30

Creating
transformational
Impact

48

Regional Eastern
Himalayan
Naturenomics™
Forum

63

The
Indigenous
Hub

72

Pillars of The
Foundation

20

Revitalizing
Nature: Our
Progress in
Rewilding
Forests and
Farmlands

36

Transforming
Landscapes
Through
Ecological
Research

58

Youth and
the Eastern
Himalayas

67

Finance



WHAT WE DO

Building Rural Futures

Creating **self-sufficient, self reliant autonomous networked forest-fringe communities** with sustainable livelihoods & businesses based on regenerative habitat management

A natural capital-based system for communities to independently deliver **equitable access to universal basic assets**

A regenerative, **cooperative natural capital based economy** that securitizes LEWWAC (Land, Energy, Water, Waste, Air, Carbon)



RURAL FUTURES FOR ALL

Introduction

At the heart of the Rural Futures framework lies a positive feedback loop model that emphasizes holistic community development and the restoration of rural ecosystems through the strategic optimization of natural resources. Key to this approach is the restoration and management of wild habitats in the Eastern Himalayas, which serves to strengthen the region's natural capital pool and enhance the overall value of each hectare of land.

The provision of initial funding for restoration and rewilding programs generates sustainable incomes and businesses for forest-fringe communities, incentivizing them to continue regenerating natural capital and perpetuating this virtuous cycle. With a focus on agroforestry, bamboo, mushrooms, and mindful tourism, these sustainable businesses not only increase natural capital values but also empower rural communities to attain self-sufficiency while accessing essential services such as healthcare, education, renewable energy, and water.



RURAL FUTURES

- From Restoration to Regeneration
- Rewilding and Regenerating Rural Ecosystems
- Sustaining Communities Through Nature Capital

The objective of Rural Futures is achieved through two approaches



Habitat Restoration

Stratification of Vegetation

To achieve its objective of “creating a forest” rather than just “tree planting”, plantation plans are designed in a way such as to cover the 4 different strata of Vegetation, which are the Emergent layer, Canopy layer, Under-story and Ground cover. Successful establishment of different plant strata will attract and support wildlife by providing suitable and natural habitats and replicate the “layers” of vegetation similar to vegetation structures of rich forests that are found in adjoining areas.

Selection of Species

Species are selected through extensive surveys of species present in surrounding forest areas. Selected species are graded according to their stratification layer, to develop an on the ground map for planting execution. Diversity of species are recorded through methods like quadrat sampling for plants, point and line transect for birds, butterflies; netting and hand traps for insects etc. The plant species that are available in the wild are used as medicines and a few are edible and are sold in the local markets; some species are also domesticated. These are categorized under Ethnobotany surveys. Selection of species to calculate volume, diameter and carbon storage are done through DBH method. The soil quality analysis that includes the physical and chemical analysis of soil will determine the effect of soil, its degradation and fertility which will further help in continuing the process of afforestation.





Reforestation Schematic

Tree Species Selection:

Mix of native tree species that are well-adapted to the site conditions and support the desired ecological goals of the habitat restoration project will be selected. Species that are important for providing habitat, food, and shelter for local wildlife, and are also resilient to potential environmental changes will only be considered for plantation.

Planting Density:

Based on the growth characteristics of the selected tree species, determine an appropriate planting density. This can vary depending on the species, site conditions, and project goals. As a general guideline, for a mixed-species reforestation plantation, a planting density of 800-1,200 trees per hectare may be suitable. This can be adjusted based on specific project requirements and local ecological conditions.

Planting Spacing:

A spacing of 2-3 meters between trees within rows, and 3-4 meters between rows, will be followed. However, the ideal planting spacing may vary depending on factors such as the

specific habitat being restored, the plant species being used, and local environmental conditions. Topographical features, such as slopes or uneven terrain, can also influence planting spacing. Wider spacing may be needed on steeper slopes to prevent erosion and provide stability, while closer spacing may be possible on flatter terrain. It's important to consider these factors and seek input from the local community when determining the appropriate planting spacing for a habitat restoration project, as spacing may need to be adjusted based on topographical conditions and local suggestions.

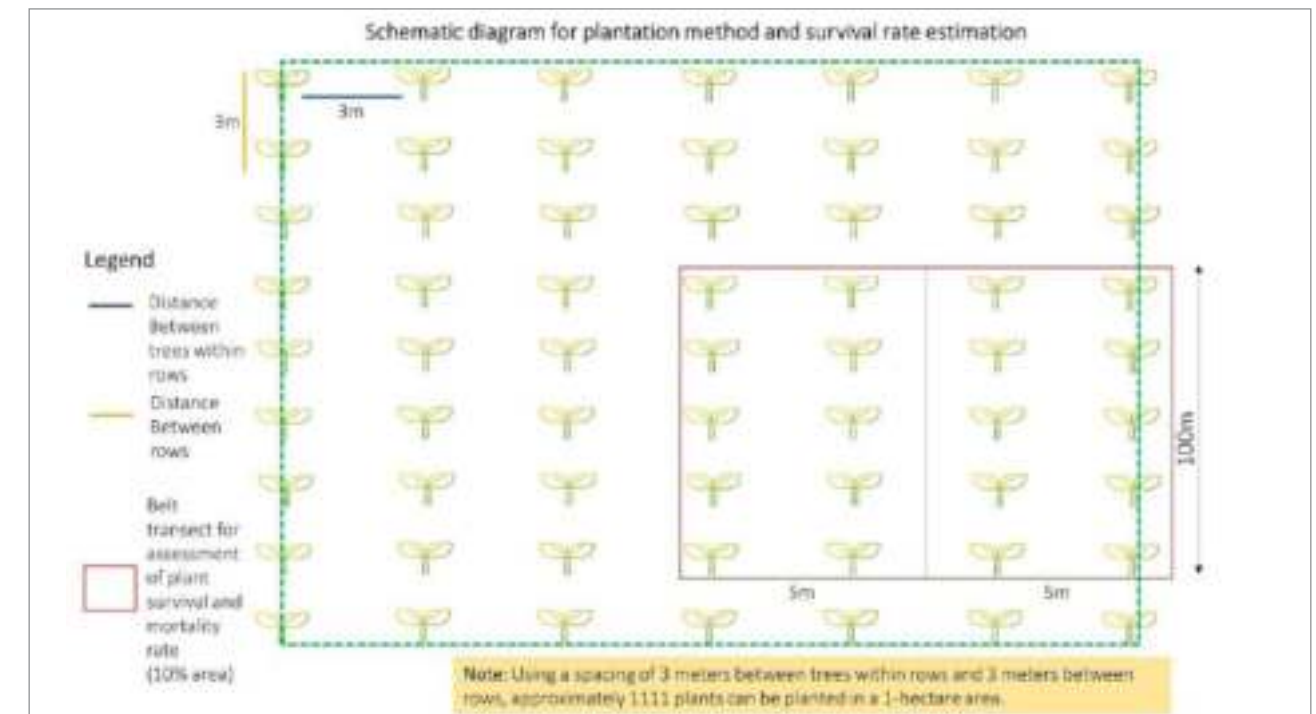


Figure: Illustration Depicting a Schematic of the Planting Technique and Estimation Method for Assessing Survival Rate



REVITALIZING NATURE: OUR
PROGRESS IN REWILDING
FORESTS AND FARMLANDS

Scaling Up Restoration for Greater Impacts in 2022-23

Where do we Work ?

- Assam
- Arunachal Pradesh
- Manipur
- Nagaland



Community Partnership (7 sites)



BRF (Tarabari, Bogijuli and Phuloguri)
7,35,436 trees



RuFu Lab (Baligaon, Sikkom)-1,26,251 trees



RuFu Lab Jorhat (Karthick Sapori and Jhanjimukh)-6,83,862 trees



Dhakuakhana-92,490 trees



Chenglijaan-1,08,514 trees



Kamrup- 35,427 trees



Nagaland (Fakim and Zunheboto)- 1,512,50 trees



Government Partnership (1 site)

Shayamalima Kamrup- Signing an MoU of planting 1.3 million trees over 3 years launched by Hon'ble Chief Minister of Assam Himanta Biswa Sharma

Community Agroforestry (7 sites)



RuFu Lab Baligaon
32574



RuFu Lab Jorhat
144079



Balipara Reserve Forest
38986



Dhakuakhana and Chenglijaan
57303



Nagaland
13210



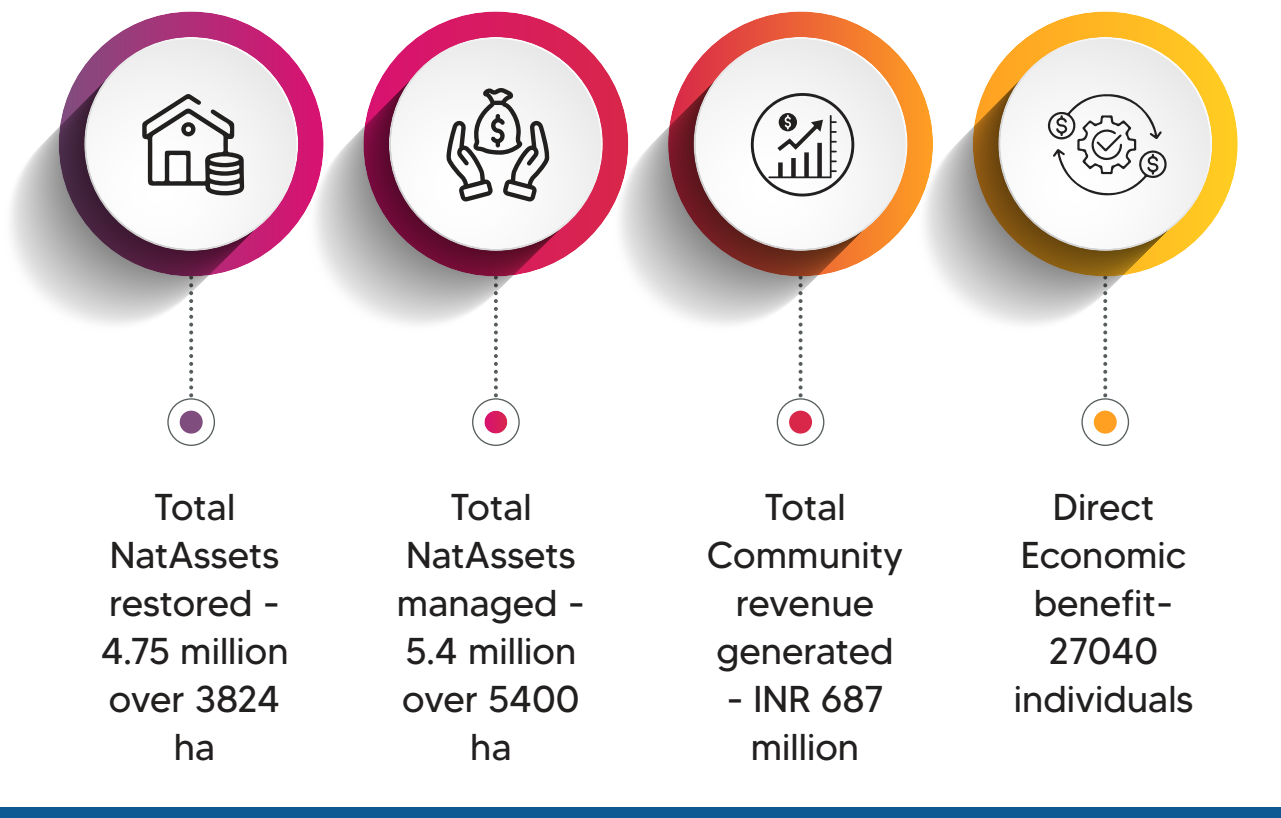
Manipur
3930



*Numbers represent the quantity of saplings that have been planted.

| Area | Planted (#NatAssets) | Productivity (NatAssets/ Man-day) | Man-days | Revenue to community (INR) (incl. deweeding) |
|-------------------------|-------------------------|--------------------------------------|----------|---|
| Balipara Reserve Forest | 7,35,436 | 22.83 | 32218 | 94,21,600 |
| Baliagon RuFu lab | 1,26,251 | 17.66 | 7149 | 17,25,150 |
| RuFu Lab Jorhat | 6,83,862 | 81.69 | 8371 | 22,91,000 |
| Dhakuakhana | 92,490 | 44.66 | 2071 | 5,78,050 |
| Chenglijaan | 1,08,514 | 13.73 | 7904 | 1994400 |
| Kamrup | 35,427 | 28.99 | 1222 | 311000 |
| Nagaland | 1,512,50 | 38.39 | 3940 | 989600 |
| Bongmol | ***** | | 1240 | 310000 |
| Total/Avg | 19,33,230 | 35(avg) | 64115 | 1,76,20,800 |

Since 2017



From Desolate to Diverse
Habitat Restoration Reunites Animals and People
in Thriving Ecosystems

Jhanjimukh, a village in Assam that was once a picturesque sight with its abundant aquatic life, faced a harsh reality of human-elephant conflicts and soil erosion. The villagers, whose livelihoods depended on the land, were left helpless as the elephants destroyed their crops and homes. It was a daily battle between survival and nature's wrath, and the village was losing.

But hope came in the form of the Rural Futures model, understanding the village's plight and how restoring the habitat can create a sustainable ecosystem for all creatures.

The Balipara Foundation had a vision in 2021 to restore 450 hectares of habitat for the aquatic ecosystem, birds, and animals such as elephants, deer, rabbits, and snakes in the river islands around the village. With a goal to create an elephant-friendly habitat that would reduce human-elephant conflicts in the area, they strategically designed a habitat restoration model that involved planting species of trees that would support the elephant herd's food and prevent them from straying into the paddy fields.

The efforts have not only restored the natural beauty of the area, but they have also brought a sense of relief to the villagers. The fear of losing their homes and crops to the elephants has been replaced with a feeling of co-existence. The elephants are no longer seen as threats, but rather as a part of their community. It's a beautiful sight to see the villagers and elephants living in harmony, and it's all thanks to the Foundation's dedication and hard work.

In 2022, the Foundation successfully planted 0.47 million trees covering an area of around 450 hectares.

The success of the Rural Futures restoration model has shown that it's possible to create a balance between humans and nature, and that we can all co-exist peacefully. The villagers can now enjoy the beauty of their village and their land once again, while the elephants can roam freely and peacefully. It's a win-win situation, and it's a testament to the power of conservation and the importance of preserving our natural resources.





The Restoration Hero

Meet Tsuseki, Saving Fakim's Land One Step at a Time



Tsuseki, a 40-year-old self-made entrepreneur from Fakim village in Kiphire district of Nagaland, is an inspiring figure for his community and beyond. He is a man on a mission to restore nature and promote ecological development in his village.

Tsuseki's journey began as an ex-Green Hub fellow, where he developed a passion for

ecological conservation and habitat restoration. His love for nature motivated him to mobilize his community towards restoring the degraded land of Fakim and start agroforestry projects on community land. His efforts were recognized by the Balipara Foundation, who awarded him for his contributions to ecological conservation.

Tsuseki's concern for the traditional practice of jhum cultivation, a slash-and-burn method of farming that leads to land degradation, led him to approach the Balipara Foundation for help. After training in the Rural Futures program, he returned to his village to educate the community about alternate ways to earn income and preserve their land.

Today, Tsuseki represents the Fakim village community in the Rural Futures restoration program. Together, they have built a community nursery with 100,000 saplings, which will be used in their restoration projects. Tsuseki believes in engaging the youth in plantation programs to develop their skills and knowledge and open doors to new opportunities. He also believes that once people are involved in planting trees, they will understand the value of every tree, and deforestation will reduce.

Tsuseki's story is an inspiration to many who aspire to make a difference in their communities. He has shown that with determination, education, and community involvement, it is possible to restore degraded land and promote ecological conservation. His efforts remind us of the importance of preserving nature for future generations.



Greening the Community

How a Habitat Restoration Champion is Driving Positive Change



Jeremia Muchahary serves as the community supervisor of the Habitat Restoration Programme in Tarabari Village, located in the Chariduar area of Sonitpur District, Assam. With his dynamic leadership and the support of the local NGO MASK, his community has embarked on a journey to restore the biodiversity of the forest, planting over 800,000 saplings since 2020. This programme has had a transformative

impact on the community's understanding of ecology and its vital role in their lives and functioning. Moreover, through the income earned from the Habitat Restoration work and Agroforestry, the community has been able to foster its own well-being and development.

According to Jeremia, participating in the program has boosted his household income by 100% thanks to his and his wife's involvement. This extra income has played a crucial role in covering their household expenses and supporting their children's education.

The community's involvement in the Rural Futures program has resulted in significant impacts, including the provision of employment opportunities and additional income within the village. The HTPF Balipara Foundation project employed 154 individuals, leading to a 40% increase in annual income for the villagers.

Furthermore, the program has helped to educate people about the importance of the environment and the significance of trees. As a result, individuals have started planting trees and betel nuts on their property (known as "Eita Sabar" in Assamese).

The Church committee, with the guidance and support of Balipara Foundation, has established a community nursery, earning an annual income of 7 lakhs from the sale of 1 lakh saplings. With this income, the committee has constructed a toilet in the church and a bamboo bridge - the only means of connectivity for the village. Prior to the bridge's construction, villagers had to cross the river to access basic services.



The Rural Futures community nursery has blossomed into a bridge of opportunity, as its income was skillfully woven into the construction of a community bridge.



AGROFORESTRY AS A CATALYST FOR LIVELIHOODS AND ENVIRONMENTAL RESTORATION

Introduction

RuFu Agroforestry had numerous benefits for the communities that implemented it. By creating a food forest in the community, RuFu Agroforestry helped to restore and improve the environment, including soil, water, and sunlight resources. This led to healthier growth of plants and trees, which in turn produced ample food for the community and increased biodiversity, contributing to a more balanced ecosystem.

RuFu Agroforestry involved planting at least 7 different varieties of saplings of trees, shrubs, and rhizomes, which required less management but had high revenue returns. This created a sustainable source of income for the community through the

sale of forest products like timber, fruits, nuts, and medicinal plants, improving the local economy and promoting economic stability.

Moreover, the food forests created through RuFu Agroforestry helps to mitigate the effects of climate change by absorbing carbon dioxide and other harmful greenhouse gases from the atmosphere, which in turn reduces the community's carbon footprint and helps to combat climate change.

Agroforestry has brought about a multitude of benefits to communities, including economic, environmental, and social benefits, making it an attractive and viable option for sustainable community development.

RuFu Agroforestry (Initiated implementation from March 2020)

| Crop | Planted/ Unit set up | Households covered | Harvested till date (Kgs) | Revenue till date (INR) |
|----------|----------------------|--------------------|---------------------------|-------------------------|
| Plant sp | 3,34,070 | 640 | 24,396 | 8,28,265* |

*Harvested crop - Ginger, King Chilly, Turmeric, Colocasia, Brinjal and Lemon



| S. No. | Area | Agroforstry Mandays | Agroforestry wage income |
|--------|--|---------------------|--------------------------|
| 1 | Balipara Reserve Forest (Bogijuli, Tarabari and Phuloguri) | 6046 | 1525200 |
| 2 | RuFu Lab (Baligaon and Sikom) | 2679 | 681250 |
| 3 | RuFu Lab (Jorhat) - Kartick Chapori and Jhanjimukh | 1016 | 308650 |
| 4 | Dhakuakhana -Assam | 2521 | 711100 |
| 5 | Nagaland- Fakim and Zunheboto | | |
| 6 | Shengelijaan- Assam | 222 | 55850 |
| 7 | Bongmol-Manipur | 131 | 32750 |
| | Total | 12615 | 3314800 |

Mushroom

| S. No. | Area | Agroforstry Mandays | Agroforestry wage income |
|--------|-----------|---------------------|--------------------------|
| 1 | Phuloguri | 60 | 15000 |

Agroforestry in Action:
How Durgeshwar Pegu is Creating Sustainable Livelihoods



Durgeshwar Pegu, a farmer from the small village of Gogamukh, was struggling to make ends meet. Despite his hard work cultivating paddy and seasonal vegetables, his annual income was only Rs 26,000. He and his wife, Monalicha Pegu, tried to supplement their income by weaving Mekhela Chadar and Gamcha in their home and selling their handloom products in the nearby market.

But their income was barely enough to support their family of four, let alone provide a good education for their two children. Durgeshwar's land remained vacant for 6-7 months after the paddy harvest, leaving him with no source of income for most of the year.

In May 2022, Durgeshwar attended an orientation session by the Balipara Foundation about agroforestry, a new cropping method that could help him derive more income from his land and utilize it for the whole year. Intrigued by the concept, he decided to implement it on his 1 bigha land.

He began growing different crops like Assam lemon, King chilli, Moringa, ginger, turmeric, and even castor plants in his agroforestry model. With this method, he could generate income from multiple sources, including crop harvest and Eri worm harvesting. Monalicha could also use the Eri worm fiber in her weaving work.

Each crop had a good market value in their local Dhakuakhana town market. Durgeshwar was optimistic about the agroforestry model, which would increase his income manifold. He started with 1 bigha and planned to implement it on his whole agricultural land of 5 bigha.

He sees the increased income from this as a way to address the socio-economic challenges he and his family face. Durgeshwar hopes to utilize the profits from his crops to construct a toilet at his home and provide good education for his children. With hard work, determination, and the adoption of agroforestry practices, Durgeshwar is moving closer to his goals of improving the living standards of his family.

CREATING TRANSFORMATIONAL IMPACT

“Unveiling Ecological Restoration’s Transformative Power: A Comparative Analysis of Well-Being and Ecology in the Eastern Himalayan Region”

Introduction:

In the face of pressing environmental challenges, the Eastern Himalayan region has embarked on a transformative journey of ecological restoration. This second phase of our research delves into a comprehensive comparative analysis, unveiling the remarkable outcomes of ecological restoration efforts on various dimensions of well-being. By scrutinising the interplay between environmental health and human flourishing, we aim to shed light on the profound positive changes witnessed in income levels, nutritional self-sustainability, financial stability, women's empowerment in decision-making, and migration patterns. This survey result highlights the successful integration of ecological restoration practices with the holistic development of the Eastern Himalayan communities.

Building upon the groundwork laid in our previous phase of research, which underscored the limitations of conventional development indices and emphasised the intricate interconnectedness between ecology, communities, and well-being, we now embark on a captivating exploration of the transformative power of ecological restoration. Our year-long comparative analysis delves into the dynamic relationship between environmental revitalization and the enhanced socio-economic fabric of Assam.

Throughout this study, we celebrate the success stories emerging from the region's ongoing efforts to restore and preserve its unique ecological heritage. By analyzing key indicators and employing a range of research methodologies, including quantitative surveys, qualitative interviews, and participatory engagement, we aim to capture the multifaceted impact of ecological restoration on the lives of the region's inhabitants. The rich insights were gathered from the survey conducted among communities in

Phuloguri and Jhanjimukh of Assam, before and after a year of intervention.

Our comparative analysis unveils the remarkable progress witnessed in income levels, as ecological restoration practices have opened up new avenues for sustainable livelihoods. The restoration of natural resources has enabled communities to diversify their income sources, reducing their reliance on traditional agriculture and empowering

them to explore alternative economic opportunities. This transformative shift has not only increased financial stability but has also fostered a deeper sense of pride and self-reliance within these communities.

Furthermore, our study showcases how ecological restoration has facilitated a paradigm shift in addressing nutritional needs. Through the restoration of traditional agricultural practices, communities have regained control over their food systems, achieving greater self-sustainability and improved dietary diversity. This shift towards a more nutritious and locally sourced diet has had significant implications for health and well-being, reducing dependency on external resources and enhancing overall community resilience.

Moreover, ecological restoration initiatives have fostered a more inclusive and equitable society, empowering women to become active participants in decision-making processes. The comparative analysis reveals a significant increase in the proportion of women involved in shaping community policies and resource-sharing mechanisms through their participation in village councils and self-help groups. This shift towards greater gender parity has not only enriched the decision-making landscape but has also nurtured a more inclusive and harmonious social fabric.

Another notable outcome of ecological restoration efforts is the positive impact on migration patterns. The comparative analysis highlights a significant reduction in young people migrating to cities, as



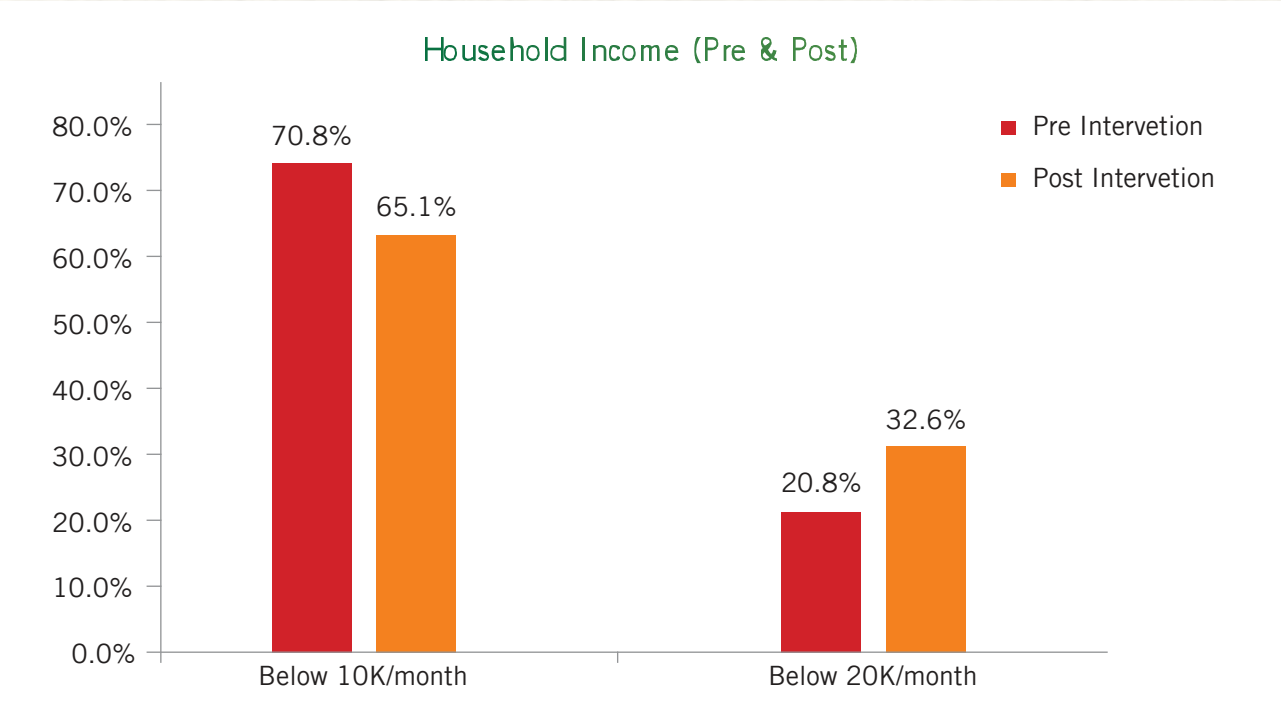
restored ecosystems have provided viable livelihood options within their communities. By creating local employment opportunities and promoting sustainable income generation, ecological restoration has enhanced the attractiveness of staying in the villages, preserving cultural heritage and reinforcing a sense of belonging.

Additionally, we acknowledge the importance of engaging with local communities as active partners in the research process. Their knowledge, experiences, and aspirations are invaluable in comprehending the multi-dimensional impacts of ecological restoration. Through meaningful collaboration and co-creation, we aim to ensure that the voices and perspectives of these communities are authentically represented and amplified, allowing for a more nuanced understanding of the interconnectedness between ecology, well-being, and sustainable development.

In conclusion, this comparative analysis marks a pivotal chapter in our study, shedding light on the transformative power of ecological restoration in the Eastern Himalayan region. By showcasing the remarkable improvements in income levels, nutritional self-sustainability, financial stability, women's empowerment, and migration patterns, we aim to provide a compelling narrative that highlights the profound benefits of prioritizing ecological

health alongside human well-being. Through our interdisciplinary and participatory approach, we hope to inspire a new era of sustainable development that recognizes and nurtures the intricate interconnectedness between people and the environment, ultimately paving the way for a brighter and more resilient future.

- » Survey conducted with 288 Individuals
- » 192 - Round 1
- » 96 - Round 2 (In progress)
- » Comparative analysis completed in Phuloguri and Jhanjhimukh
- » 46 matched cases (Pre and Post)

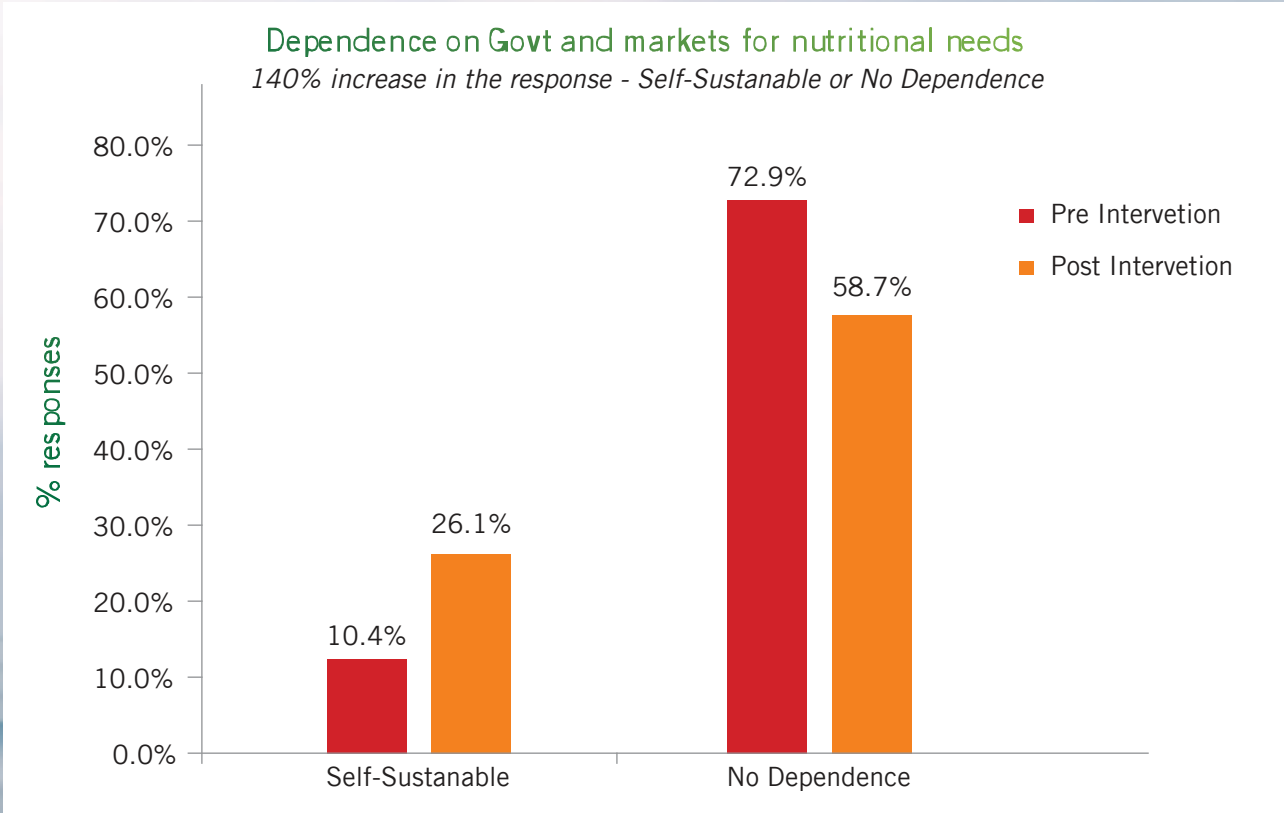


From this chart, we can observe the following:

- Below 10k/month:** The percentage of households with income below 10k/month decreased from 70.8% before the intervention to 65.1% after the intervention. This suggests that the intervention has had a positive impact on the income distribution in this income bracket, resulting in a slight reduction in the proportion of households with lower income.
- 10-20k/month:** The percentage of households with income between 10k and 20k/month

increased from 20.8% before the intervention to 32.6% after the intervention. This indicates a notable improvement in the income distribution within this income range, suggesting that the intervention has positively influenced the financial situation of households in this bracket.

However, based on the comparison, it appears that the Rural Futures project had a positive impact on income distribution for both income brackets, with a reduction in the proportion of households with lower income in the below 10k/month bracket and an increase in the proportion of households in the 10-20k/month bracket.



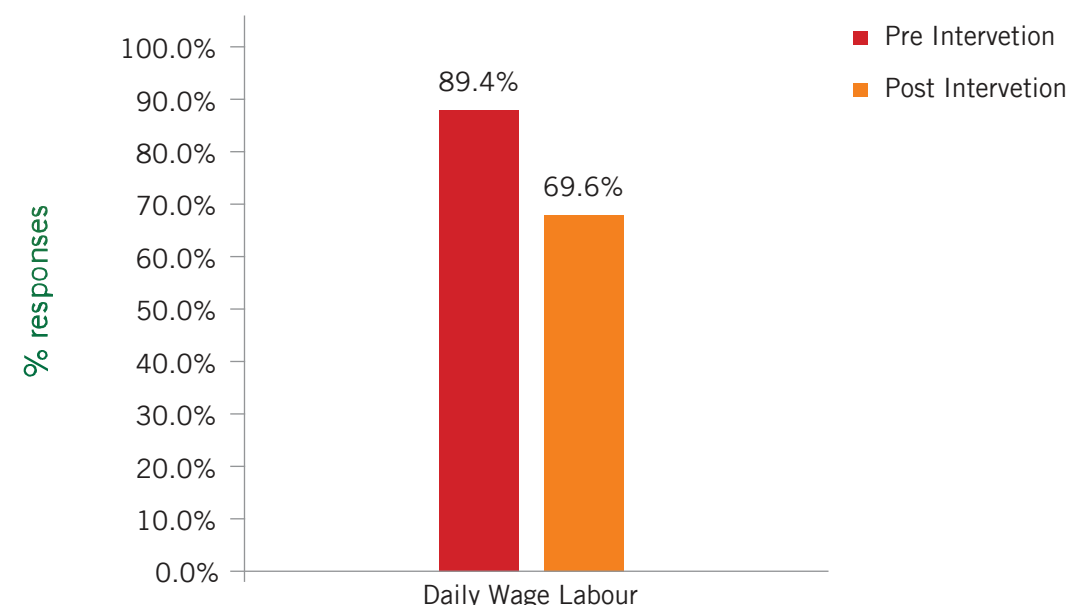
Based on these figures, we can make the following observations:

- Self-Sustainable:** The percentage of individuals or households who were self-sustainable in terms of nutritional needs increased from 10.4% before the intervention to 26.1% after the intervention. This indicates a positive impact of the intervention on enabling a larger proportion of people to meet their nutritional requirements independently.
- Partially Dependent on government subsidies and markets:** The percentage of individuals or

households partially dependent on government subsidies for their nutritional needs decreased from 72.9% before the intervention to 58.7% after the intervention. This suggests that the intervention may have reduced the reliance on government assistance for meeting nutritional requirements, implying an improvement in self-sufficiency among this group.

However, based on the provided data, it appears that the intervention has had a positive effect by increasing self-sustainability and reducing reliance on government subsidies for nutritional dependence.

Switching to Daily Wage Labour during Lean Periods

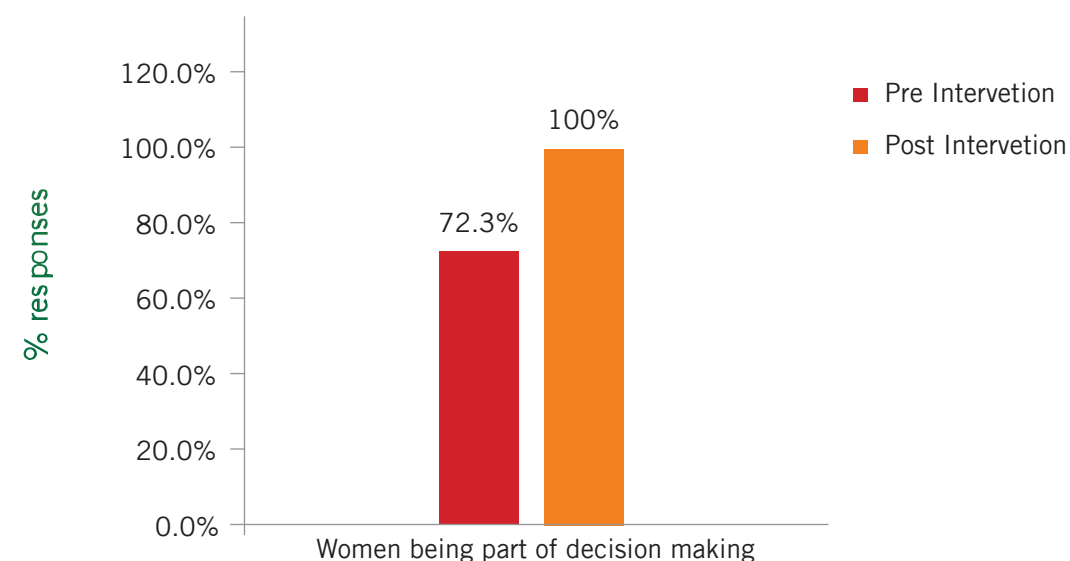


The percentage of individuals engaged in daily wage labor as an alternate livelihood during lean periods in agriculture decreased from 89.4% before the intervention to 69.6% after the intervention. This suggests that the intervention has had a positive impact on reducing the reliance on daily wage labor as a primary source of income during lean periods.

The decrease in the percentage of individuals engaged in daily wage labor indicates that the

intervention may have facilitated the adoption of alternate livelihood options or provided support in finding more sustainable income opportunities during the lean periods in agriculture. It could also mean more could be depending on their additional income accumulated over the year through efforts like agroforestry and payment for restoration. This shows increased financial stability among the beneficiaries.

More women are being involved in decision making



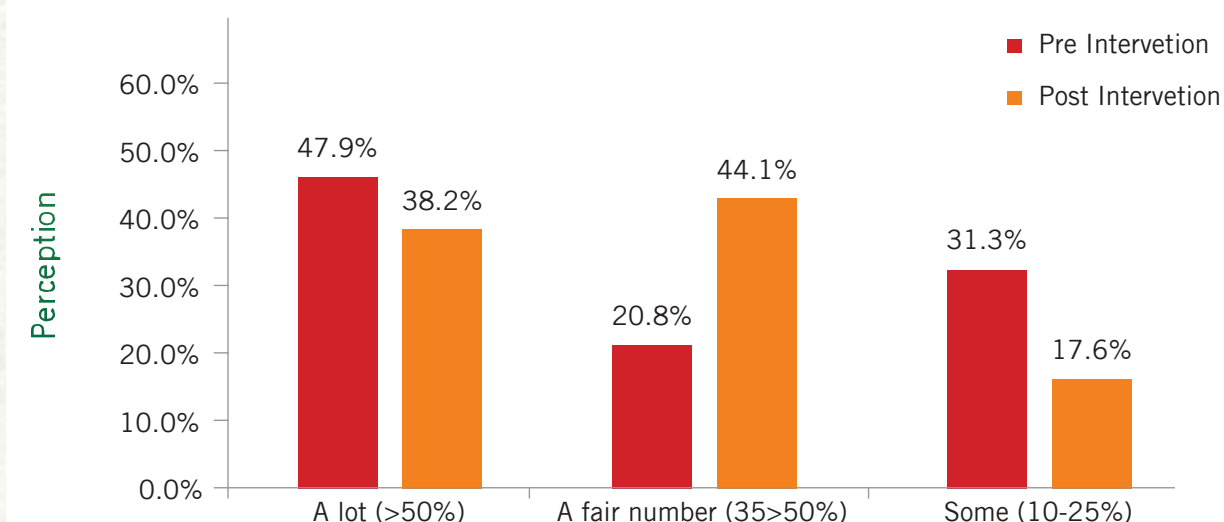
When asked if women are part of decision-making and resource-sharing benefits through participation in the village council, SHGs, 100% of the respondents marked yes post-intervention compared to 72% pre-intervention.

The intervention has had a significant impact on increasing women's participation in decision-making. Prior to the intervention, 72.3% of respondents mentioned that women were involved in decision-making processes. However, after the

intervention, the percentage increased to 100.0%, indicating that more women are now actively participating in decision-making.

This change suggests that the intervention has successfully promoted gender equality and empowered women to some extent by providing them with opportunities to engage in decision-making processes that may have previously been inaccessible or limited.

What is the proportion of young people who have migrated to cities



Before the intervention, 47.9% of respondents mentioned a lot (>50%) of young people were reported to have migrated to cities in this category. After the intervention, the percentage decreased to 38.2%. This indicates a decrease in the proportion of young people migrating to cities at a higher rate.

While 20.8% of respondents mentioned that 'a fair number' (35-50%) of young people were reported to have migrated to cities before the intervention. However, after the intervention, the percentage increased to 44.1%. This suggests a significant increase in the proportion of young people migrating to cities at a moderate rate.

However, based on the provided data, it appears that the intervention may have had an impact on migration patterns among young people, resulting in varying degrees of change in migration rates across different categories.



TRANSFORMING LANDSCAPES THROUGH ECOLOGICAL RESEARCH

At Balipara Foundation, the ecological research is not just a scientific endeavour, but a labour of love, driven by the passion and dedication of a team of individuals who deeply care about the precious ecosystems that dot our planet. Their meticulous efforts yield invaluable data that helps shape conservation strategies and contribute to the global understanding of biodiversity. With each transect walked, each species documented, and each detail recorded, the team at Balipara Foundation continues to unravel the wonders of nature, protecting and preserving the rich diversity of life that thrives in these biodiverse landscapes.

At Balipara Foundation, we take biodiversity assessment seriously and have divided it into various categories. Each category is carefully planned and executed to ensure that we gather accurate data about the diverse species that inhabit our field sites. Our assessment of floral and faunal diversity involves meticulous planning and attention to detail, and extensive field survey. Similarly, soil nutrient, micro biota and water quality assessment help us to understand the complex dynamical system of an ecosystem. Moreover, we believe that nature and human are not separate entities, thus we study the interaction of local community with the forest ecosystem. Understanding, local community forest dependency and climate change adaptation help us to build strategy for forest conservation and sustainable development to mitigate climate change mitigation. We highly value the indigenous/local community knowledge and incorporated their invaluable knowledge while understanding the ecosystem functioning. Thus, our data driven approach help us the identify the ecosystem services, ecosystem functioning, sustainable development for local community and conservation of forest. Subsequently, the holistic knowledge helps us to decision making in habitat restoration project.

Research outline

1. Biodiversity assessment (Flora and faunal diversity)
2. Soil biota and nutrient dynamics, and water quality assessment

3. Dependency of local communities on forests, their knowledge related to forests, and sustainable forest management practices.
4. Land use land cover analysis utilising remotely sensed technology
5. Forest disturbance and plant regeneration pattern
6. Role of agroforestry in conservation of forest and sustainable economic growth at local scale

An overview of scientific research

In the year of 2022, the research team has dedicated time to understand the riparian ecosystem of Brahmaputra and tree community structure and carbon stock of tropical forest ecosystem of Assam (Figure 1-3). Riparian ecosystems, which are the areas of land directly adjacent to rivers, streams, and other bodies of water, are critically important for the overall health of the environment and the well-being of human populations. Riparian ecosystems are often characterized by high levels of biodiversity, supporting a wide variety of plant and animal species. Many species rely on riparian areas for habitat, food, and breeding grounds. Riparian habitats provide unique niches for specialized species, including amphibians, reptiles, birds, and mammals. Moreover, Riparian ecosystems play a crucial role in maintaining water quality and quantity, soil health and nutrient cycling, regulate climate by sequestering carbon dioxide, and also contribute to the local economy.

Tropical forests are one of the most biodiverse and carbon-rich ecosystems on Earth, playing a critical role in regulating the global carbon cycle. Tropical forests are known to be massive carbon sinks, meaning they absorb and store large amounts of carbon dioxide (CO₂) from the atmosphere through the process of photosynthesis. Our research focused on examining the impact of disturbances in the tropical forest, or their absence, on plant species diversity, stand characteristics, biomass, and carbon storage in protected forests (PA), reserved forests (RF), and village forests (VF) of Assam.



Figure 1. Spatial distribution of study sites along the Brahmaputra River (including Kartik Chapori, Jhanjimukh, Dhakuakhana, and Medela) as well as its tributary (including Chengelijan and Baligaon)



Figure 2. Fieldwork conducted by the research team of Balipara Foundation to assess floristic diversity; the distinctive habitat of the river island of Brahmaputra, characterized by a mix of grassland and woodland ecosystems.

Floristic diversity and carbon stock of tropical forest ecosystem

We recorded about 137 plant species in riparian areas which comprised of 42 tree species, 32 shrub species, and 63 herb and grass species. Subsequently, we also assessed the Stand structure, biomass and carbon stock along disturbance gradients in differently managed tropical forests of Assam.

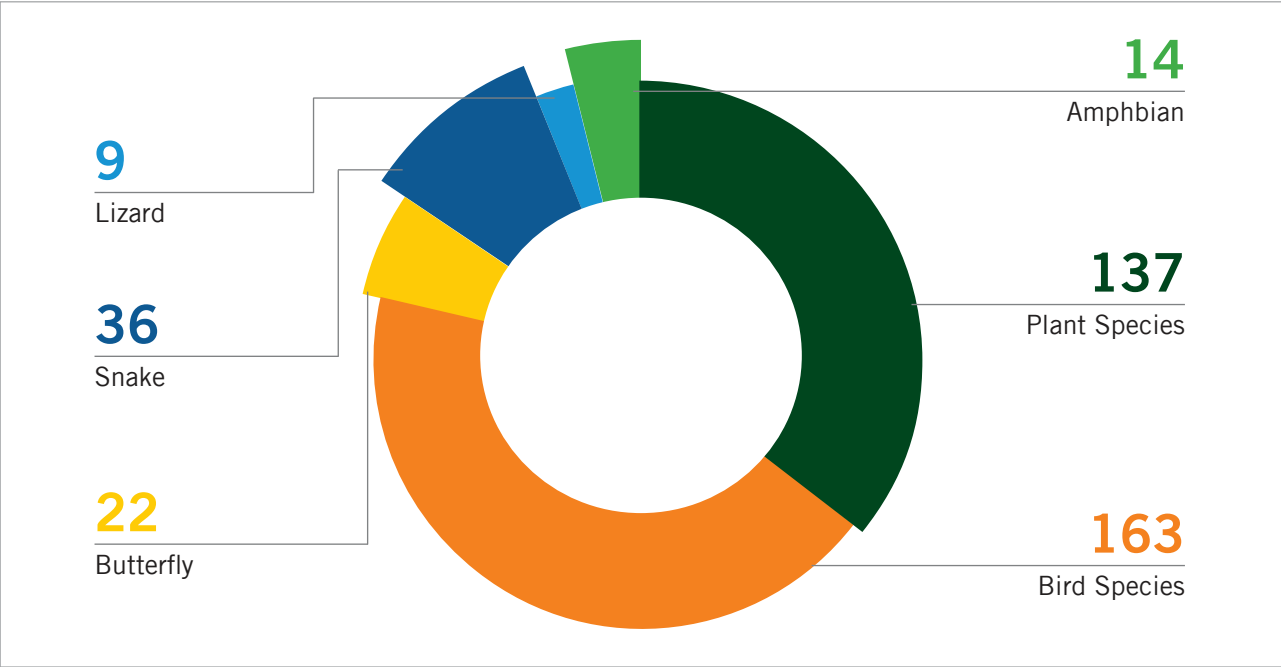


Figure 3. Floristic and faunal diversity of riparian ecosystem of Brahmaputra River

The research conducted on the influence of human-induced disturbances on species richness, stand characteristics, biomass, and carbon storage in the tropical forest ecosystem of Assam revealed that these parameters were impacted by disturbances, regardless of the existing management regime. The study found that disturbances had an effect on both species richness and stand characteristics, which subsequently influenced the biomass and carbon stock in the study sites (for further information, refer to Chaudhury et al., 2022).

Faunal diversity

In the study sites, a total of 163 bird species, 22 species of butterflies, 36 species of snakes, 9 species of lizards, and 14 amphibians were documented (Figure 3). Among the bird species, 153 species were categorized as “least concern” according to the International Union for Conservation of Nature (IUCN), while 7 species were classified as “near threatened,” and 3 species were labelled as “vulnerable” (Figure 4). Additionally, we were able to identify 26 bird species that are known to be winter visitors and may use these riparian habitats as breeding grounds.

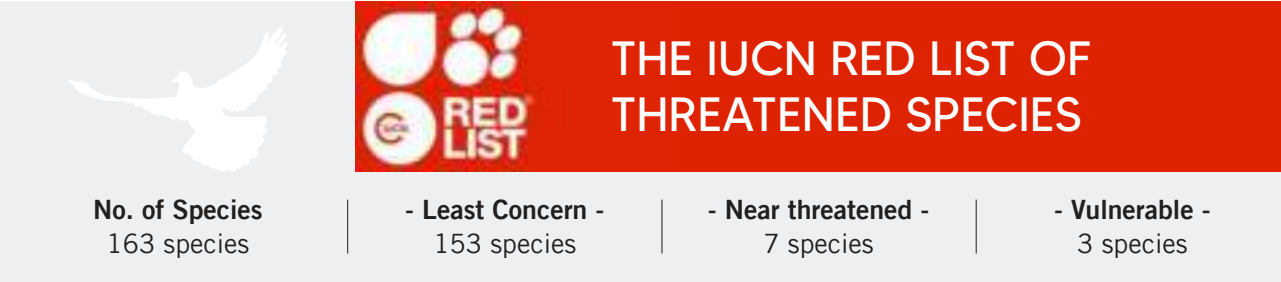


Figure 4. Conservation status of bird species recorded in the study sites

Photo plate 1. Some photographs of Bird species recorded across the study sites (Photographed by Sushil, Balipara Foundation)



The survey on mammals identified a total of 12 species, including the Greater One-horned Rhino (*Rhinoceros unicornis*) and the Endangered Asian Elephant (*Elephas maximus*) (Fig 5). This highlights the critical role of the riparian ecosystem's grassland habitat in supporting these large herbivore species. It underscores the need for immediate conservation measures and increased awareness to protect these habitats and secure space for specialist fauna that rely on them.

The diverse array of mammals, birds, butterflies, reptiles, and amphibians found in the riparian ecosystem indicates that it serves as a fundamental niche for numerous species. Further research on the interactions between faunal species and the grassland-woodland ecosystem in the riparian area of the Brahmaputra River is imperative to gain a deeper understanding of this unique habitat.

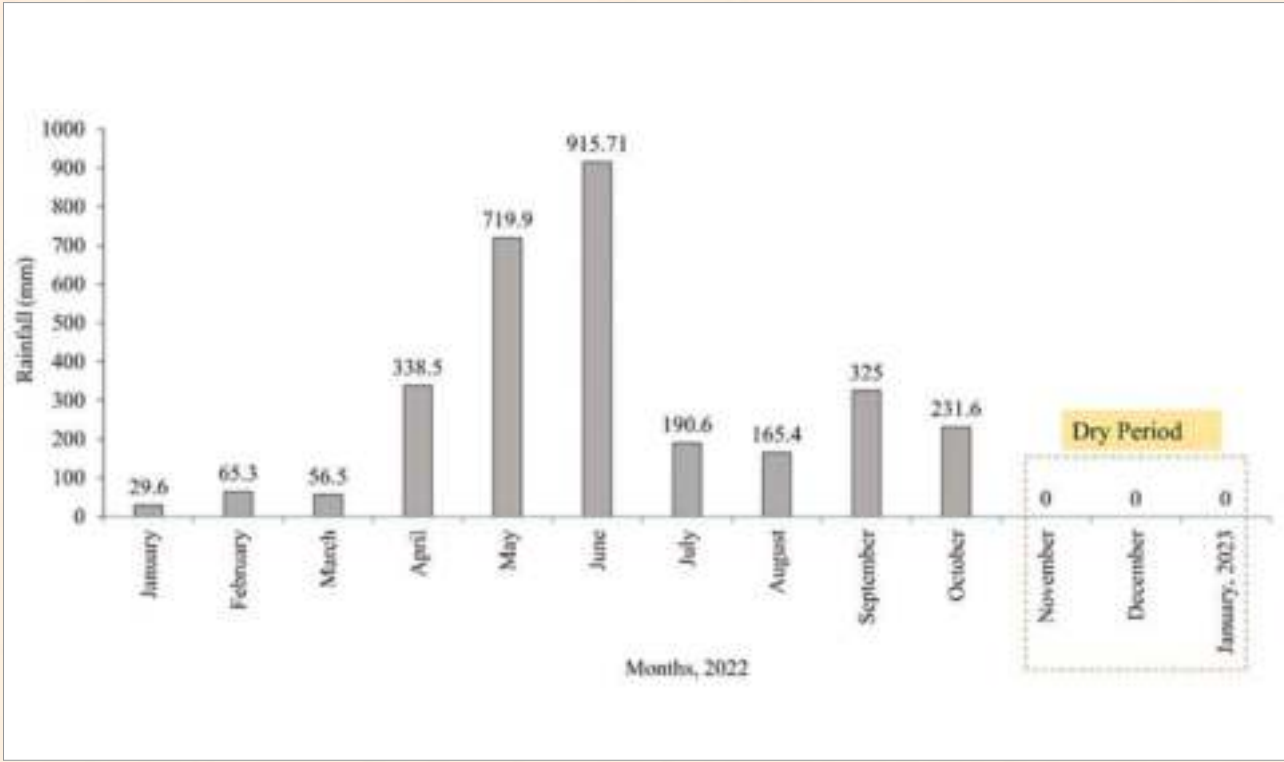
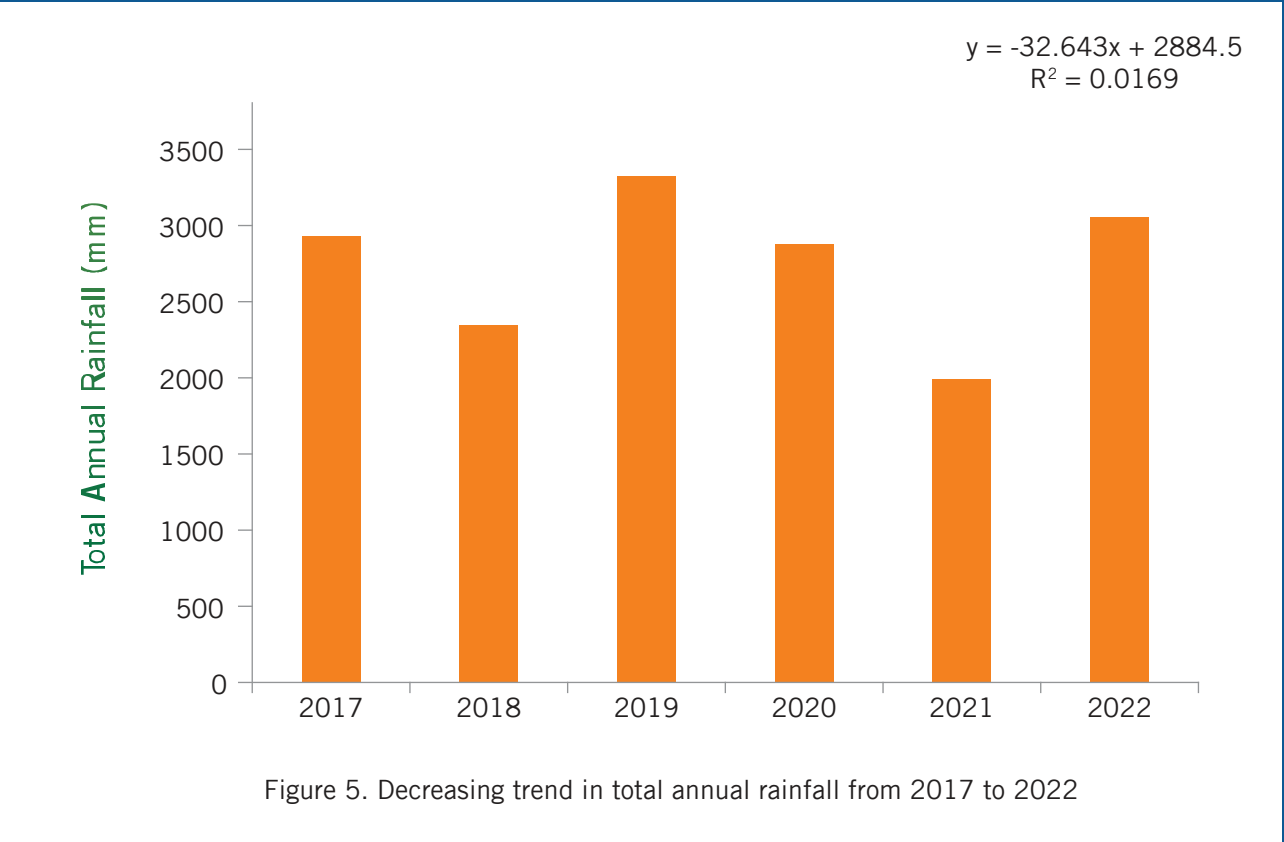
Soil health and nutrient cycling, and water quality

The riparian ecosystem not only provides an ideal habitat for fauna, flora, and local communities, but also plays a crucial role in maintaining soil health, nutrient cycling, and water quality, as evidenced by our assessment. Soil analysis of the study sites, namely Tarabari, Baligaon, and Bogijuli, revealed that they were acidic in nature, while the river islands of Sikom and Kartik Chapori showed normal soil conditions suitable for plant growth. Water samples from all the

sites exhibited normal levels of dissolved oxygen, conducive to the thriving of aquatic organisms. The total dissolved solids in water samples were within the normal range of 50 ppm to 1,000 ppm, and the salinity of water was found to be within the range of fresh water, measuring less than 0.5 ppt.

Climate change scenario

Assessing the current state of climate change impact, we analyzed the rainfall patterns in the study region from 2017 to 2023, using data from Luxmi Tea Corp. Pvt. Ltd., Balipara division, Assam. The findings revealed a decline in total annual rainfall, as well as a decrease in rainfall during the monsoon and winter seasons, as depicted in Figures 6 and 7. This deficit in rainfall could pose a significant threat to vegetation growth in the study sites. Therefore, continuous monitoring of the health of riparian ecosystem vegetation is necessary to understand and address the impacts of climate change.



Impact

The research team is employing continuous data-driven assessments to comprehend the integrity of the ecosystem and the interaction of human with the natural ecosystem. In this process, indigenous knowledge of local people is fully incorporated. The existing data to monitor the functioning of the riparian ecosystem along the Brahmaputra River is significantly lacking. Our assessment aims to contribute to the establishment of an ecosystem database that would be immensely beneficial for researchers studying the riparian ecosystem of the Brahmaputra River. Furthermore, it will aid in decision-making for the management and conservation of the unique flora and fauna, as well as planning for the sustainable development of local communities.

Published paper

Chaudhury, Gunjana, et al. "Stand structure, biomass and carbon stock along disturbance gradients in


differently managed tropical forests of Assam, northeast India." *Trees, Forests and People* 9 (2022): 100296.

Scientific Article in preparation:

- » Assessment of land use and land cover changes in river islands of the Brahmaputra River using remote sensing technology.
- » Diversity of tree species, community structure, and regeneration patterns in the riparian ecosystem of the Brahmaputra River.
- » Biodiversity of the riparian ecosystem and the threats to its conservation.
- » Indigenous knowledge, utilization, and forest management practices of communities living in the riparian areas of the Brahmaputra River.

10TH EASTERN HIMALAYAN
NATURENOMICS™ FORUMS:
2022-23





130+
Speakers


Participants
from
20+
Countries


1500+
Participants


40+
Naturenomics™
Supports


Over
2m
Online reach



Global Voices For 'Ecology Is Economy' At 10th Eastern Himalayan Naturenomics™ Forum 2022



Dr. Kamal Bawa



Sir Partha Dasgupta



T.V. narendran



H.E. habibun nahar



vandana shiva



AMB Mashfee Shams



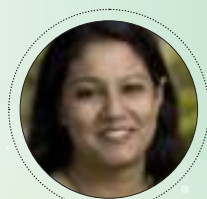
Lord Nicholas Stern



H.E. Saber Chowdhury

AMBASSADOR
Shyam Saran

Dr. Ahmad Kaikaus



Rizwana Hasan



Dr. Ashok Khosla



Nguyen Manh Uan

**& MANY MORE EMINENT
SPEAKERS**

Roadmap for the Future

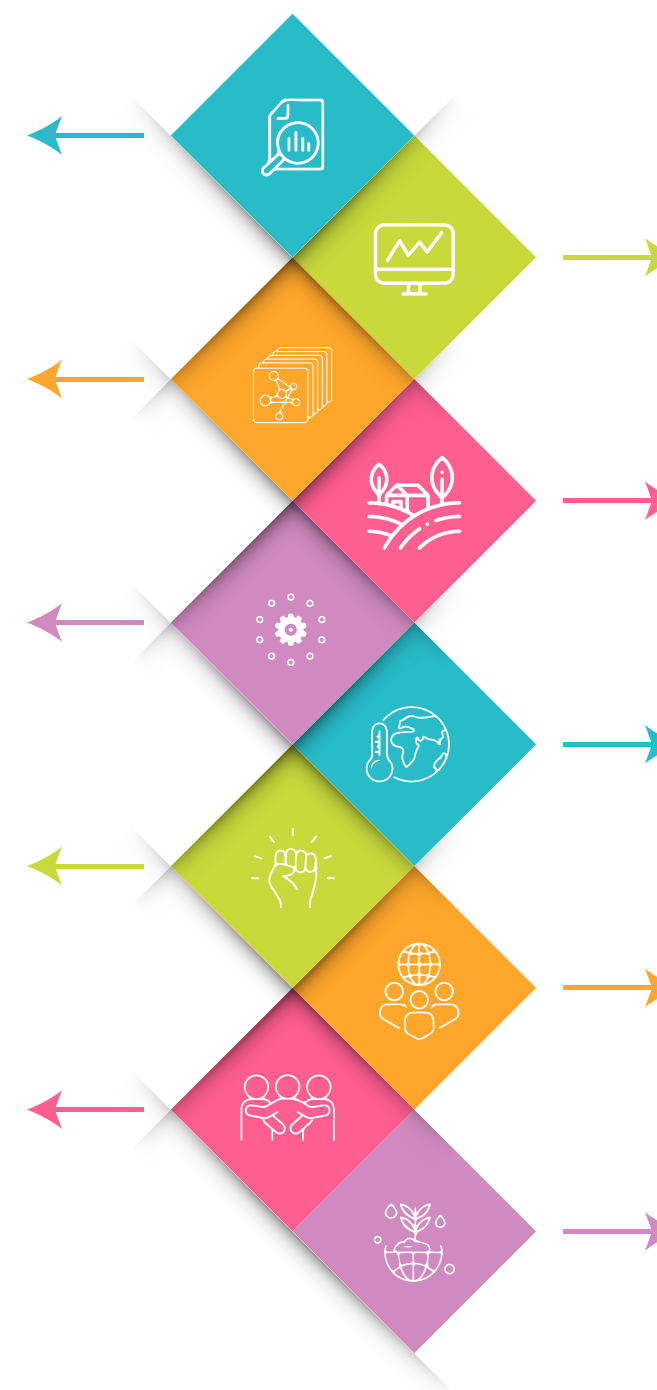
Evaluate economic incentives and use natural capital valuation to revise these incentives to enhance nature protection behaviour from businesses

Build datasets through geospatial technology & more to understand and validate on ground information to plan and design inclusive plans for restoration, for monitoring and building restorative economies through rewilding

Use frameworks for business valuation to integrate & center ecological and climate concerns as priority for shareholders - rather than secondary

Linking restoration, climate modelling & ecosystem modelling to ensure restoration is responsive to climate change

Create participatory development standards and framework that resonates on a local level, using wellbeing frameworks



Use blended finance to build large-scale pan-regional conservation initiatives that are economically sustainable and self-regenerating

Integrate rural & indigenous communities into policymaking processes to inform policies on livelihoods, ecosystems and restoration that both affect them and which they also have greater knowledge of

Update educational curriculum to reflect current technical green economy skill needs, climate & ecological concerns and new knowledge being created around climate, ecology & economy

To create the right people-centric governance and empowerment framework and platforms for communities to report, own and leverage the data around their wellbeing to shape decision-making and investment

Build a collaborative ecosystem comprising policy makers, entrepreneurs, community youth etc. to solve climate change challenges

**Save the
Date**

**11TH
EASTERN HIMALAYAN
NATURENOMICS™ FORUM**

18th - 19th December, 2023
Guwahati, Assam, India

**The Great
People's
Forest 2030**

LAUNCHED AT EASTERN HIMALAYAN NATURENOMICS™ FORUM 2022

Rural Futures Fellowship

The Rural Futures Fellowship is an 18 months immersive and residential training programme with 18 young adults being introduced to the philosophy, practice and science of rewilding, sustainable agriculture and community-led conservation practices. Through the Fellowship, passionate young environmentalists get hands on learning in the key technical and core skills needed to effectively rewild their lands, mobilize their communities and build key local capacities to manage restoration and conservation.



The Great People's Forest of the Eastern Himalayas

The Great People's Forest of the Eastern Himalayas will raise \$1 billion to unlock the power of solutions for rewilding, regenerative agroforestry and sustainable supply chains already being implemented in the region, to achieve the scale needed for systemic change. It will enable organizations to take their initiatives across the region, build transboundary collaborations and work with communities and young people to bridge landscapes for ecological connectivity from the mountains to the mangroves.



RABINDRANATH BARTHAKUR MEMORIAL LECTURE

Integrating Nature into Economics



Sir Partha Dasgupta

Recipient of Global Naturenomics™ Puroshkar

A significant portion of the work conducted over the past four decades has focused on integrating Nature into Economic reasoning. Although it may seem like a straightforward task, it is essential to include Nature in economic models, including those used by governments for planning and projection forecasts. The impact of economic models extends beyond academic institutions, as today's students become tomorrow's decision-makers. Failure to incorporate Nature into economics can have severe consequences.

In the current context, it is worth noting that the Ministry of Finance does not employ ecologists in their offices, similar to how the Ministry of Industry lacks engineers specializing in relevant fields. However, there is hope for change, and it is conceivable that ecologists will be recognized and valued within governmental institutions, such as the treasury.

A shift in perspective is necessary to understand that economics alone should not solely guide economic policy at the center. Our interpretation of events and how we respond to the information we receive also plays a crucial role.

In 2005, the Millennium Ecosystem Assessment shed light on the two types of services and goods provided by nature. Provisioning goods, which fulfill basic needs such as food, water, timber, and fossil fuels, are often the focus of economic discussions and calculations such as Gross Domestic Product. However, it is equally important to consider regulating and maintenance services provided by

nature, even though they may be invisible and their processes silent. These services play a critical role in sustaining ecosystems and supporting the provisioning goods we rely on.

While the concept of achieving Net Zero Emissions is gaining traction, it is important to recognize its limitations and the potential dangers of relying solely on substitution. Moving away from fossil fuels and embracing clean energy is crucial, but it is just one piece of the puzzle. We need to broaden our understanding and consider a range of interconnected factors.

The economics of climate change has sometimes led us astray by suggesting that substitution alone can solve the challenges we face. The assumption that we can continue global GDP growth while increasing demand for provisioning goods can have negative consequences. There is a delicate balance between the supply of provisioning goods and the maintenance and regulatory services provided by ecosystems. Activities like mining, quarrying, and land-use changes can deplete the vital services that nature offers. Climate models, as currently constructed, fail to capture all the factors influencing climate systems, focusing primarily on the human economy and its emissions.

Approximately 65 to 70 percent of the world's oceans provide significant maintenance and regulatory services. Since these resources are considered a common heritage of mankind, they are freely accessible without ownership rights. However, if property rights were established for ocean resources, fees and charges could generate substantial revenue for global development purposes.

Addressing the demands of small communities in developing countries requires international cooperation, as the scale of the challenge is immense. From the smallest village to the highest level, cooperation is essential to mitigate the effects of climate change and promote sustainable development.

The current reality, particularly for villagers in Bangladesh, can be likened to someone climbing an escalator that is descending at the same rate. It requires tremendous effort to adapt to uncontrollable forces. International negotiations and serious work are crucial to address these global challenges and find collaborative solutions.

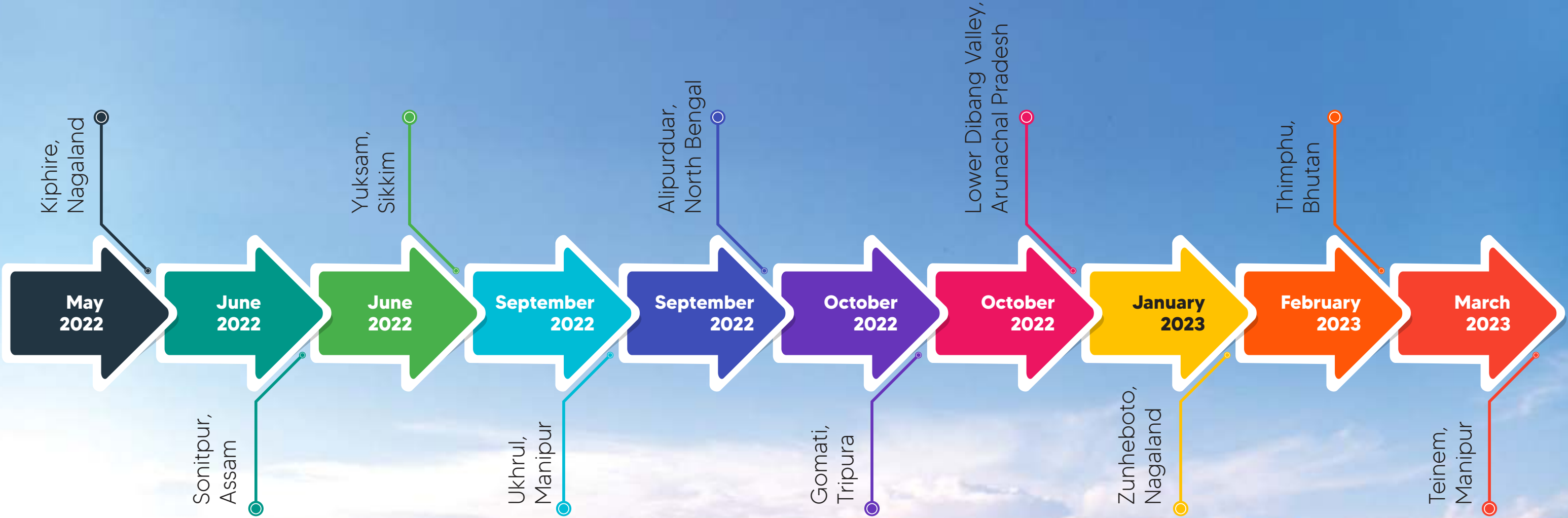
REGIONAL EASTERN HIMALAYAN NATURENOMICS™ FORUM

At the heart of the Regional Eastern Himalayan Naturenomics™ Forum series lies an inspiring vision that transcends geographical boundaries. These forums epitomize the essence of comprehensive engagement by bringing together community members, leaders, and experts from diverse disciplines on a global scale. By recognizing the profound significance of grassroots involvement, these forums embark on a transformative journey, delving deep into the unique narratives that resonate within the Eastern Himalayan region. Through this shared commitment, they strive to empower and nurture Rural Futures, harnessing the direct impact and invaluable contributions of local communities as catalysts for enduring change.



Empowering Eastern Himalayan Communities: Cultivating Rural Futures : Regional EHNFs in 2022-23

Fostering community empowerment, driving sustainable practices, and serving as a model for global development, the Eastern Himalayan Naturenomics™ Forum series paves the way for a future where Eastern Himalayan communities flourish in harmony with their environment, addressing pressing challenges and setting the stage for sustainable rural development worldwide.



Outcomes

Inspiring Community Empowerment: The Eastern Himalayan Naturenomics™ Forum series ignites a sense of empowerment within Eastern Himalayan communities, fostering their active participation in shaping their own future.



Nurturing Sustainable Practices: Through collaborative efforts and shared knowledge, the forums drive the adoption of sustainable practices, enabling communities to thrive while preserving the fragile ecosystems of the Eastern Himalayas.

A Global Model for Development: By leading the way in sustainable rural development, the forums serve as a powerful model for global communities, showcasing the transformative potential of grassroots engagement and inclusive approaches.



Addressing Pressing Challenges: The forums tackle pressing social, economic, and conservation challenges faced by Eastern Himalayan communities, striving to find innovative solutions that create a positive and lasting impact.

Setting the Stage for Worldwide Progress: As Eastern Himalayan communities flourish and develop sustainably, the forums lay a foundation for similar initiatives worldwide, catalyzing a global movement towards resilient and harmonious rural futures.



Embracing these outcomes, the Eastern Himalayan Naturenomics™ Forum series plays a pivotal role in nurturing vibrant communities that thrive in harmony with their environment, while leaving a lasting legacy for sustainable rural development around the globe.

10th BALIPARA FOUNDATION AWARDS 2022

Together with our Earth Heroes, we upscale and upgrade the existing solutions for rewilding forests & other terrestrial ecosystems including regenerative agroforestry and community-led conservation predominant in the Eastern Himalayan region.

We have come a long way since 2013



10 Years

Bringing together the Earth Heroes since 2013



136 Recipients

Restoring and Preserving the Eastern Himalayas



INR 5 Million

Scaling Existing Solutions



3960 Species

Conserved, Discovered and documented



11619 ha Land

Conserved and restored



1484 Publications

Recorded and Published



Recipients of the 10th Balipara Foundation Awards 2022

GLOBAL NATURENOMICS™ PUROSKAR

Sir Partha Sarathi Dasgupta, United Kingdom



Sir Partha Sarathi Dasgupta was presented the Global Naturenomics™ Puroskar by Dr. Ahmad Kaikus, Former Principal Secretary to the Honourable Prime Minister of Bangladesh

RURAL FUTURES REWILDING AWARD

Mahfuz Ahmed Russel, Bangladesh



Mahfuz Ahmed Russel was presented the Award by Aisha Dasgupta, Demography Adviser at the UK Foreign Commonwealth and Development Office in Nigeria

Radha Wagle, Nepal



LIFETIME SERVICE AWARD

Dr. Kamaljit Singh Bawa, India



Dr. Kamaljit Singh Bawa was presented the Award by Ranjit Barthakur, Founder, Balipara Foundation (L) and Sir Partha Dasgupta, Professor Emeritus of Economics, University of Cambridge, UK

GREEN LEGAL AWARD

Syeda Rizwana Hasan, Bangladesh



Syeda Rizwana Hasan was presented the Award by Mubina Asaf, Head of Legal & External Affairs, British American Tobacco, Bangladesh

BANGLADESH LIFETIME AWARD

Mr. Golam Mainuddin, Bangladesh



Mr. Golam Mainuddin was presented the Award by Prabir Banerjee, Managing Member, Balipara Foundation

FOOD FOR THE FUTURE AWARD

Delowar Jahan, Bangladesh



Delowar Jahan presented the Award by Munera Shah, Bangladesh

FOREST GUARDS AND RANGERS AWARD

Prem Kumar Chettri, Sikkim, India



Prem Kumar Chettri was presented the Award by Bittu Sahgal, Editor, Sanctuary Asia

Hawladar Azad Kabir, Bangladesh



Hawladar Azad Kabir was presented the Award by Jason Knauf, Global Leadership Fellow, Conservation International

LATE LATIFUR RAHMAN NATURENOMICS™ AWARD

M. Monirul H. Khan, Bangladesh



M. Monirul H. Khan was presented the Award by Ambassador Tariq Karim, Director, Centre for Bay of Bengal Studies, Bangladesh

GREEN GURU AWARD

Kuenzang Dorji, Bhutan



Kuenzang Dorji was presented the Award by Nasreen Sattar, Independent Director of Mutual Trust Bank, Bangladesh

REWILDING THE EASTERN HIMALAYAS GRANTS

Zeinorin Angkang, Manipur, India



Zeinorin Angkang was presented the Rewilding the Eastern Himalayas Grant by Bethany Haines, Managing Director, Strategy and Impact at Conservation International, US

Anoko Mega, Arunachal Pradesh, India



Anoko Mega was presented the Rewilding the Eastern Himalayas Grant by Lady Carol Dasgupta, retired teacher and psychotherapist, UK

SPECIAL RECOGNITION AWARDS

Kamesh Salam, Manipur, India



Kamesh Salam was presented the Award by Bitopi Das Chowdhury, Head of Corporate Affairs, Brand and Marketing, Standard Chartered Bank, Bangladesh

Prof. Niaz Ahmed Khan, Bangladesh



Prof. Niaz Ahmed Khan was presented the award by Vasumathi Srikanth, Chief Operating Officer, PRISM Institute, Canada

YOUTH AND THE EASTERN HIMALAYAS

Active participation of individuals in creating or saving forests is critical for developing skills, competencies, aspirations and self-confidence. In doing so the inclusion of youth participation is essential as it will bring a manifold increase in the effectiveness and sustainability of projects. Young people contributing towards the cause of rewilding and conservation and taking the approach of sustainable entrepreneurship for revitalising communities, local economies and landscapes also create a sense of belonging and solidarity in overcoming the land use challenges.

Developing appropriate skills and values among the youth for improved well-being through community-led conservation, healthy ecosystems, natural capital and access to universal basic assets will bring in a positive change and tackle the massive challenge of ecological degradation.

The Rural Futures Fellowship

One of the key challenges facing rural communities in the Eastern Himalayas is the ongoing economic crisis of falling agricultural yields and low prices and limited employment opportunities. These falling yields are the result of long-term ecological degradation resulting from intensive deforestation

and growing climate crisis impacts on ecosystems and people.

This crisis has forced young people to migrate outwards in search of employment. In cities, these young people face high costs of living, little to no social support or community. The Fellowship programme targets youth from these communities, aiming to raise not only a next generation of environmental leaders, but to also enable young people to tap into rewilding and sustainability based entrepreneurship to revitalize their communities, local economies and landscapes.

The Rural Futures Fellowship is an 18 month practical training programme during which 12 young people are introduced to the philosophy, practice and science of rewilding, regenerative agriculture and community-led conservation practices. Through the Fellowship, passionate young environmentalists get hands on learning in the key technical and core skills needed to effectively rewild their lands, mobilize their communities and build key local capacities to manage restoration and conservation. Rural Futures Fellows build on their newly acquired technical skills to go on their own entrepreneurial journey, where they learn the ins and outs of managing an organization in the conservation and development space. At the end of the fellowship, Fellows competitively pitch for mini-grants to rewild 100 hectares of forest land, to help them launch their journey.



ABOUT THE FELLOWSHIP

Young Leaders
Training youth to lead programmes equipping them with the skills, knowledge and mindset to become effective leaders and change-makers to combat climate change & ecological degradation

Sustainable Entrepreneurship
Focusing on encouraging young people to build their own organizations and start their own businesses tapping into and leveraging the global movement towards sustainable supply chains and investments in nature-based solutions

Rewilding Local Economies
Revitalizing local economies through youth networks, leading agroforestry and rewilding programmes

Transformational Impact
900 hectares of restored forest, 900,000 trees, agroforestry in 280 households impacting 1400 people with each cohort of 12 fellows.

Outreach & Inclusivity
Indigenous & rural youth– the Fellowship will primarily target young people (21 - 35) from indigenous & rural communities in the Eastern Himalayan region, including indigenous youth diaspora and aspiring environmental leaders in urban centres
Women & gender-diverse people – an equal weightage for women and gender-diverse aspirants who apply to the fellowship
Lower socioeconomic status - young people from lower socioeconomic backgrounds in both urban and rural communities are prioritized

Duration
The Fellowship will cover 18 months, out of which at least 12 months will be residential and spent immersed in the field, with 6 months for fellows to run their own 10 hectare pilots in an area of their choosing. Towards the end of the 18 months, Fellows competitively pitch for grants to rewild 100 hectares of land. 8 successful fellows will be awarded these grants and receive continued mentorship from the Balipara Foundation team over the next year as they launch their rewilding journey.

Scaling for Action
Through the Fellowship, the Balipara Foundation aims to build a network of young people with the skills and the capacities to expand rewilding in the region at the exponential scale needed to reverse systemic ecological degradation in the Eastern Himalayas.

Personal Journey
Fellows cultivate their awareness and resilience as future practitioners, through the dimensions of self, society, systems and ecosystems and find a meaningful connection in their entrepreneurial journey.

Skill-Building Journey
Fellows learn the key technical skills and knowledge that will help them manage rewilding and sustainable agroforestry in collaboration with local communities, as well as manage their own businesses or organizations.

Practical Learning Journey
Fellows have hands on opportunities to demonstrate their skills they learn under the guidance of the Balipara Foundation team and as they pilot their own project with a 10 hectare rewilding project in the community.



Semester 1

Landscape Immersion & Building Self-Consciousness

During this semester, fellows are introduced to the programme's contents and expectations, they are introduced to systems & design thinking, key concepts in rewilding (ecology, wellbeing, natural capital, interdependencies), the socioecology of the Eastern Himalayas, the basics of engaging with communities, and key foundational skills. Over the course of this semester, fellows go on a personal journey to build their self-awareness & self-knowledge as practitioners.



Semester 2

Indigenous Knowledge, Research Techniques & Social Interdependencies

Fellows learn how to identify degraded land that can be rewilded, how to mobilize communities and involve them in co-designing a restoration programme, the basics of impact design and research, working with traditional indigenous knowledge, conducting biodiversity and needs assessments. During this semester, fellows' personal journey focuses on understanding the basics of social worlds and their mediation of experience.



Semester 3

Journey Towards Rewilding & Decoding Systemic Change

Fellows gain hands on experience and learning of rewilding and agroforestry in the field, including the basics of managing budgets and cashflows, building community resource management groups, capacity building and working with multiple stakeholders from the community to local administration to the forest department. In their personal journey this semester, they also gain in-depth insight into the systems that enable and prohibit change and how to harness them to achieve their goals.



Semester 4

Live Action Projects, Systems Immersion & Analyzing the Ecosystem

During this semester, fellows take their learnings and apply them through a live action project to restore 10 hectares of land in their community, or in an area pre-identified by the Balipara Foundation (in case they are unable to access such areas in their contexts). They also learn the basics of maintenance & care for restored land, conducting impact assessments, creating effective reports and understanding the interconnections between themselves. Through their personal journey this semester, the fellows examine the interdependencies and interlinkages of the societies and systems around them and the ecosystems they are working in.



Semester 5

Launching & Embarking on an Entrepreneurial Journey

Fellows use this semester to take a step back and think deeply about their experiences and how to transform them into an entrepreneurial journey, while gaining a better understanding of the sector, the policy sphere and technical skills in fundraising & financial management and effective communications and storytelling. Through their personal journey, they delve into the role of an entrepreneur, being an effective leader and building the entrepreneurial mindset.



Semester 6

Entrepreneurial Establishment

During this semester, fellows apply their skills to pitch for funding for mini-grants that support 100 hectares of rewilding, to be awarded to 12 successful applicants after their fellowship is completed. As they do so, they also are acquainted with the ins and outs of setting up their own organizations, building their own business and marketing plan, building meaningful partnerships and designing an organization aligned to their vision and values.

THE GREAT PEOPLE'S FOREST OF THE EASTERN HIMALAYAS

Every year the Eastern Himalayas lose over 100,000 hectares of green cover to deforestation and over three quarters of deforestation in India takes place in its Eastern Himalayan region. Since 2000, the region has lost an area of forest larger than Denmark and Cape Verde combined.

Forests are the lifeline for nearly 200 million people and wildlife in the Eastern Himalayas. With over 80% of the economy dependent on nature, the consequences are devastating. In 2022, over 1.5 million people were displaced by unusual floods and extreme weather events. Bangladesh, Nepal and India all rank among the most climate vulnerable countries globally, with 60% of Bangladesh's population and 80% of India's population living in high climate exposure areas.

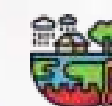
Floods, changing river courses, the loss of once fertile soil, displacement and human-wildlife conflict have all led to declining incomes in the region. Limited income opportunities and the threats of climate change have accelerated this cycle of loss and degradation: by 2050, the region is expected to warm by 2.9 degrees Celsius and

lose over a third of its glaciers, threatening regional instability.

The health of forests in the Eastern Himalayas are a barometer for the future of India, Bangladesh, Bhutan and Nepal. They maintain the life cycles that support South and South East Asia, 200 indigenous peoples and 2 biodiversity hotspots that house 12,000 unique species (and counting) – including the iconic Asian Elephant, the One-Horned Rhino, the Snow Leopard and more.

Restoring forests will help the Eastern Himalayas stabilize its groundwater, regenerate its soil and control the destructiveness of its changing rivers. This \$1 billion initiative will put the Eastern Himalayan region on the global conservation map and unlock the power of solutions for rewilding, regenerative agroforestry and sustainable supply chains already being implemented in the region, to achieve the scale needed for systemic change. It will enable organizations to take their initiatives across the region, build transboundary collaborations and work with communities and young people to bridge landscapes for ecological connectivity from the mountains to the mangroves.

Why now?



20% GDP Climate Vulnerable

Between 2000 - 2019, Bangladesh lost **\$3.2 billion** because of climate change. As climate change accelerates, Eastern Himalayan countries are expected to lose up to 20% of its GDP to climate change.



India's G20 Presidency in 2023

India's economic leadership at the G20 for "One Earth, One Family, One Future", its budget goals for supporting agroforestry and financial policies supporting afforestation (e.g. CAMPA) puts it in the perfect position to build regional coalitions for investing in terrestrial ecosystems in the Eastern Himalaya.



Regional Climate Leadership

Bangladesh's forward-looking Delta Plan and Mujib Climate Prosperity Plan & its leadership at COP26 & COP27 as a blueprint for regional action; Bhutan's carbon neutrality & Nepal's successes in community forestry all provide a regional blueprint for action.



Scaling action through SDG 15: Life on Land

Solutions to the biodiversity & climate crisis already exist in the Eastern Himalayas and are ripe for scale enabling the region to achieve SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 6 (Clean Water), SDG 13 (Climate Action) and SDG 17 (Partnerships for the Goals) by restoring life on land.

The role of the The Great People's Forest



Scaling existing solutions

Solutions for rewilding forests & other terrestrial ecosystems, regenerative agroforestry and community-led conservation already exist in the region. The fund will identify and support these solutions through funding for scale. In the future, open calls for proposals will identify new programmes in need of scaling support.



Ensuring impact

Using a holistic wellbeing framework for impact, the fund will ensure that all the programmes being implemented under its banner deliver on key positive impacts for people and ecosystems together and together, achieve key milestones for the region.



A hub for a regional network

The programme will bring together the organizations implementing solutions through it, to form a network across the region to facilitate transboundary action, cross-regional learning and innovation.



Putting the Eastern Himalayas on the global conservation agenda

One of the key goals of the fund is to establish the Eastern Himalayan region, one of the most climate vulnerable regions in the world, as an area of interest for biodiversity conservation that involves indigenous peoples.

THE INDIGENOUS HUB



Mission

The need for an Indigenous Hub (IH) stems from the limited inclusion of indigenous communities in policy decision-making processes in North East India. A lack of access to opportunities for the communities to inform decisions has compromised the spirit of 'inclusive' development, accelerating climate vulnerability among these communities through sustained ecological degradation & economic pressures. The IH bridges this gap by creating a citizen-centric approach that enables communities to design development approaches which meet key needs for ecological and climate resilience through natural resource management, local governance, and equal representation. The IH will achieve this by training youth leaders in communities to articulate critical climate challenges, foster inter-community knowledge exchange to create sustainable businesses & practices, generate solutions to key challenges combining science and traditional knowledge, and advocate for community-centred climate resilience plans with local government bodies through sustained dialogues and creative storytelling.



Themes

The IH will act as a common platform for all the youth to come together and work towards issues plaguing the North Eastern Region in the themes of livelihood, environment, governance, civic participation etc. It will also enable the youth of the region to become an active partner to the state governments and create a communication channel for them to pitch their ideas pertaining to inclusive development and poverty reduction to the government.

The Indigenous Hub aims to address the issue of youth out-migration and help them create a knowledge sharing platform which will allow them to collaborate and work towards. Citizen advocacy is one the major goals of the IH. It wishes to strengthen the cause of public education with regards to matters of governance, social justice and environmental management. The entire structure of Hub ranges from micro-regional labs to the NE regional hub which is geared towards creating a forum that caters to capacity building, relationship building, forming networks, and leadership development for the indigenous youth.



EMPOWERING INDIGENOUS HUB THROUGH FOUNDATIONAL WORKSHOPS

Review of findings

OVERALL FINDINGS

- Unanimous desire to be part of hub
- Clear passion for preservation of culture and general desire to remain within community
- Desire to gain skills relevant to traditional and new livelihood opportunities
- Desire to gain skills in climate resilience techniques
- Key priorities involve tackling environmental and social issues and developing sustainable and lucrative livelihood opportunities, but these vary from site to site



Long-Term Outcomes

Climate resilience plan

Based on regular discussions and dialogue with key stakeholders, key climate-related vulnerabilities will be identified and solutions developed in the form of a climate resilience plan.



Community knowledge centre

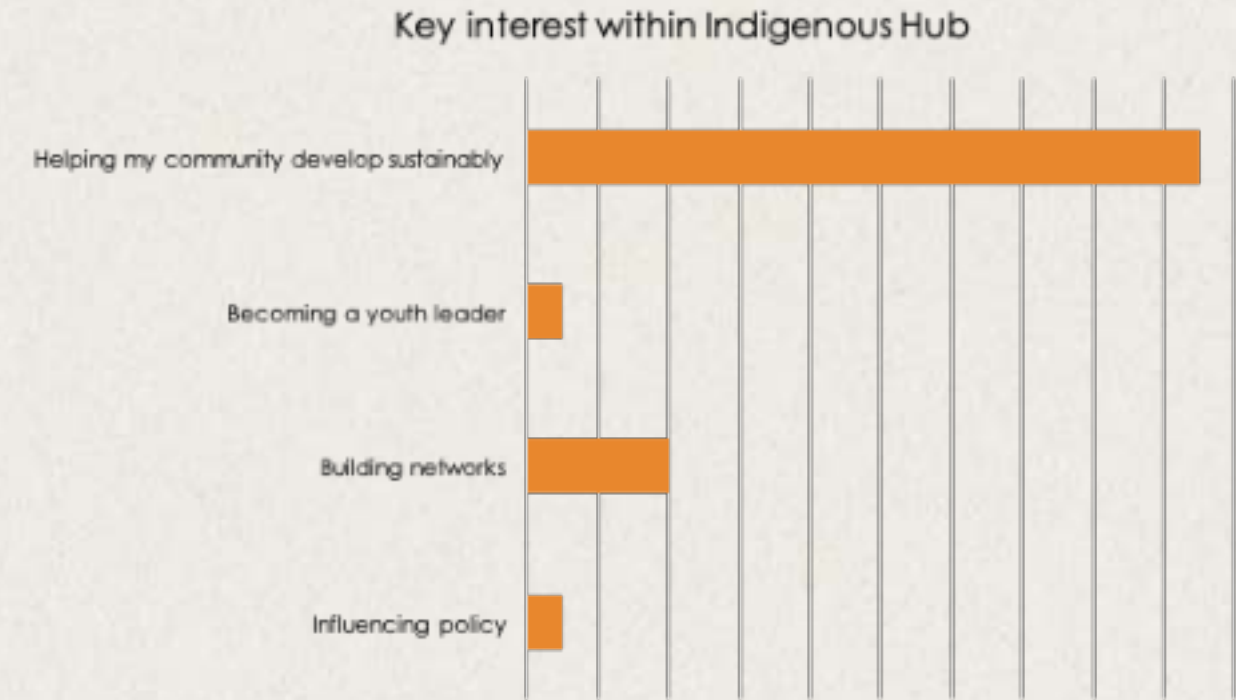
Following TKS training, participants can begin developing a central knowledge database to accumulate and preserve key aspects of traditional knowledge.

Internal experts can contribute to training to reconnect generations and reverse presumption that youth are no longer interested in culture.

Policy advocacy

Creating a clear channel of communication with the state will enable local labs to articulate their needs and concerns and lobby for support and policy changes.

Participants may use skills developed in citizen journalism training to spread awareness and advocate for change in the community's interest.



Open Source Mapping workshop, 16 - 17th January 2023

Location: Baligaon

Introduction to the basics of GIS and using mapping tools to track changes in the landscape, map their communities & villages and map crop damage. The workshop facilitates both the knowledge documentation and climate resilience goals of the Indigenous Hub by building capabilities for using technical tools to capture local knowledge, while at the same time providing the means of objectively tracking climate-linked damage e.g. flood damage etc.

Participants: 14 overall, 2 women

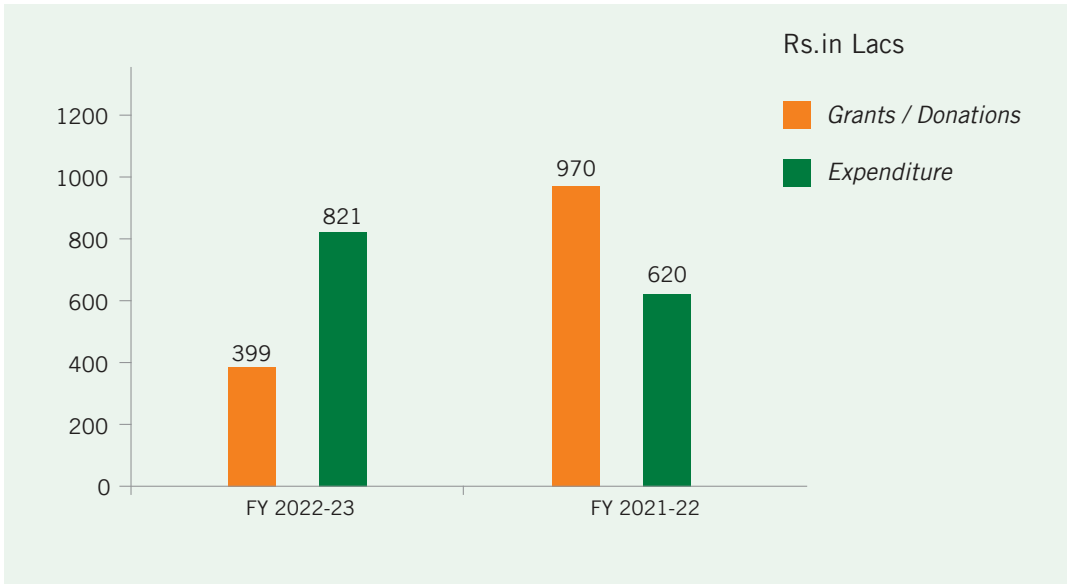
Outcomes: 2 maps showing the before and after of Baligaon area, reflecting urbanization trends in the area as well as changes in green cover and in the course of the nearby river



FINANCIAL

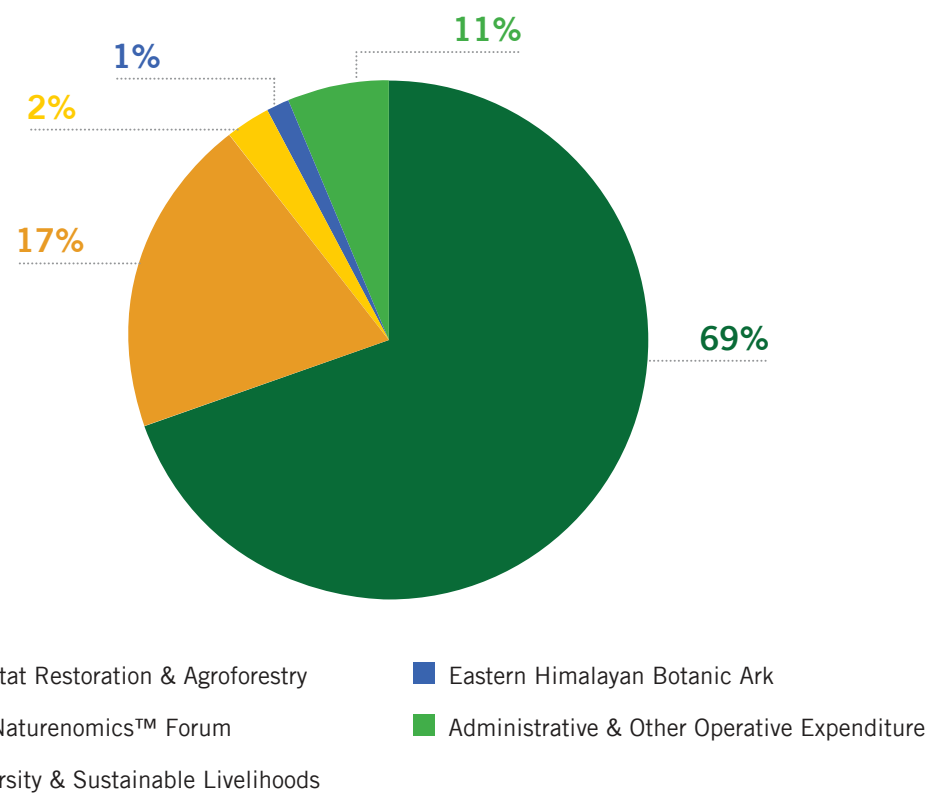
INCOME & EXPENDITURE ACCOUNT For the Year Ended 31st March 2023

| Income | FY 2022-23 | FY 2021-22 | Expenditure | FY 2022-23 | FY 2021-22 |
|-----------------|------------|------------|----------------------------|------------|------------|
| Domestic Grants | 386.11 | 589.44 | Programmatic Expenditure | 725.42 | 487.58 |
| FCRA Grants | - | 373.48 | Depreciation | 4.02 | 3.50 |
| Other Income | 13.10 | 6.85 | Administrative Expenditure | 91.53 | 128.55 |
| Total Income | 399.21 | 969.77 | Total Expenditure | 820.97 | 619.63 |



Note: The FCRA grants Rs. 373.48 Lacs received in FY 2021-22 was for Project related to FY 2022-23

| Particulars | % Spent in Year of Total Expenses in FY 2022-23 | Amount Spent for FY 2022-23 (Rs. In Lacs) |
|--|---|---|
| Rural Futures - Habitat Restoration & Agroforestry | 69% | 566.15 |
| Eastern Himalayan Naturenomics™ Forum | 17% | 139.72 |
| Research on Biodiversity & Sustainable Livelihoods | 2% | 13.95 |
| Eastern Himalayan Botanic Ark | 1% | 5.60 |
| Administrative & Other Operative Expenditure | 11% | 91.53 |
| Total | 100% | 816.95 |



WHAT'S NEXT?

Making 100,000 hectares a reality

In 2022 we announced our vision to restore 100,000 hectares of forest by 2030, touching the lives of 400,000 people. Through 2023 we moved 1800 hectares closer to achieving our goal – more than we'd achieved in a single year in the past. The ups and downs of the past year taught us a lot about our strengths, weaknesses and what we had to learn. We gained greater clarity on how we needed to move if we wanted to operationalize our ambitious 2030 target.

Pivoting our operational model: from implementation to agency

The Balipara Foundation has been functioning on a lean operational model because of the greater flexibility and dynamism it allows us – especially when we operate in a context as fluid and ever-changing as ours. Scaling as an implementing organization would entail surrendering that dynamic flexibility in order to manage rapidly expanding teams.

Over the next few years, we aim to transition from only direct implantation, to primarily train others how to restore forests and convert unproductive monoculture farms to agroforestry. The Rural Futures Fellowship, launching in October 2023 is the first step in making this transition. Through the Fellowship and the rewilding grant offered to select fellows on completion, we hope to build a network of young people who have the skills, knowledge and the passion to rewild forests and farms across the region.

Strengthening impact monitoring and our science

In 2020, we began work on building our own framework for assessing community and ecological wellbeing: the RuFu Index. The past two years have been invested in designing the tools, piloting and testing them, to link together how ecological, social, economic and cultural wellbeing impact each other and contribute to overall wellbeing among the rural and indigenous communities we work with in the Eastern Himalayas. As we continue growing, we aim to digitize and centralize these tools to simplify

our analysis systems. With this impact monitoring data we aim to learn more effectively about how our programmes are working on the ground: while also having the data and material that allows us to build a better case for policy changes.

We also are strengthening the science in our approach by better understanding how communities interact with ecosystems and by modelling how changes in the ecosystem are affecting communities – their dependencies, their knowledge, the economies around forest ecosystems and the changes that have been occurring over the past few years. With this new research, we hope to bring greater nuance to the design of restoration programmes, by systematizing how we integrate community knowledge into restoring a forest. The research will also help us to identify big risk factors for communities: whether this is high dependency on forests for livelihoods, or the imminent threat of soil erosion to the future of riverine islands.

As interest in carbon markets grow and more of our partners express interest in the power of forests to sequester carbon, we have also been exploring how to convey the equal importance of the broader ecosystems services offered by forests and their biodiversity. Measuring these changes

in ecosystems services and their impacts on the lives of people is critical in building a case for restoration-based approaches to climate resilience in rural communities. In the near future, we aim to explore this through the Carbon Plus Innovation Lab to track not only the carbon sequestered through forest restoration and agroforestry, but also broader environmental, social and economic benefits created by enhancing biodiversity in both forests and farmlands.

The Great People's Forest Initiative

Announced at the Eastern Himalayan Naturenomics™ Forum in Dhaka, the Great People's Forest Initiative will enable us to mobilise the resources to reach our goal of 100,000 hectares by 2030 – and more. The Great People's Forest will cover 1 million hectares across the Eastern Himalayas through 1 billion trees, raising 1 dollar for each tree. 100,000 hectares is a small drop in this ocean, but through this we see the means to not only leverage resources for transitioning and scaling our new operational model through the RuFu Fellowship, but also to strengthen our existing network of like-minded partners and bring transformative and systemic change to the region – for the benefit of forests and people together.



PARTNERSHIPS FOR COMMUNITY IMPACTS



PILLARS OF THE FOUNDATION



**Chandra
Bahadur Darji**

Rural
Futures -
Taxonomist



**Deva Pratim
Das**

Rural
Futures -
Ranger



**Nilakantha
Deka**

Rural
Futures -
Assistant
Nature
Capital



**Dr. Bidyut
Sarania**

Rural
Futures -
Research
Advisor



**Ananya
Parashar**

Rural
Futures
- Fellow
Recruitment
and
Marketing



**Nisha
Harpalani**

Rural Futures
- Business
Strategy &
Transformation
Consultant



**Nripen
Mili**

Rural
Futures -
Forester



**Phulen
Das**

Rural
Futures -
Forester



**Ranjan
Boro**

Rural
Futures
- Ace
Gardener



**Sreeja
Dutta**

Rural
Futures -
Fellowship
Operations



**Tanuz
Kalita**

Rural Futures
Communication
Architect
- Eastern
Himalayan
Naturenomics™
Forum



**Nayanika
Dutta**

Rural Futures
Communication
Architect
- Eastern
Himalayan
Naturenomics™
Forum



**Rohit
Chauhan**

Rural
Futures
- Impact
Curator



**Sushil
Ngate**

Rural
Futures -
Forester



Awoto L

Rural
Futures -
Forester



**Dhruva Jyoti
Talukdar**

Rural
Futures -
Operations
Architect



**Ashok Kumar
Gupta**

Rural
Futures -
Natural
Capital
Curator



**Ankit
Jha**

Rural
Futures -
Knowledge
and
Advocacy



**Harikrishnan
Palampatta**

Rural
Futures -
Grant and
Impact
Curator



**Jiten
Deka**

Rural
Futures -
EHN
Government
Liaison



Tsuseki Y

Rural
Futures -
Forester



**Ranjit
Barthakur**

Rural
Futures -
Founder -
Forester



**Saurav
Malhotra**

Rural
Futures -
Co-Founder
and
Designer



**Treacy
Gomes**

Rural
Futures -
Enabler



**Prabir
Banerjee**

Rural
Futures -
Managing
Member



**Sangita
Deka**

Rural
Futures -
Ecologist



**Bhadra
Nahak**

Rural
Futures -
Forester



**Karishma
Ahmed**

Rural
Futures -
Chief
Communications
Architect



**Biman
Mili**

Rural
Futures -
Ranger



**Binita
Kakati**

Rural
Futures -
Human
Ecologist



**Nikita Kumari
Verma**

Rural
Futures -
Consultant



**Manoj
Gogoi**

Rural
Futures -
Wildlife
Wizard



**Gautam
Baruah**

Rural
Futures -
Chief
Operations
Architect



**Michael
Dawson**

Rural
Futures -
Anthropological
Visioner



**John
Sona**

Rural
Futures -
Natural
Capital



**Nibedan
Kurmi**

Rural
Futures -
Forester



**Rabijeeta
Lahkar**

Rural
Futures -
Operations
Architect



**Rajen
Kurmi**

Rural
Futures -
Ranger



Reach us at



Website: www.baliparafoundation.com
Email : contact@baliparafoundation.com