Applied
Environmental
Research
Foundation

ANNUAL REPORT 2023

AERF ANNUAL REPORT 2023

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WHO WE ARE

The Applied Environmental Research Foundation (AERF) is a registered Non-Governmental Organization (NGO) based in Pune, India. Since its inception in 1994, AERF has been working towards biodiversity conservation on the ground. The Foundation applies the principles of ‘community based conservation’ and develops natural resource management models that actively involve local communities in the cause of forest protection to make conservation beneficial and to create a win-win situation for all the stakeholders. AERF’s projects are implemented in the Northern Western Ghats that form a part of a global biodiversity hotspot in India and also in coastal Maharashtra, conserving the mangrove ecosystem. Team AERF also works across the country for research, training, capacity building and networking for conservation.

OUR MISSION

To achieve biodiversity conservation on the ground through use of scientific tools, development of cutting edge solutions and multi-stakeholder engagement

MILESTONES 2023

2044
Acres of terrestrial forests brought under conservation management

109
Acres of mangrove forests brought under conservation management

2556
Biostoves distributed

4775
Giant mangrove trees conserved

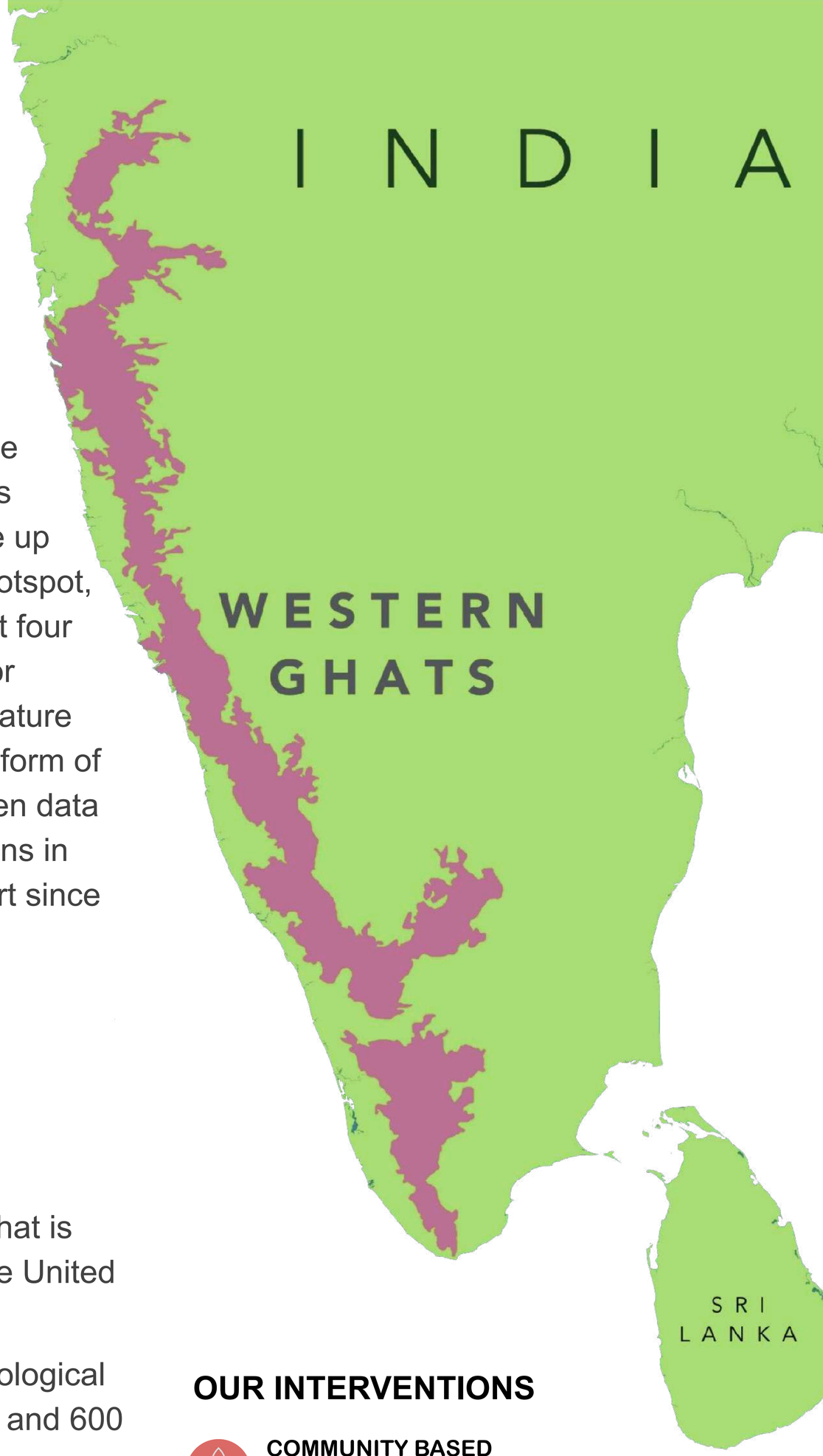
19936
Planted during restoration efforts in sacred groves and private forests

19
Acres of agroforestry agreements signed till date

OUR CANVAS

WHERE WE WORK

India is home to two global biodiversity hotspots, namely the Western Ghats and the Eastern Himalayas. These two sites hold approximately 6% of the world's biodiversity and make up only 0.2% of the Earth's landmass. In the Western Ghats hotspot, the southern part has received more attention since the last four decades due to large number of protected areas suitable for conservation research. However, due to the open access nature of most of the landscape and lack of legal protection in the form of protected areas, northern part of the western ghats has been data deficient and overlooked by major conservation organisations in India. AERF has been promoting the importance of this part since last two decades and could contribute to development of innovative solutions for conservation on the ground in this landscape through various programmes and projects.



THE NORTHERN WESTERN GHATS

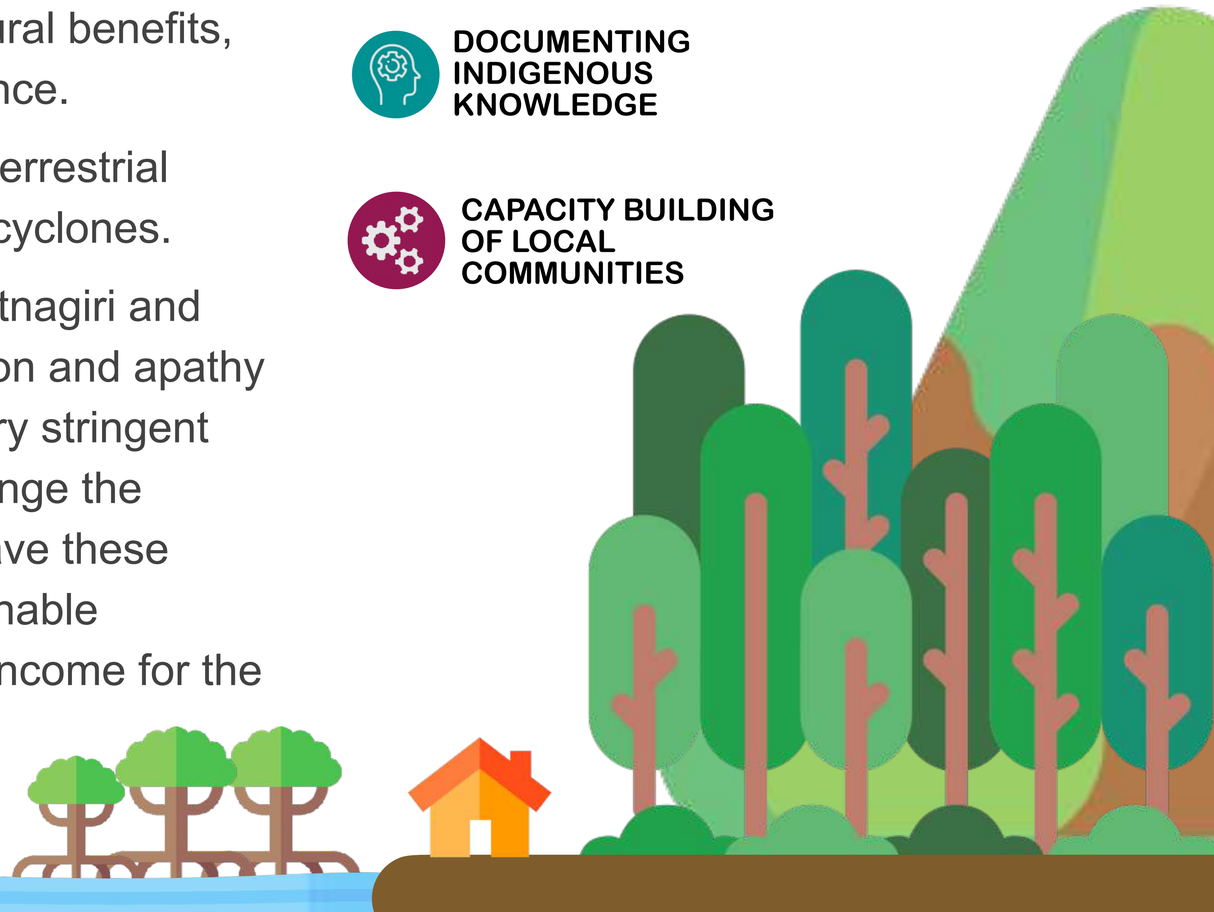
- Part of the Western Ghats - a global biodiversity hotspot that is home to 2% of the world's biodiversity as designated by the United Nations (UN)
- A mountain range that supports an immense amount of biological diversity of approximately 5000 species of flowering plants and 600 species of birds, along with many RET mammals as well.
- A biodiversity haven with several acres of privately owned forests within crucial wildlife corridor zones which are under serious threat of logging, ignorance and apathy

THE MANGROVES OF COASTAL MAHARASHTRA

- Mangroves are complex and critical coastal ecosystems that provide a multitude of ecological, economic, and cultural benefits, making their conservation a matter of global significance.
- They sequester almost 4-6 times more carbon than terrestrial forests and are frontline warriors against storms and cyclones.
- Privately owned mangroves in districts of Raigad, Ratnagiri and Sindhudurg are facing significant threat due to pollution and apathy by the local community due to a troubled past and very stringent regulation. Hence AERF is making every effort to change the perception of locals and offer positive incentives to save these unique ecosystems. We are working on create sustainable mangrove-based value chains to generate recurrent income for the local community and keep the mangroves standing.

OUR INTERVENTIONS

- COMMUNITY BASED CONSERVATION AND RESTORATION
- BIODIVERSITY RESEARCH
- DEVELOPING VALUE CHAINS FOR FOREST DEPENDANT COMMUNITIES
- PROMOTING NATURE BASED SOLUTIONS FOR CLIMATE CHANGE MITIGATION
- DOCUMENTING INDIGENOUS KNOWLEDGE
- CAPACITY BUILDING OF LOCAL COMMUNITIES



DIRECTORS' MESSAGE

In the year 2023, AERF achieved significant growth in the spread of new initiatives launched by the organization under the climate action program. We also scaled up and expanded our innovative conservation agreement model to 4 new blocks and brought 2044 acres of privately owned biodiversity rich forests under long term protection in Ratnagiri and Sindhudurg district of the northern Western Ghats in this year. It has been fifteen years since we first piloted our innovative incentive based mechanism of 'Conservation Agreements' to ensure protection of privately owned open-access forests of the northern Western Ghats against clear felling and other anthropogenic pressures. We are glad to reach a cumulative milestone of 9500 acres under conservation agreements! In many cases the initial agreement duration of 5 years has been renewed for 10 years or more. The challenge now lies in providing opportunities to the agreement holders to get continuous direct benefits of conservation.

To address this, AERF in partnership with ATE Enterprises launched the forest carbon project in Vaibhavwadi block of Sindhudurg district. This is first of its kind of an initiative that will generate carbon credits by estimating and validating carbon removal from the atmosphere through avoided deforestation and forest restoration in the northern Western Ghats. We are working with technology platforms such as *Restor* to assess the total carbon pool of the private forests being protected through conservation agreements in the northern Western Ghats. We aim to ensure long term conservation of total 5000 acres of private forests through this mechanism. As part of this project, AERF organized a capacity building workshop on Nature Based Solutions and Net Zero targets for our corporate partners. The workshop was attended by senior management team of ATE Industries. Domain experts from Kosher Climate and Sustain and Save delivered presentations on technical aspects of forest carbon projects and certification standards operating in this space.

We extending the conservation programme from terrestrial forests to mangroves in Raigad district - especially Alibaug, Pen and Roha blocks. We could bring **200** acres of privately owned mangroves under long term protection in **10 villages** from Roha and Alibaug block, comprising of many giant mangrove trees. This initiative got a major boost from small fishermen when they decided to participate voluntarily in large numbers in the giant mangrove conservation program launched by the organization in 2022. Through this program, we could bring some additional***1800*** giant mangrove trees under protection in 5 villages from Pen and Alibaug blocks in Raigad district. Mangroves sequester almost 6 times more carbon than terrestrial forests, so we steamed ahead with our study on 'blue carbon' with Conservation Internation and Good Carbon team to get the community due benefits for conserving their mangroves.



While on the topic of carbon, we are glad to report the most tangible achievement in this regard pertaining to the long-standing ‘eco-chullha’ project. We completed all the necessary requirements for launch of The Gold Standard certification of Eco-chullahs this year. It will help in offsetting carbon emissions of our corporate partners on the one hand. More importantly, the initiative became highly successful awareness generation activity as we could reach out to over 3000 rural households in a single year and communicate the message of forest conservation and climate change while delivering the cook-stoves to these remote communities. The project will generate almost 25,000 carbon credits every year for period of 5 years after completion of distribution of 7700 Eco-chullahs in year 2024.

Through support from EarthSong foundation and crowd funding platform GlobalGiving, AERF field team planted almost **20,000** saplings of ***20*** different species of native and rare trees in *10 villages* of Sangameshwar and Vaibhavwadi block as part of its forest restoration initiative. In addition, AERF’s conservation stewards removed climbers and invasive species from 7 sacred groves for improving their carbon sequestration potential. In Kule sacred grove itself they freed almost 2000 trees from under these invasives. Our sacred grove and forest restoration programme reached new heights (pun intended) with these milestones!

Managing and protecting these forests till posterity requires two resources - committed people and investments. We are here due to the support of our donors, experts and corporate partners, but the most deserving of appreciation is the local community and the implicit trust they put in us.

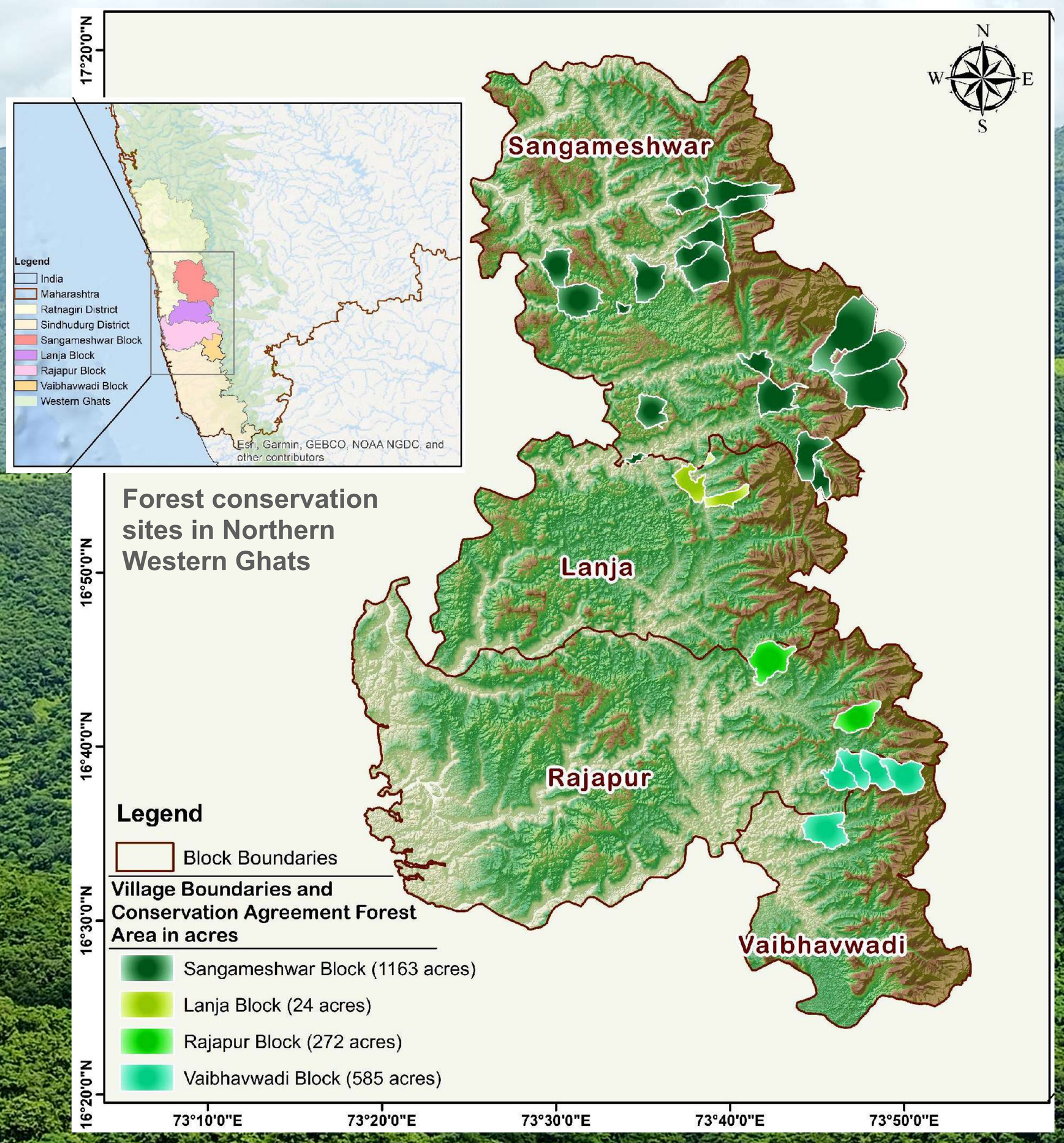
These are our people who make it possible for us to face the conservation challenges head-on and lay milestones along the way…



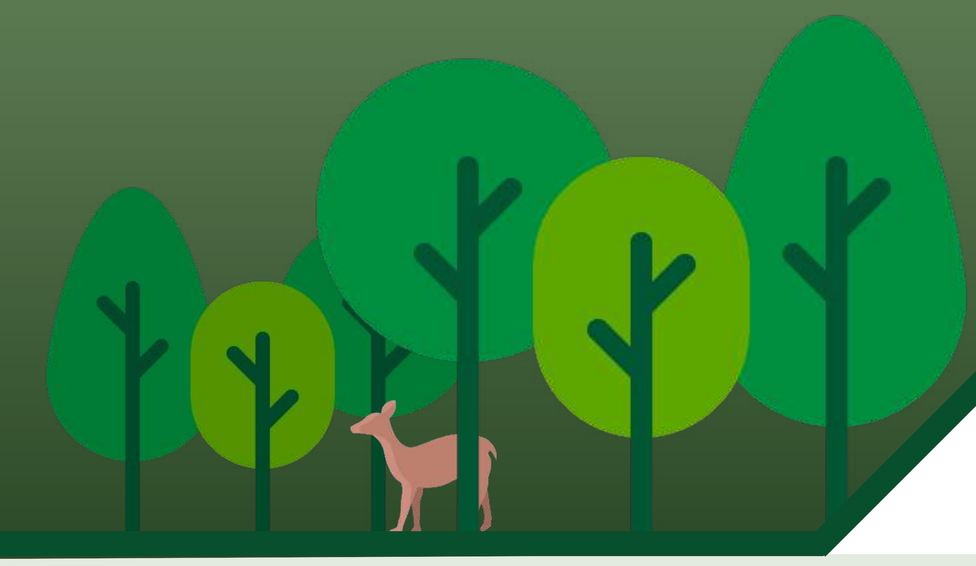
Archana Godbole



Jayant Sarnaik


Legend
India
Maharashtra
Ratnagiri District
Sindhudurg District
Sangameshwar Block
Lanja Block
Rajapur Block
Vaibhavwadi Block
Western Ghats
Esri, Garmin, GEBCO, NOAA NGDC, and other contributors
N
W
E
S
Sangameshwar
Lanja
Rajapur
Vaibhavwadi
Forest conservation sites in Northern Western Ghats
Legend
Block Boundaries
Village Boundaries and Conservation Agreement Forest Area in acres
Sangameshwar Block (1163 acres)
Lanja Block (24 acres)
Rajapur Block (272 acres)
Vaibhavwadi Block (585 acres)
17°20'0"N
16°50'0"N
16°40'0"N
16°30'0"N
16°20'0"N
73°10'0"E
73°20'0"E
73°30'0"E
73°40'0"E
73°50'0"E

01



CONSERVATION AND RESTORATION OF **FORESTS**

In partnership with

Deforestation contributes up to 20% to the Global Greenhouse Gas (GHG) emissions which is higher than the contribution of the entire transport sector to the GHG emissions globally. However, forest conservation is seldom discussed while choosing climate change mitigation alternatives even though these ecosystems are one of the most efficient and proven carbon removal mechanisms on the planet. Apart from the carbon narrative, forests provide critical ecosystem services and contribute towards our water and food security through rainfall recycling and pollination. In essence, forest conservation and restoration can be the most viable alternative for quick climate action - both in terms of carbon sequestration as well as insuring us against climate change impact on food and water! AERF has been promoting conservation of existing forests that ensure the biodiversity conservation and wellbeing of humans.

In 2023 AERF has conceptualized and implemented range of initiatives including forest carbon project and enhancing ecosystem services of the Forests.

The Conservation Agreements approach has already been successful in showing the community that they can derive good, sustainable income from nurturing their forests and keeping them standing. **In 2023, we successfully brought 2044 acres of threatened forests under conservation management in Sangameshwar, Lanja, Rajapur and Vaibhavwadi blocks.**

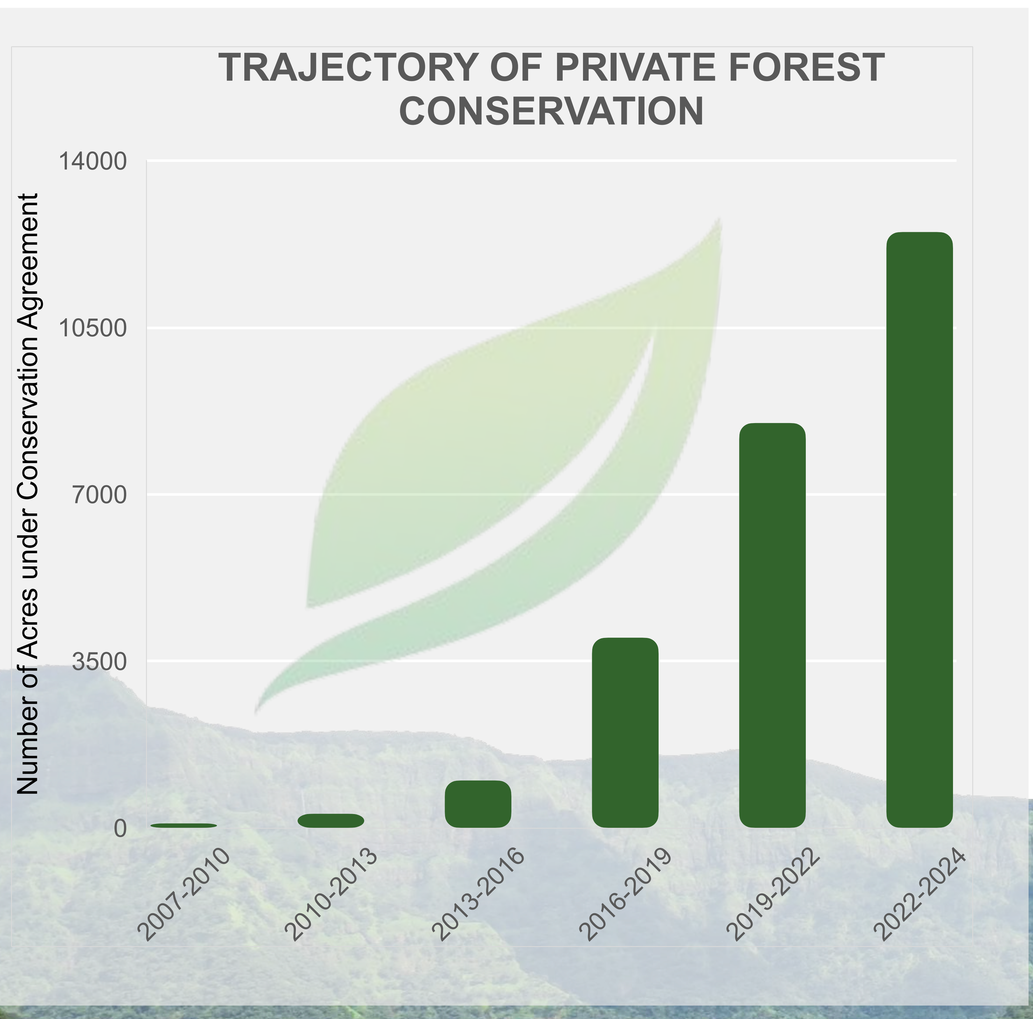
Certified NTFP value chains, training of community members as certified NTFP collectors and creating market connections to international buyers through Nature Connect India Pvt. Ltd. which is AERF’s private sector arm - has all enhanced the relationship between forests and communities to a great extent.

As the world wakes up to the renewed relevance of forests in the race to net zero, we are getting ready to apply the mechanisms and strategies to threatened forests of Northern Western Ghats and enable the communities to derive sustainable value from restoring, nurturing and caring for their forests!

SAVING THREATENED COMMUNITY FORESTS IN THE NORTHERN WESTERN GHATS - CELEBRATING **15 YEARS** OF PROMOTING **'CONSERVATION AGREEMENTS'** STRATEGY

AERF's journey to conserve the unprotected private forests in the Sahyadri-Konkan corridor began in year 2007 when our research team had just completed two important studies on conservation assessment of threatened tree species and geo-spatial mapping of Important Plant Areas (IPA) in Ratnagiri and Sindhudurg district. Both the studies brought forth one important fact- privately owned forests in this region harbor and support significant diversity of endangered and endemic plant species of the Western Ghats. In those years, the ecosystem profile of the Western Ghats was still under preparation and there was very little awareness about the ecological significance and richness of the forest landscapes and ecosystems of the northern Western Ghats. Interactions with local communities during the survey made it very clear to us that the locals did not assign any value besides money to the rich diversity of trees located on their land. They were simply interested in finding an opportunity to make quick money from the standing forests. There existed only two alternatives for them a) converting these forests into subsidy-based cashew plantation b) selling the trees and standing vegetation to logging contractor. We realized that this kind of forest management has been in practice since the majority of the young population migrated to Mumbai for better economic opportunities and when abandonment of shifting cultivation practice resulted in regeneration of secondary forests in the decade of 1990. It obviously was resulting in loss of biodiversity and depletion in ecosystem services.

The scale of the threat to biodiversity in the region became very clear when we estimated that these community owned and managed secondary forests are spread over ca.1,30,000 hectares across the districts of Ratnagiri and Sindhudurg. We realized that immediate solution to this challenge needed to be found rather than conducting further research. This necessity gave birth to AERF's incentive based private forest conservation initiative - My Forest.







In the pilot phase of this program launched in year 2007 bore first fruits in December 2008, when two families from village Ambavali and Kasar Kolvan came forward to sign the conservation agreement – an indication of commitment from them to keep the forest standing in lieu of monetary incentive. The conservation agreement with a duration of 5 years provided an important window of opportunity to us for changing the behavior and perception of forest owners with respect to biodiversity and ecosystem services that the forests provide. The incentive mechanism though attractive to the local communities did not help them get over their initial resistance to the idea as they did not understand how standing forests can be financially remunerative in absence of any intervention. It took consistent efforts of over 3 years in build their capacity to understand the relationship between healthy forests and healthy climate. In these 3 years we could only bring 100 acres of private forests under protection using conservation agreement strategy.

It was year 2012 when consistent follow up of our local field team yielded in securing large parcels of private forests for conservation. We signed the first agreement for saving 212 acres in village Umare that year. Knowing about this scheme through the word of mouth, the community members from neighbouring village Kalambaste came forward and showed interest in conserving 503 acres of community forest through conservation agreement approach. In the same year, community members from village Wadi Adhishti offered 285 acres of their forest for conservation. By 2015, our approach spread to more than 10 villages and we reached the important milestone of 1500 acres. This milestone gave the confidence that we can scale up this model across the landscape. In the next five years, through innovative approaches such as community reserve and saving threatened biodiversity, we added another 2500 acres to the conservation tally. It is important to mention that our field researchers were conducting biodiversity surveys and carbon stock assessment of the forest under agreement simultaneously and creating evidence for presence of endangered species e.g. Asiatic wild dogs, Indian Ground Pangolin and Leopard. Periodical monitoring of wildlife using trail cameras helped us communicate the population density and distribution of the threatened species in these forests. Results of repetitive forest carbon estimations convinced our corporate partners about the importance of healthy forests in climate change mitigation and potential of these forests in generating high quality carbon offsets. We could successfully leverage scientific assessments of biodiversity and ecosystem services to garner further support to scale up the private forest conservation and crossed the milestone of 9500 acres by end of 2023.

Local communities also gave a very positive response to all our efforts and renewed the previous agreements in support of this unique initiative. The initiative is now spread across 50+ villages from 6 blocks of Pune, Raigad, Ratnagiri and Sindhudurg district and provides direct economic benefits to 6000 community members.



USING **NbS (NATURE BASED SOLUTIONS)** TO ACHIEVE NET ZERO TARGETS

Over the last 2-3 years, increased incidences of flash floods, landslides, wildfires, and cyclones across the world have brought much-needed focus on the potential of Nature Based Solutions (NbS) in saving the planet from the vagaries of climate change. In Nature-based solutions, protecting forests is the most important solution as it has a great potential to bring multidimensional benefits to human beings along with creating resilience to climate change. Avoiding deforestation can lock in as much as 142 tons of carbon / hectare in the old-growth tropical forests of India. In the Western Ghats, forests contribute up to 10% of total rainfall every year through evapotranspiration, thus ensuring the supply of freshwater to millions of people living in this landscape.

In collaboration with ATECF and ATE, AERF conducted a feasibility study for implementing a forest-based carbon sequestration project in 8 villages of Vaibhavwadi and Rajapur blocks in the Northern Western Ghats having a total of 13946 acres of forest cover. AERF assessed the level of forest degradation in these blocks by using Remote Sensing Data and ground truthing, organized detailed consultations with stakeholders (landowners) about the benefits of conservation agreements to secure their forest for a minimum period of 10 years, and mapped threats that are causing deforestation in these villages. In addition, AERF is working on a REDD+ strategy and CCBA standards for implementing this forest-based carbon project. Reducing Emissions from Deforestation and Forest Degradation (REDD+) under UNFCCC is a global endeavour to use the carbon sequestration potential of forests to manage climate change within accepted limits of tolerance. The strategy seeks to address drivers of deforestation and forest degradation to develop a roadmap for the enhancement of forest carbon stocks and achieving sustainable management of forests through REDD+ actions. **Having set a total target of 1500 acres under this project, we brought 515 acres of forests under conservation agreement in year 2023.**

ACTION PLAN GOING FORWARD…

- Organise capacity-building workshops for agreement holders.
- Conduct surveys in the CA forests to map boundaries, record biodiversity and identify threats
- Conduct carbon stock estimation studies in the CA forests under the REDD+ strategies and CCBA standards
- Improve forest health by mitigating threats
- Increase carbon sequestration potential of conserved forests by implementing restoration measures





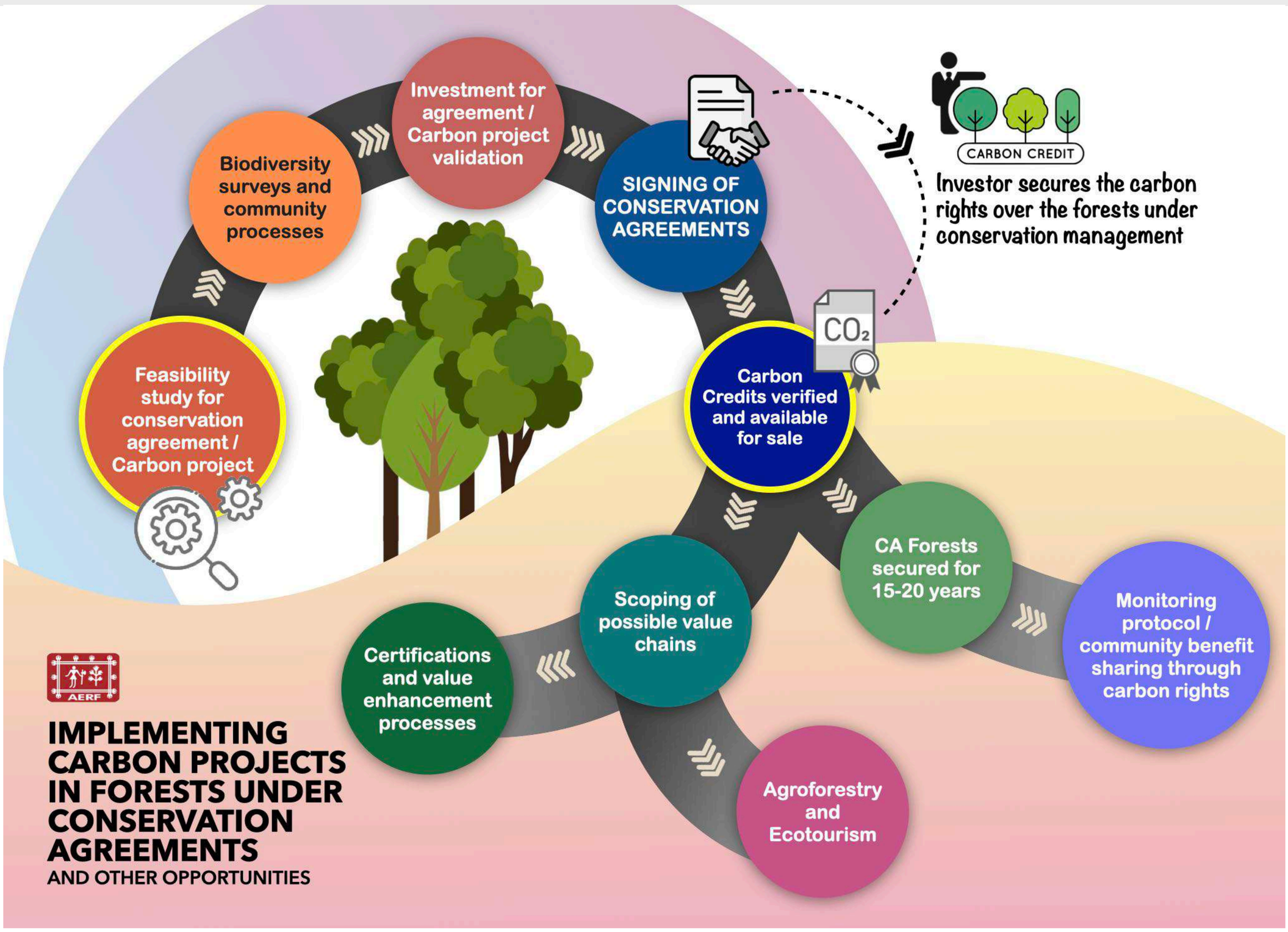


NbS workshop: Can nature-based solutions help Private sector reach Net-zero targets in India?

AERF and ATE Group hosted a dynamic two-day workshop on Nature-Based Solutions (NbS) in October 2023, focusing on pivotal role in helping the private sector achieve NetZero targets in India. The sessions covered corporate commitments, challenges, and innovative technologies, emphasizing AERF's commitment to education, collaboration, and adherence to carbon standards. The workshop included a compelling field visit to Tirwade and Nerle villages, showcasing AERF's real-world impact on the environment and local communities. The event not only addressed NbS challenges and opportunities but also highlighted AERF's dedication to sustainable practices and serious efforts for using forests for net zero targets.





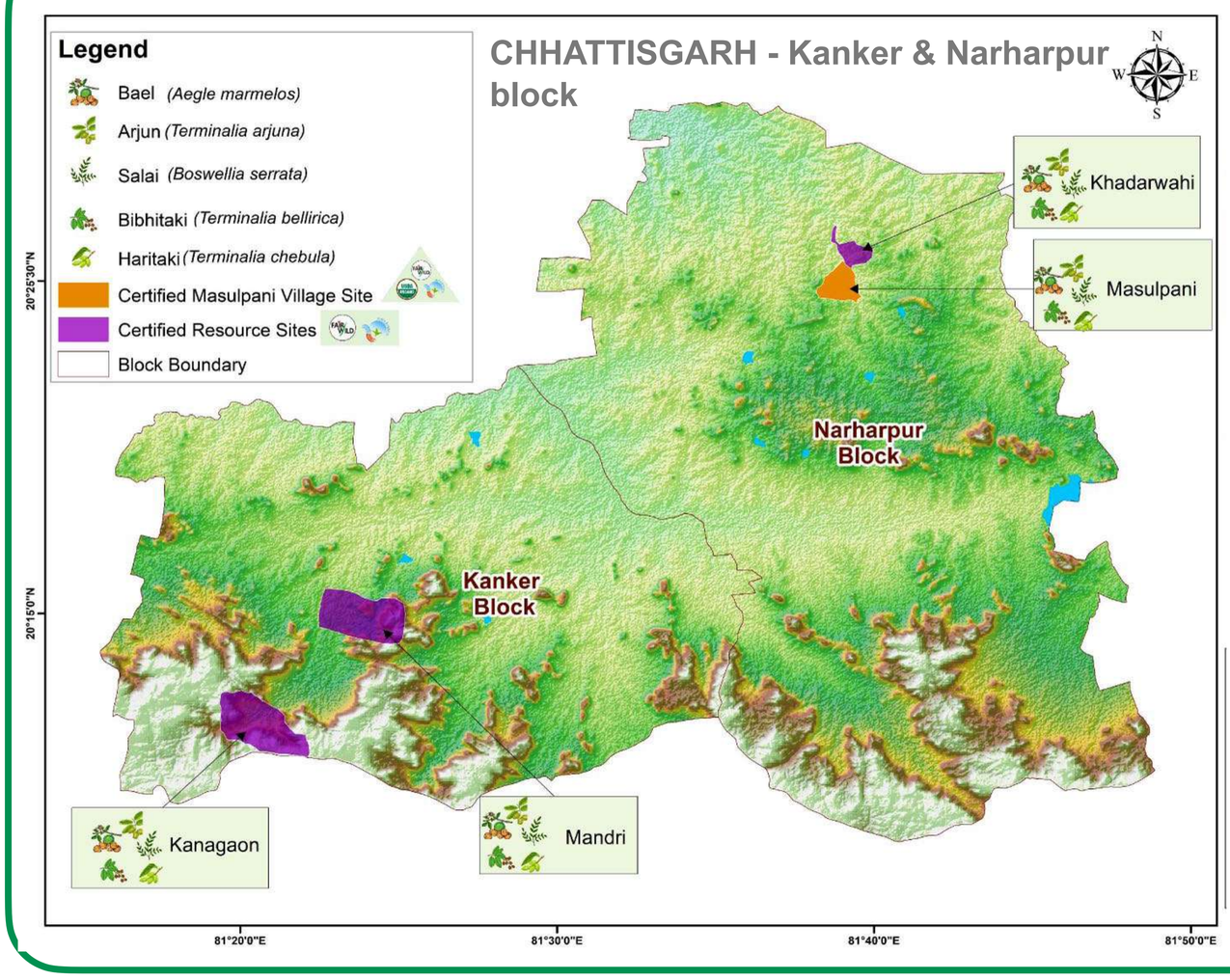


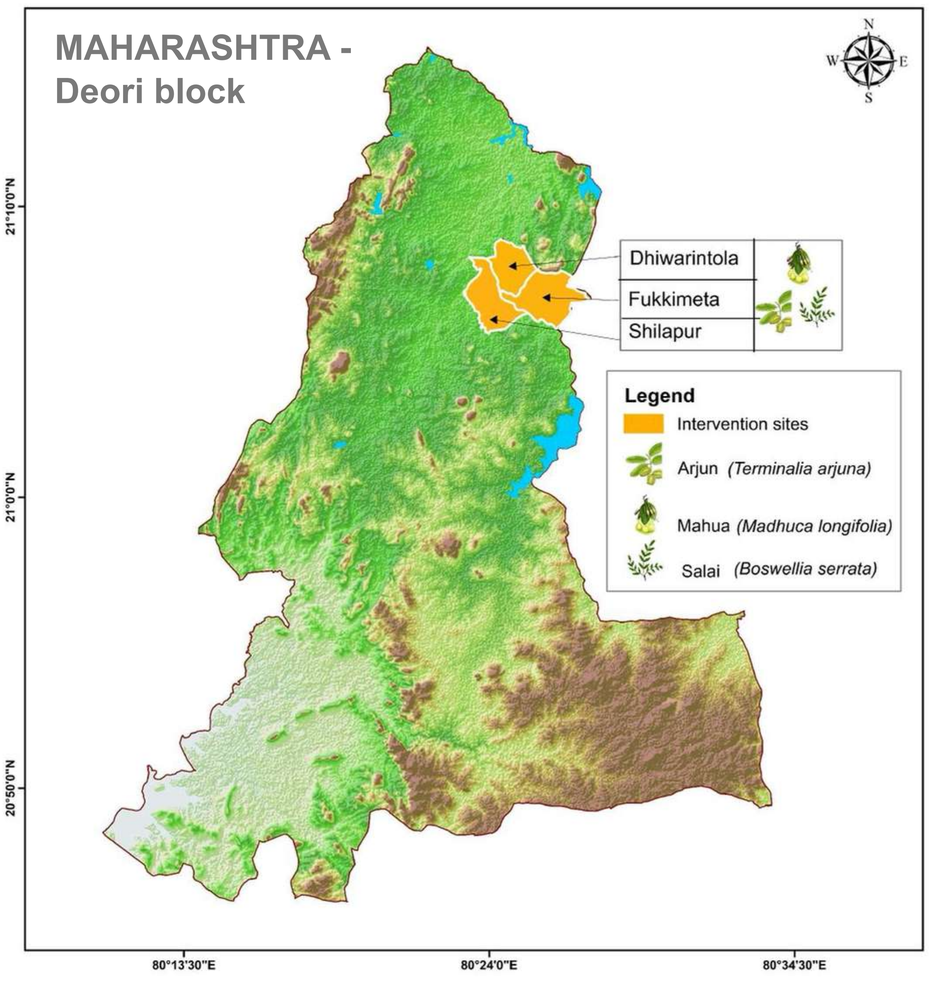
LEVERAGING CERTIFIED VALUE CHAIN APPROACH FOR LANDSCAPE LEVEL CONSERVATION IN **EASTERN MAHARASHTRA** & **CHHATTISGARH**

The meticulous implementation of the Forest Rights Act of India has provided legal rights to the indigenous communities from the rich forest landscape of Central India. The act created Community Forest Resource Areas (CFRs) which encompass a rich variety of moist and dry deciduous forest ecosystems. These areas play a crucial role as habitats for important wildlife, such as Sloth bears (*Melursus ursinus*; classified as Vulnerable by IUCN) and Indian leopards (*Panthera pardus*; also Vulnerable). These CFR areas also serve as essential corridor for the movement of Asian elephants (*Elephas maximus*; Endangered) and the majestic Royal Bengal tiger (*Panthera tigris*; also Endangered), and are also extremely important for providing sustainable livelihoods for local communities.

AERF has been exploring these forests for 3 years now and have held many community meetings to understand the relationship of these people with their forests and to expand the NTFP (Non-Timber Forest Product) value chain approach. In 2023, we completed the resource assessment of 5 important species - *Terminalia bellirica* (Bibhitaki), *Terminalia chebula* (Haritaki), *Terminali arjuna* (Arjun tree), *Boswelia serrata* (Indian Frankincense / Salai resin) and *Aegle marmelos* (Bael) for 1800 acres of the CFR forests. **We provided sustainable harvesting training to more than 50 local community members and revived long lost traditional harvesting methods for Arjuna and Salai resin - establishing market linkages for these two value chains for the first time in Masulpani village.** Our efforts bore fruit and we facilitated the first ever USDA and FairWild certification of NTFPs in CFR Resource Area spread over 356 acres; and NPOP and NOP audits of over 4100 acres in partnership with Nature Connect India Pvt. Ltd. Furthermore, we have identified more than 13500 acres of CFR area for conservation management in Dhamtari and Kondagav districts in Chhatisgarh which are closely associated with the core areas of the Sitanadi-Udanti Tiger Reserve.

CERTIFIED CFR RESOURCE AREAS IN CHHATTISGARH AND MAHARASHTRA









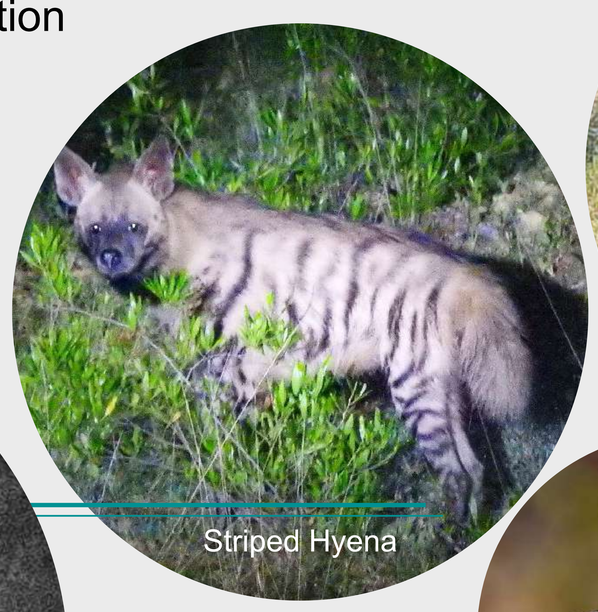
The elusive biodiversity of Central India's CFRs captured in our lenses…

The Community Forest Resource areas (CFR) are teeming with potential for conservation management and our biodiversity surveys and camera traps revealed interesting biodiversity - both animal as well as bird species. In fact, we could record the shy and elusive Bengal Fox, the majestic Mottled Wood Owl, and even the near threatened Striped Hyena here. These findings were a valuable insight into the coexistence of communities and wildlife in the same forests and highlights the need for strategic conservation interventions to maintain this symbiosis. We are excited to. implement our conservation strategies in these amazing forests!

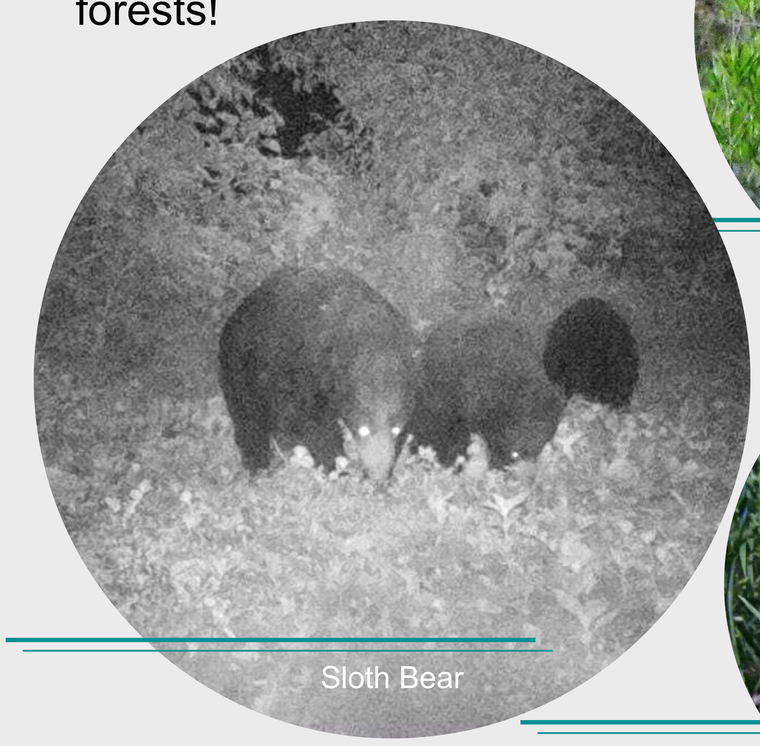




4-horned Antelope



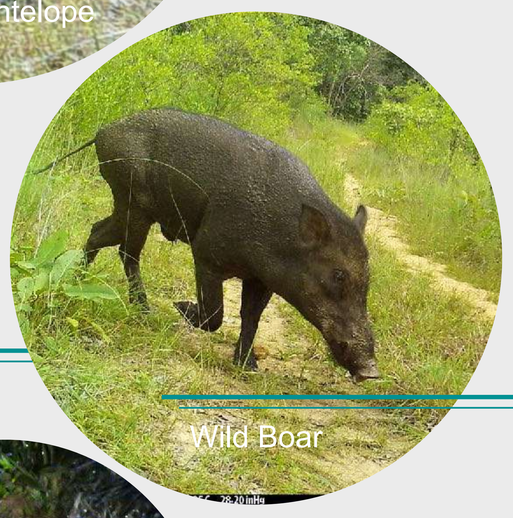
Striped Hyena



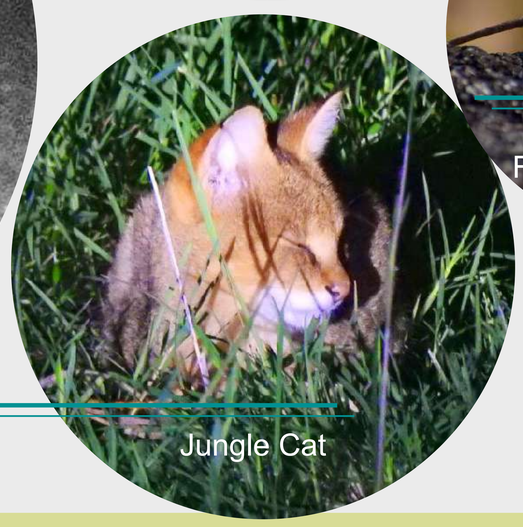
Sloth Bear



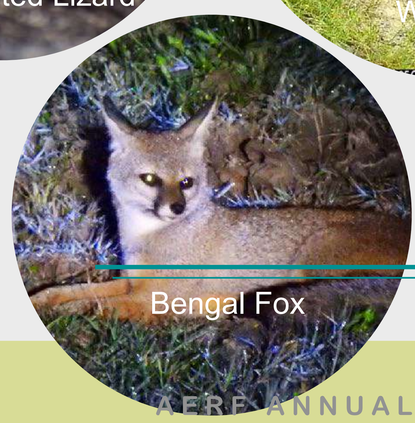
Fan-throated Lizard



Wild Boar



Jungle Cat

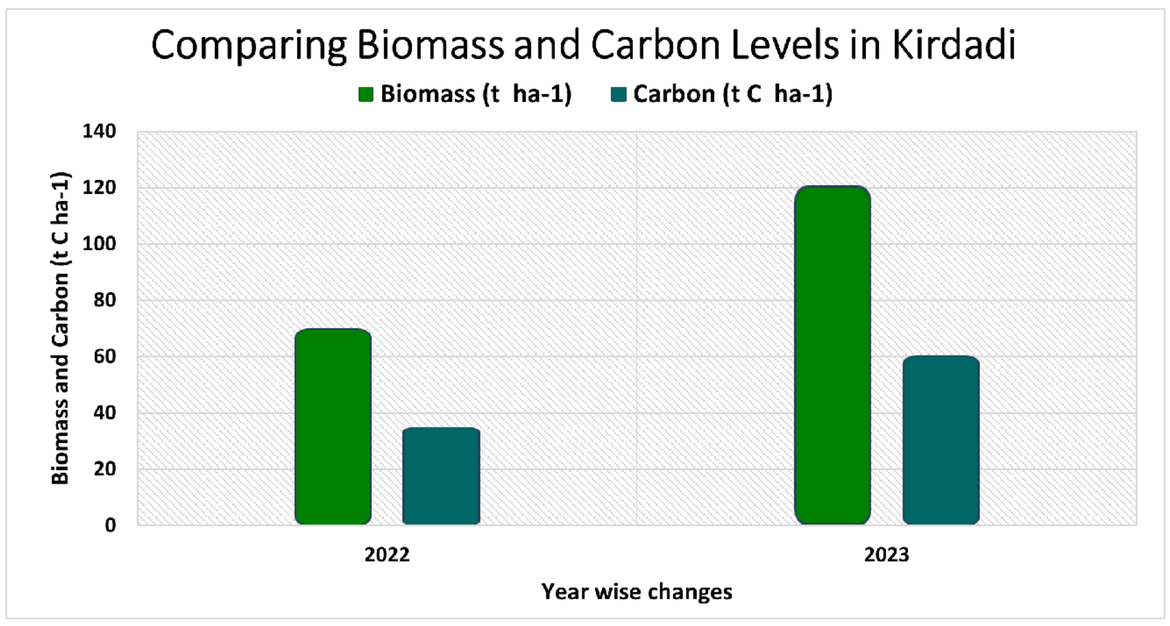


Bengal Fox

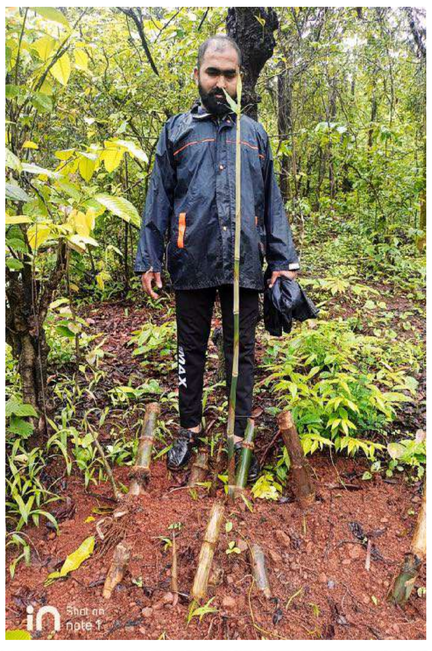
BUILDING **RESILIENT LANDSCAPES** AND COMMUNITIES **FOR CLIMATE CHANGE ADAPTATION** AND **BIODIVERSITY CONSERVATION** IN THE NORTHERN WESTERN GHATS

In 2023, AERF has spearheaded impactful initiatives to address economic challenges of restoration. AERF has been promoting agroforestry development as one of the tools for restoration using economically important multi-purpose native species. This is resulting in creation of livelihood opportunities for the local people while enabling restoration and ecological management of degraded forests. By providing landowners with seeds of traditional varities and actively assisting in planting economically valuable native species, AERF has successfully enhanced both the financial and conservation value of numerous abandoned lands - case in point being the18.23 acres of agroforestry agreements that we signed for Bamboo plantation for restoring dormant agricultural plots.

Aimed at linking the global objectives of food security and climate resilient agroforestry, AERF efforts have yielded rapid and substantial results. Within just one year, our active restoration initiatives have effectively doubled the carbon sequestration capacity of agro-forestry plot in Kirdadi, marking a significant milestone. Through the diligent planting of 8767 seedlings on 50+acres, AERF has not only improved the economic productivity of these plots but has also created tangible conservation impact on the ground. Our comprehensive surveys have documented the presence of endemic bird species and threatened mammals on these sites, underscoring the crucial impact of our restoration efforts on biodiversity conservation. These accomplishments reiterate AERF's focus on developing innovative and community- driven approaches that deliver tangible and sustainable transformations in the field of conservation.







	No. of Farmers who participated	Amount of seeds distributed
Distributed turmeric rhizomes	5 farmers	260 kgs
Distributed local variety of Rice (Khamadi) seeds	6 farmers	31 kgs
Distributed Niger seeds	4 farmers	2.5 kg
Distributed Harik seeds	2 farmers	13 kg



CONSERVING **GIANT TREES** OF THE NORTHERN WESTERN GHATS FOR **CLIMATE ACTION**

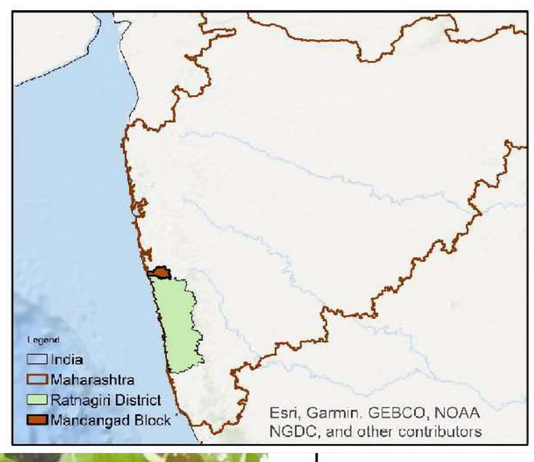
In the year 2023, we continued the work of saving the real treasure of the Western Ghats mountain chain- the amazing giant trees! We brought a total of 66 giant trees under conservation management through our crowdfunding campaign ‘Save Giant Trees’ on GlobalGiving. Our field team identified these trees in the forests of village Nive in Sangameshwar block of Ratnagiri district.

The team held consultations with heads of two families and convinced them about the importance of conserving these trees successfully. Importantly, these 66 trees include species having exceptional medicinal, timber properties as well as ecological attributes. For example- the giant *Ficus calosa* produces enormous number of fruits that all the frugivores birds love and depend on, for their dietary requirement e.g. Great Hornbill, Malabar Pied Hornbill and Malabar Grey Hornbill. Similarly, the trees being conserved include a magnificent specimen of *Gmelina arborea* -an excellent timber species, *Pterocarpus marsupium* ,*Terminalia bellirica* and *Terminalia arjuna* - trees having life saving medicinal values. Lastly but very importantly, this group of trees also include giant wild mango trees. Besides their high economic importance as timber, wild mangoes are an integral part of cultural and ecological identity of these forest landscapes and its communities.

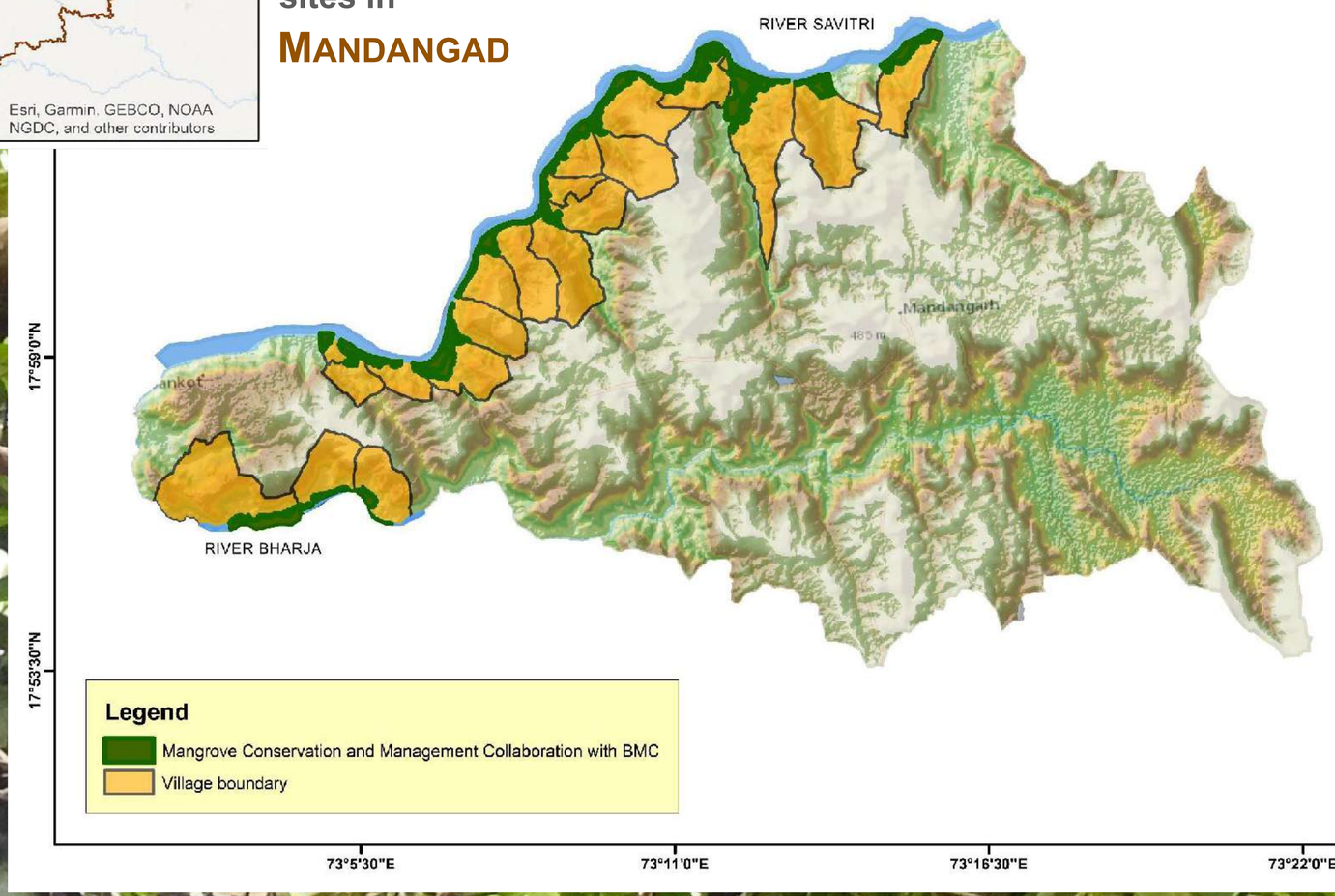




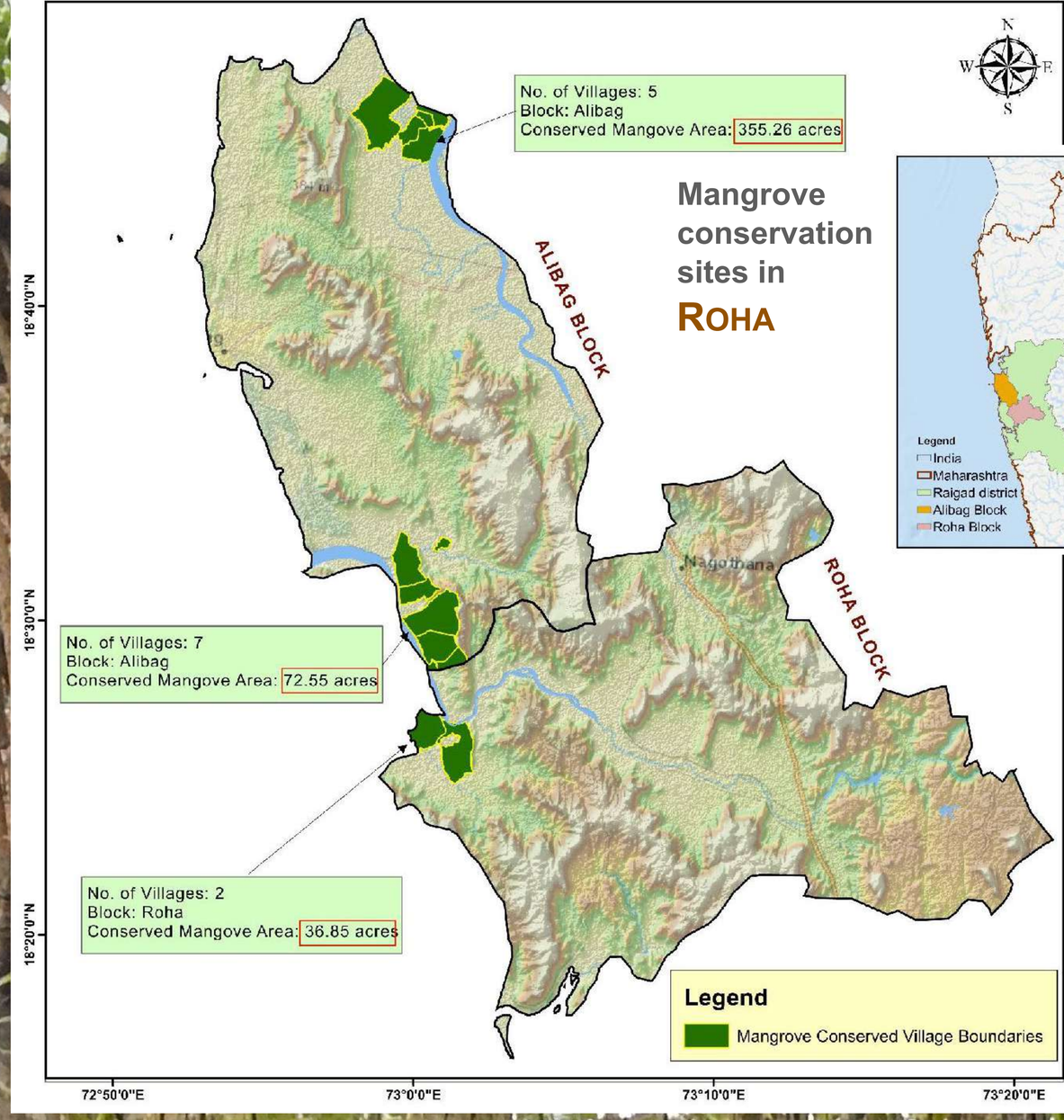


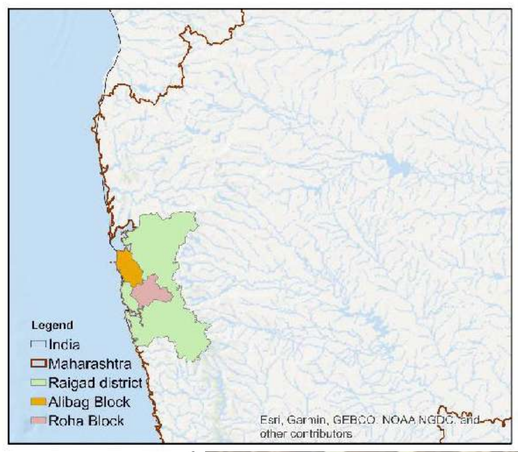


Mangrove conservation sites in MANDANGAD



Mangrove conservation sites in ROHA





02

CONSERVATION AND RESTORATION OF MANGROVES



In partnership with

Apple Inc.

LTIMindtree

Mangroves is a buzz word in the race to net zero globally since they have been proven to sequester up to 4 times more carbon than terrestrial forests. They are also the first line of defense against cyclones and tsunamis - extreme climate events that are becoming more frequent nowadays. Investment in Mangrove conservation to gain carbon credits is an effective climate change mitigation strategy using Nature Based solutions. In Raigad district along the west coast of Maharshtra, when mangroves encroached into the farmlands of the community due to sea-water ingressions couple of decades ago, it strained the relationship of people and mangroves. Mangroves incite despair, hopelessness and resentment for many who saw their productive farmlands become useless overnight. AERF's mangrove conservation efforts in Raigad district have targeted this particular overlooked community aspect. We are building livelihoods around mangroves and promoting innovative incentive based mechanisms to provide direct benefits to coastal communities for changing their perception with respect to the mangroves. After persistent efforts and long wait, AERF has succeeded in convincing the communities about the conservation agreement strategy and its benefits. We added in an interesting and innovative approach for wider uptake of conservation initiative- rewarding the farmers for conserving giant mangrove trees that play critical role in protecting the agriculture bund. We worked very hard to map giant mangrove trees and its stewards.

Mangrove Ecotourism and developing value chains from mangrove resources are two other mechanisms being explored to create new livelihood opportunities to distressed communities. We could spread our work on mangroves spread to Ratnagiri district in this year where we used innovative thinking and revived defunct village-level Biodiversity Management Committees (BMCs) for conserving mangroves on public lands in 17 villages in Mandangad block. We build capacity of these institutions for mangrove protection and explained direct benefits of mangrove conservation to the community at large. In addition, we focused on solving key social and environmental issues like lack of drinking water due to high salinity and plastic pollution in tidal water channels to improve ecosystem health and subsequent marine food production in collaboration with local communities.

These activities certainly attracted attention of local people towards long term mangrove conservation and has changed their perception about mangroves. Our partnership with Apple Inc and LTIMindtrees has given impetus to our efforts and has helped us reach many milestones in short period. More importantly we have seen the change in community perspective made possible due to constant stakeholder engagement and an empathetic and practical approach towards conservation which frankly is the only way to make mangrove conservation socially sustainable.

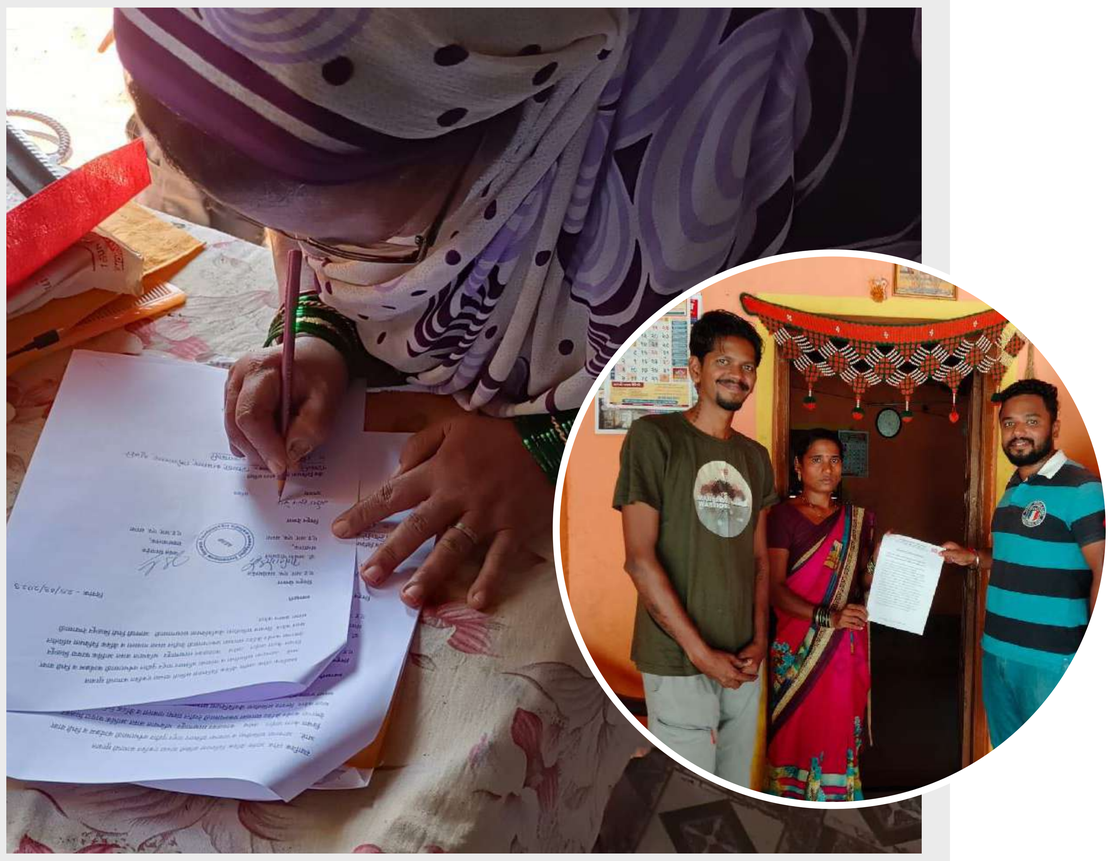


INNOVATIVE APPROACHES IN **CONSERVING MANGROVES** ON PRIVATE AND PUBLIC LANDS

The spread of mangroves further inland into farmlands pose a serious problem for securing a stable livelihood. This negatively impacts people's perception towards mangroves. In response, we implemented our umbrella program of Conservation Agreements which is an incentive-based program. Through conservation agreements, we are able to provide an alternative source of income for landowners who are unable to farm on their own lands. **This year, we successfully brought 109 acres of mangrove forests (inclusive of 2931 giant mangrove trees) and 1844 individual giant mangrove trees under conservation agreement in Alibaug, Roha blocks of Raigad district and in Mandangad block of Ratnagiri district.**

In Mandangad, there are extensive stretches of community owned mangroves where it is not possible to implement Conservation Agreements. We strongly believe that long-term conservation cannot happen in silos and it is critical to engage with existing institutional mechanisms which are the Biodiversity Management Committees (BMCs) in this case. We focused on capacity building of BMCs by training their members in implementing conservation initiatives and knowledge dissemination. This has allowed us to impact a far larger area of mangroves than our initial targets. **In 2023, AERF collaborated with nine BMCs across 21 villages along the west coast to impact the conservation of 2351 acres of mangroves.**

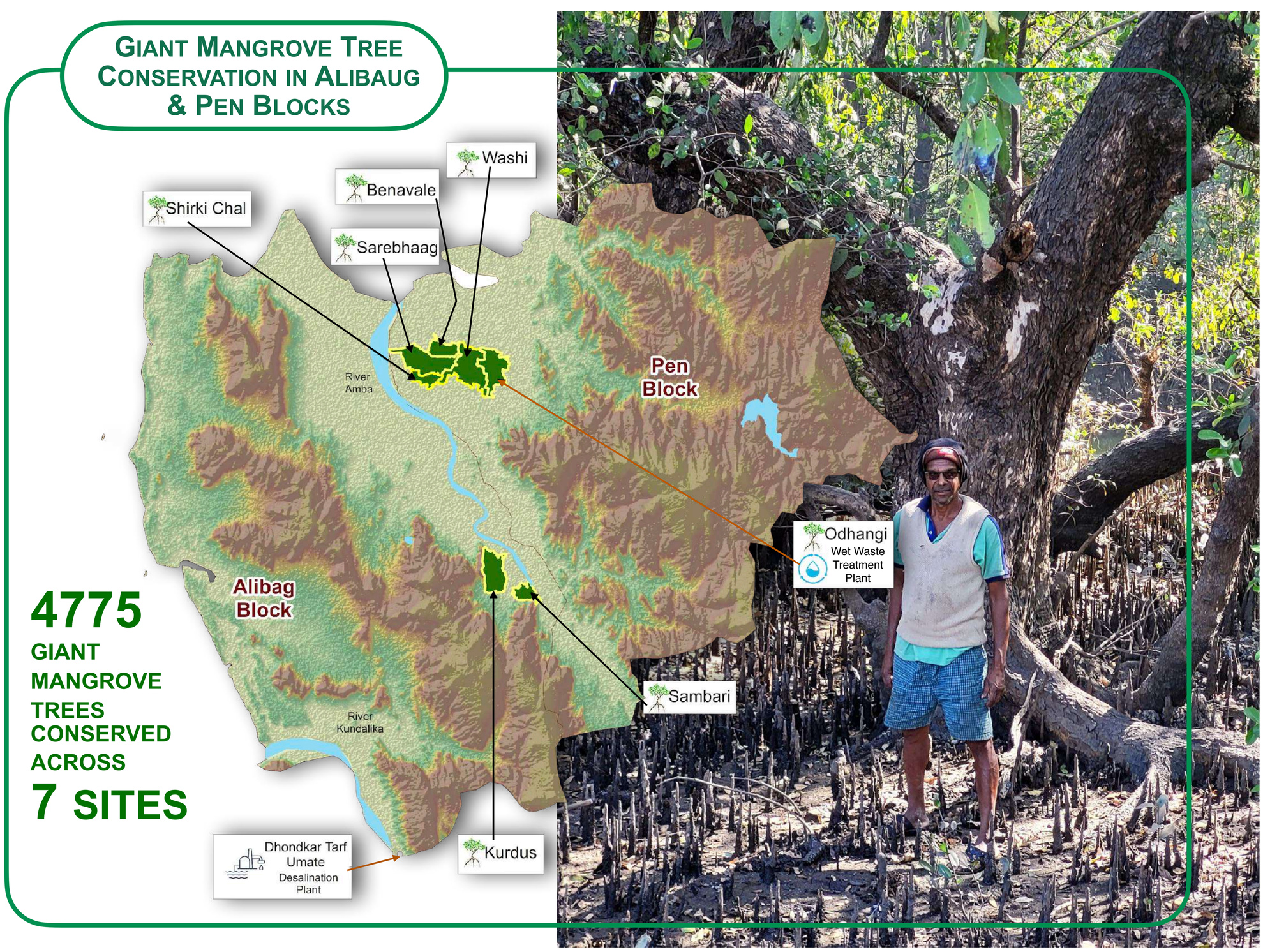








We were glad to host Ms. Lisa Jackson, VP of Environment, Policy and Social Initiatives at Apple Inc. and her team at our mangrove conservation sites at Alibaug to show them how our conservation initiatives impacted the life of communities as well as encouraged them towards the cause of mangrove conservation.





GETTING TO THE ROOT OF ISSUES THROUGH **COMMUNITY MOBILISATION**

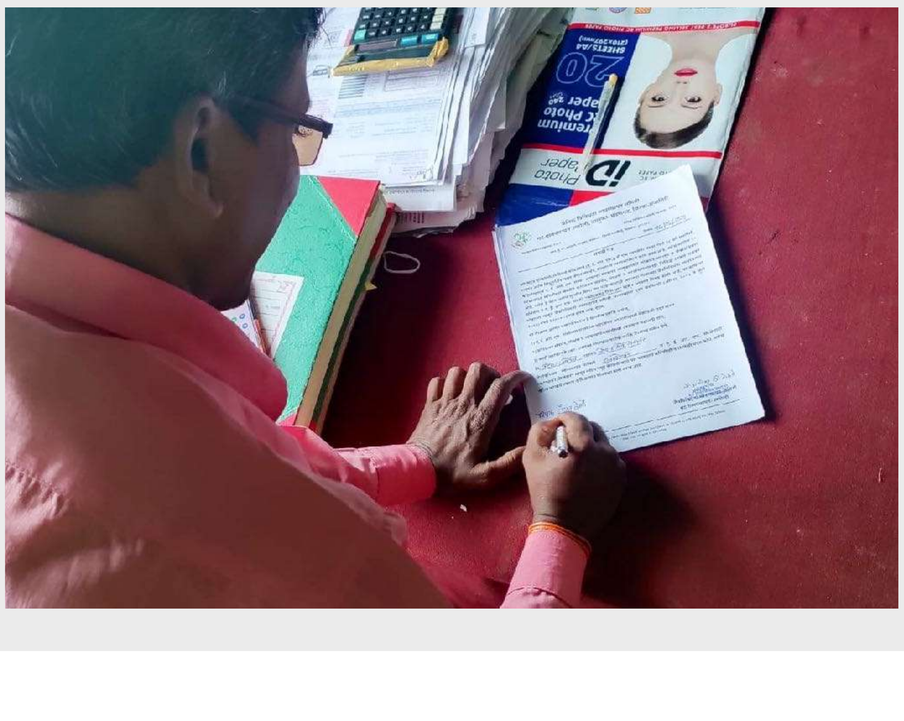


2.2.1 Turning trash into treasure

Through this initiative, AERF is helping over 1000 households and we are now planning to scale it up to 2000 households.

Understanding the root cause of mangrove pollution is necessary to ensure a long-lasting and effective conservation impact. Many villages In Alibaug and Pen blocks of Raigad district, lack an efficient waste management system; villagers are forced to dump their waste, mainly plastic, in landfills adjoining waterbodies or into the creeks and small streams feeding into these creeks. This chokes the water channels and mangroves growing along these water channels. In 2023, we set up a Wet Waste Treatment Plant in Odhangi, Pen block which is now helping to prevent waste accumulation in the Vashi stream and the adjoining mangroves. Here, the wet waste generated in the village is being converted into rich, organic compost. In addition to proper waste disposal, through this system, the villagers are now more aware and they ensure segregation of household wastes for proper disposal.





2.2.2 Building a constituency of mangrove stewards to address the imminent threat to mangroves

To mark World Environment Day in 2023, we organized a week-long clean-up drive in four villages under the BMCs of Jawale and Umroli in the Mandangad block. Over 150 community members participated, collecting more than a tonne of single-use plastic, impacting nearly 400 acres of mangroves.

Recognising this spirit, we started the ‘Kandalvan Shiledar Initiative’ which engages the local people on behalf of AERF and the BMCs to carry out the conservation activities as well as generate awareness among the villagers about mangroves. Currently, we have appointed and trained 10 Kandalvan Shiledars.



Mr. Pratyush Kumar Panda (Head ESG Officer) and Mr. Paneesh Rao of LTIMindtree assessed the allied initiatives spearheaded by LTIMindtree under mangrove conservation at Alibaug in November 2023

2.2.3 Addressing water security in coastal villages

Coastal regions often grapple with the scarcity of freshwater and the high salinity forces villagers to rely on impermanent sources of drinking water like rainwater harvesting from the roof - which they have to store and use over the next 6 months! In order to provide a long-term solution, we have set up a medium-scale desalination plant with the capacity of producing 200 litres per hour of drinking water in Dhondkar village, Roha block. This will fulfil the drinking water needs of 7- 8 neighbouring villages.



These bunds which are crucial for people as well as the surrounding biodiversity has benefited 150 families.

In some villages in the Mandangad block, they face a different water crisis i.e. lack of a perennial water source. It is especially problematic in the summer season when the villagers face a severe scarcity of freshwater sources. To tackle this problem, we redirected resources to help the community build temporary bunds on streams going towards Savitri river to retain fresh water. These bunds are created by filling gunny bags with locally sourced soil or sand, ensuring proper sealing and arranging them to form a protective wall barrier. Such community-centric approaches to find tangible solutions for their immediate and pressing issues have helped strengthen our relationships with them and include a larger, more receptive crowd under our umbrella cause of conservation.



WELL-DESERVED CERTIFICATES OF APPRECIATION GRANTED TO OUR HARDWORKING WOMEN AND CHILDREN PARTICIPANTS IN THE MANGROVE CLEANUP DRIVE







6 ‘bee champions’ trained for the task and 9 bee boxes distributed and constantly monitored by AERF team

2.2.4 Training Bee Champions to improve Pollination within Mangrove ecosystem

Ecosystems thrive through interconnectedness of the inhabitants, and these interactions are crucial for overall ecosystem health. Mangroves, essential for supporting aquatic diversity, depend on pollinators for propagation. However, bees - who are vital pollinators, are currently facing significant threats. Recognizing this, AERF has collaborated with LTIMindtree to launch the "Bees for Mangroves" initiative in Mandangad.

As part of this unique effort, we distributed 9 bee boxes to community members across 6 villages in Mandangad. The selected bee species, *Tetragonula iridipennis* (Indian stingless bee), exhibits a fascinating nesting habit. Constructing spiral combs with narrow entrances using resin and wax, they fortify nests against potential predators. Notably, these stingless bees play a pivotal role in pollinating both mangrove and terrestrial forests, making them an ideal choice for the initiative.

The "Bees for Mangroves" initiative effectively addresses multiple challenges. Primarily, it contributes to the preservation of mangroves by enhancing pollination. Simultaneously, it creates livelihood opportunities for community members, fostering a sustainable and mutually beneficial ecosystem.





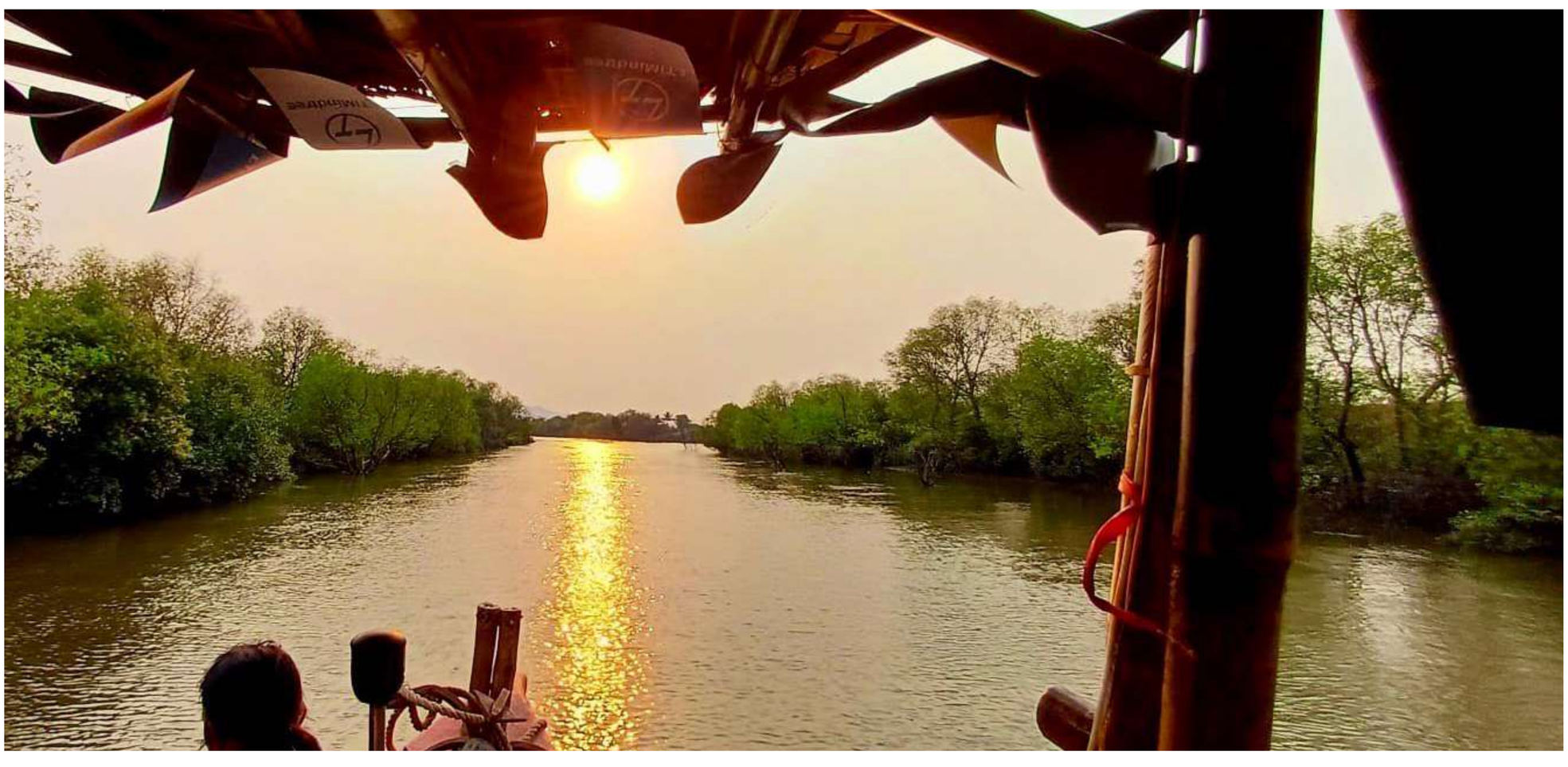


Along with providing livelihood to the local community, this strategic initiative contributes to the broader goal of fostering a harmonious relationship between communities and mangroves

2.2.5 Spreading Environmental awareness and generating sustainable income through Ecotourism

Mangroves are ‘silent soldiers’ and people are largely unaware of their immense contribution to our lives. To change this, AERF has chosen ‘ecotourism’ to foster environmental awareness and education about this ecosystem. We procured a boat and designed a superstructure made entirely of sustainable Bamboo material to bring this idea to fruition! This boat named ‘Ambika’ will address the 'why' by providing an experiential platform to highlight the beauty and significance of mangroves. ‘Ambika’ is now ready to set sail, and facilitate an immersive approach to disseminate this crucial knowledge.





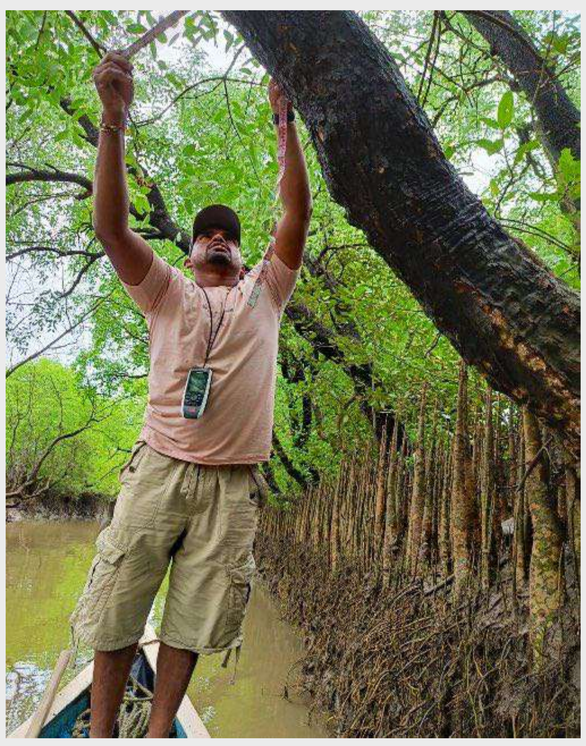


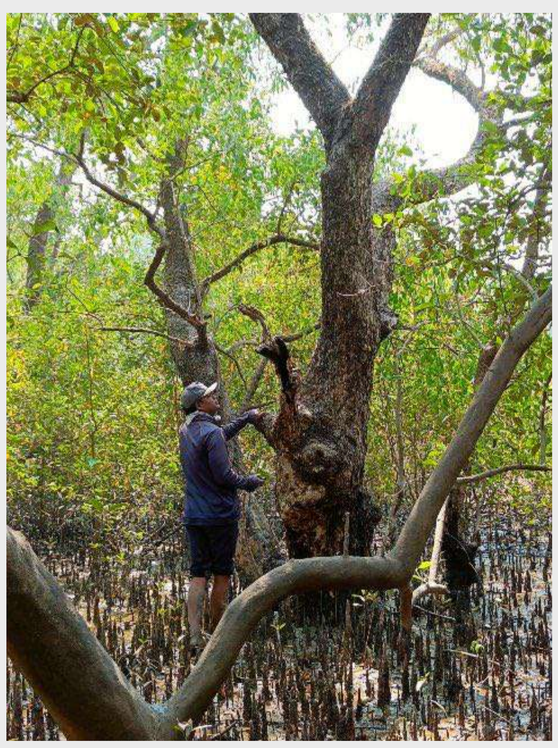
ESTIMATING **BLUE CARBON** POTENTIAL IN MANGROVES OF **RAIGAD DISTRICT**

Blue carbon ecosystems, encompassing mangroves, seagrasses, and salt marshes, play a pivotal role in sequestering carbon dioxide efficiently, making them indispensable in the fight against climate change. In 2023, AERF developed a deeper understanding of blue carbon ecosystems through detailed research.

Mangroves, with their dense root systems, serve as remarkable carbon sinks, trapping organic matter and carbon in the soil beneath them. The study was conducted in two parts: estimation of Above Ground Biomass (ABG) and Below Ground Biomass (BGB) in two study sites. The objective of the study was to measure the Biomass and Carbon stock of mangrove species and understand the carbon sequestration capacity of mangroves in comparison to terrestrial ecosystems. The target area was giant mangrove trees located in channels of Odhangi and Kurdus villages in Alibaug and Pen block. **The study revealed an estimated of 561.89 tonnes of carbon per hectare**. This high biomass value underscores the significant carbon storage capacity of these mangroves, highlighting their vital role in climate change mitigation.

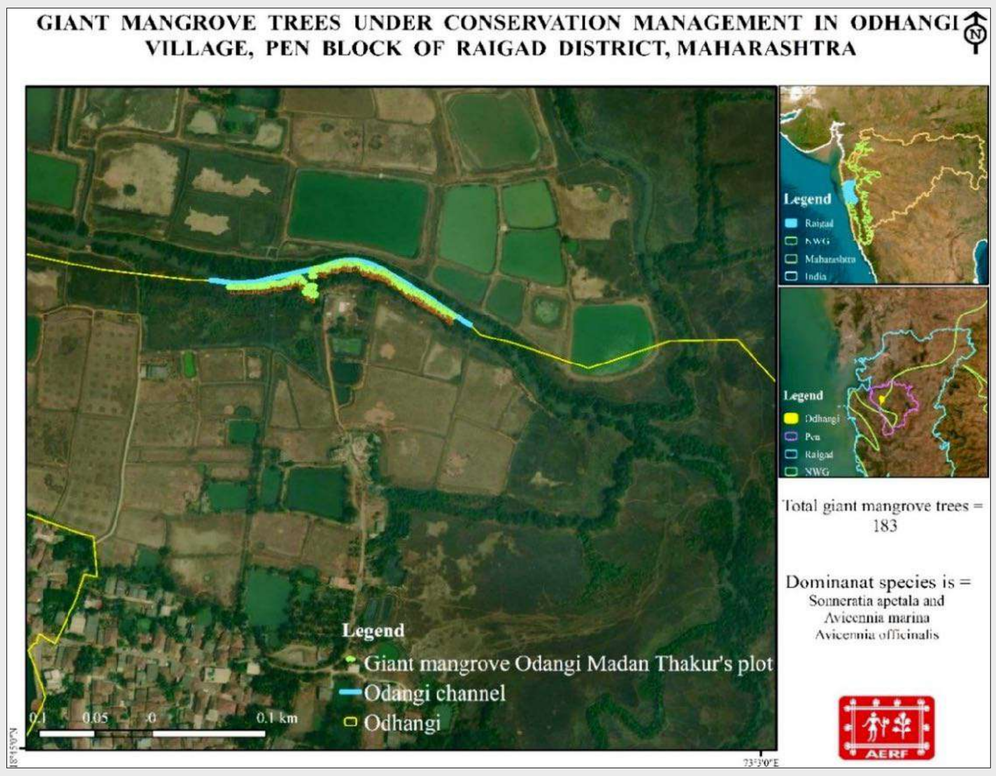
Beyond carbon sequestration, AERF's research emphasized the role of blue carbon habitats as natural buffers against climate change impacts. These ecosystems act as protective barriers, safeguarding coastal regions from erosion, storm surges, and rising sea levels. The intrinsic link between preserving these ecosystems and protecting vulnerable coastal communities emphasizes the urgency of AERF's mission.

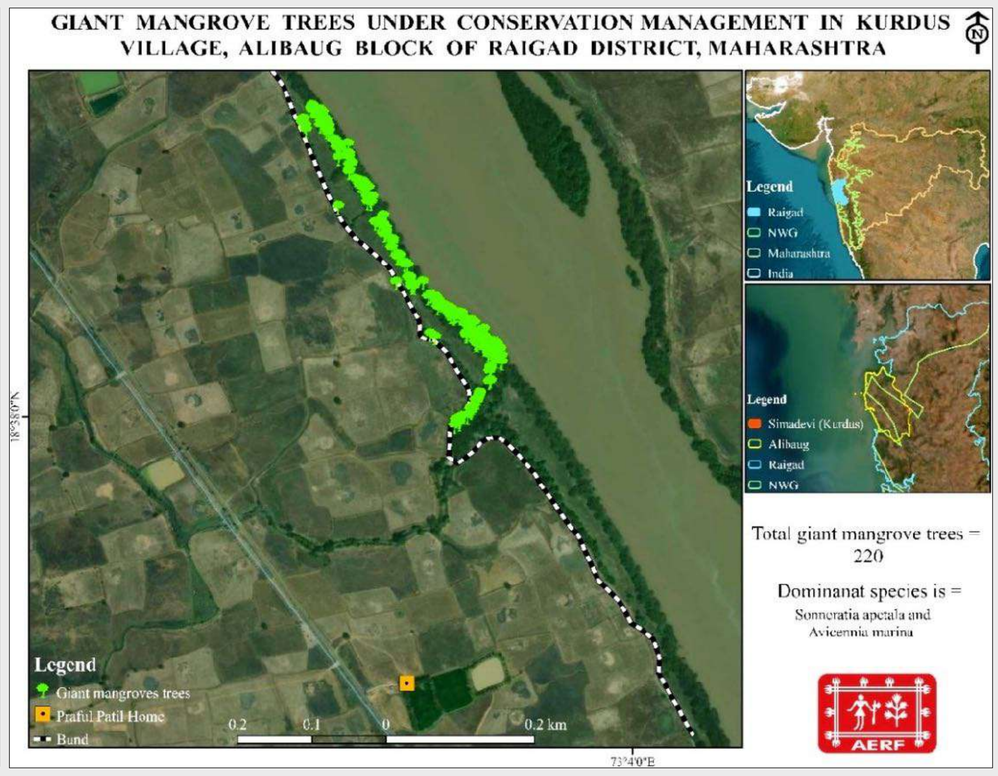


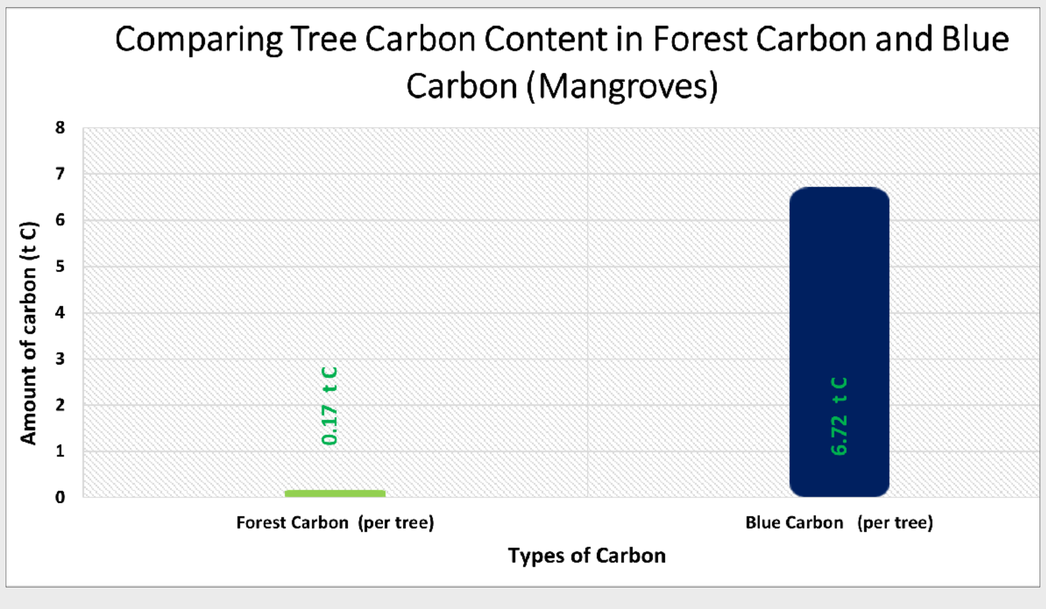












Taking reference from a previous carbon study done by our team in 2021 in the terrestrial forest of Kalambaste in Sangameshwar which is under our conservation management shows a stark difference of 6.55 tonnes of Carbon per tree with these giant mangrove trees of Pen and Alibaug. This one comparative study itself highlights that the carbon sequestration potential of these unprotected giant mangrove trees is far more than terrestrial forests and warrants immediate conservation intervention.

Furthermore, the comparative analysis between forest carbon and blue carbon ecosystems unveiled that the latter stores substantially more carbon per tree. **Our findings have indicated carbon content in terrestrial forest as being 0.17 ton of carbon per tree (according to our previous carbon study in the terrestrial forest of Kalambaste in Sangameshwar block, Ratnagiri) as against 6.72 tonnes of carbon per tree in mangrove ecosystem.** This revelation reiterates the unique and critical role of coastal blue carbon ecosystems in global carbon emission reduction measures. AERF's commitment to understanding the factors influencing carbon sequestration capacity, demonstrates our dedication to advancing scientific knowledge.

As we move forward, AERF remains focused on a holistic approach to combat climate change, recognizing the need for both terrestrial and coastal carbon sequestration strategies. Through rigorous scientific investigation and empirical evidence, AERF continues to make strides in enhancing our understanding of blue carbon ecosystems, contributing to a more sustainable and resilient future for our planet.





A MICROSCOPIC LOOK INTO THE **MICRO FAUNA** OF THE MANGROVE FORESTS OF RAIGAD

Mangroves are known as the nurseries of the world's seafood. They support a diverse range of organisms from microscopic level to macroscopic level. Understanding the relationship and interactions between each organism is crucial to develop a robust conservation strategy. In 2023, we launched a comprehensive study of the micro-organisms including both zooplankton and phytoplankton, which are the base of the aquatic food webs. This would also give us critical insight into the water quality along the Washi creek in Raigad district based on phytoplankton as a bioindicator.

Food web is an important conceptual tool for illustrating the feeding relationships among species within a community, revealing species interactions and community structure, and understanding the dynamics of energy transfer in an ecosystem. With a food web, one can see clearly how dumping affluents in the river system can lead to diseases in birds living in faraway places.

We conducted this study in the Washi creek where no previous studies have been conducted. The aquatic microscopic biodiversity was measured over 4 months at 3 stations - the mouth, the middle and the tail of the river. **The findings showed a consistently high biodiversity in the middle of the creek, thus highlighting its importance in supporting diverse species. Furthermore, a monthly variation was also observed – with September emerging as a crucial period with notable increase in biodiversity records.** This was a pioneering study in this area and the results are compelling enough to replicate it , in other streams as well. This will ensure that our conservation strategies can be more effective and supported by long-term monitoring of ecosystem responses.

This study also highlights the importance of allied participative conservation interventions like the Wet Waste Treatment Plant set up by AERF in Odhangi village in Pen block which prevents the waste from clogging up the mangrove channels and polluting the water.





Sampling stations along the Washi creek at the mouth, the middle and the tail of the creek.

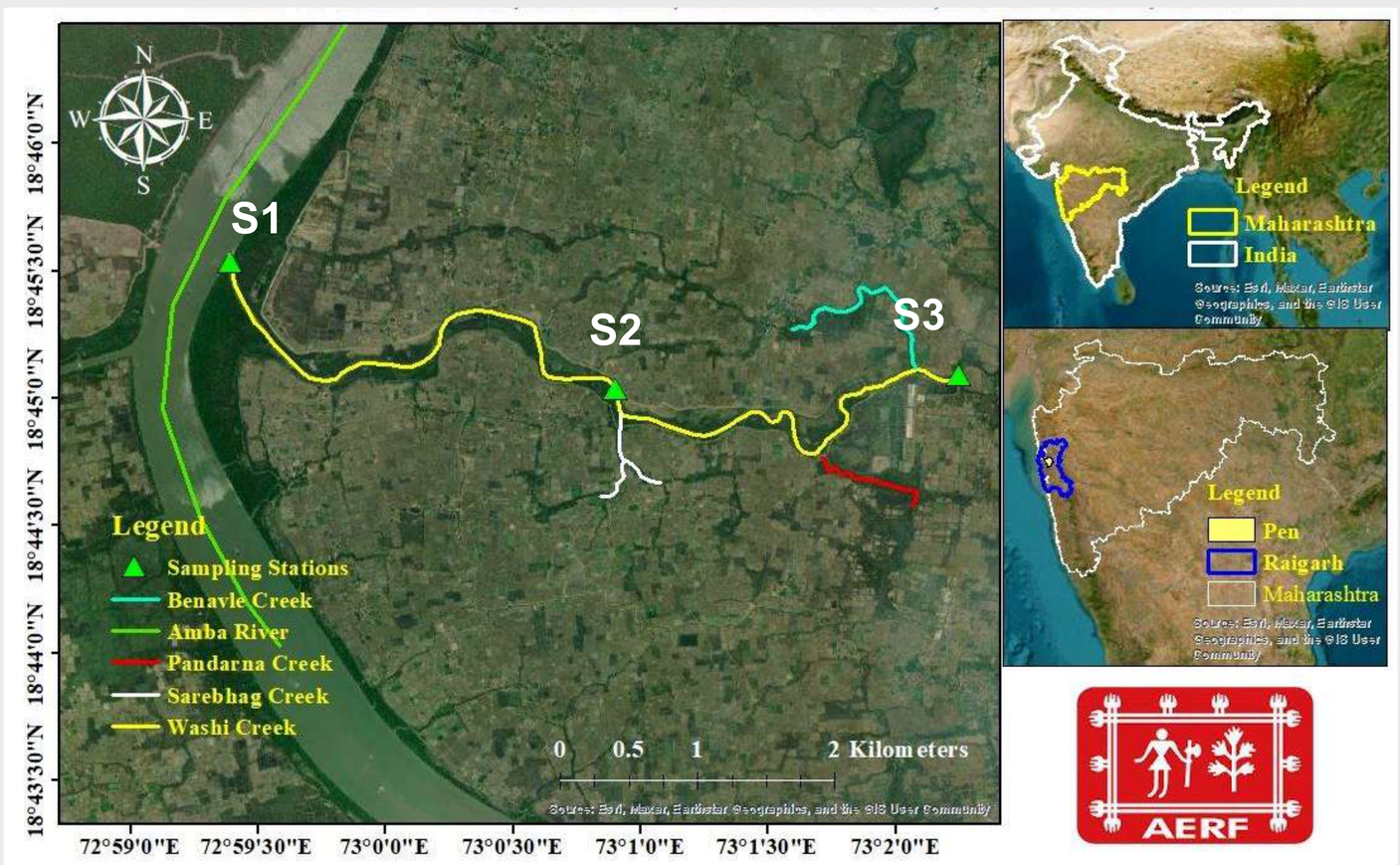
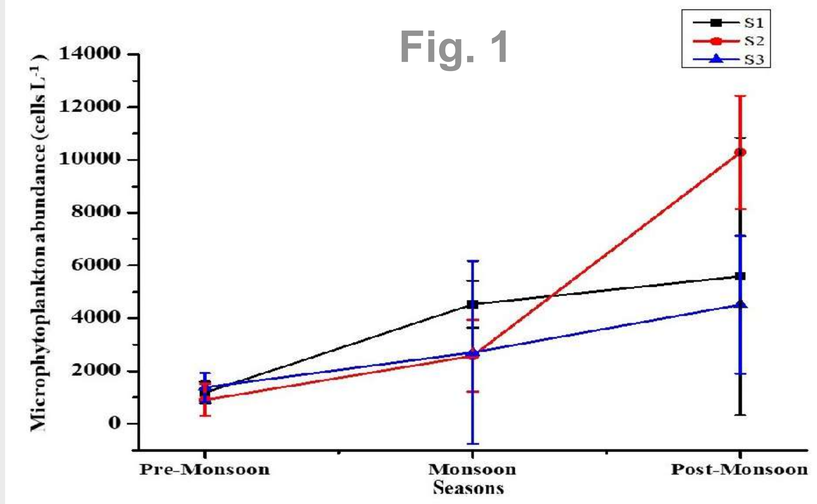
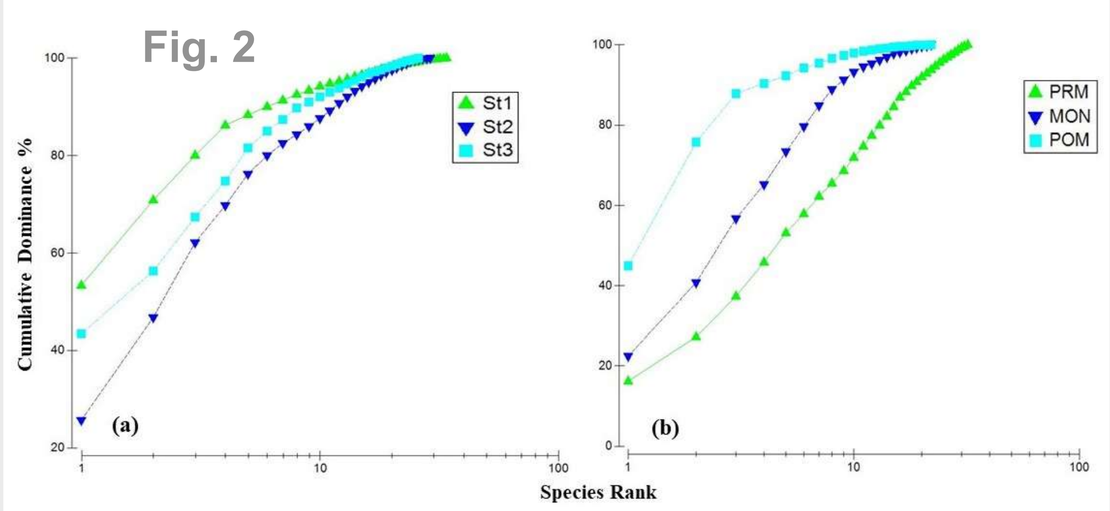


Figure 1: Distribution of microphytoplankton abundance along the three stations during the study period.

Figure 2: Distribution of K dominance along (a) Stations (b) Seasons during the study period.

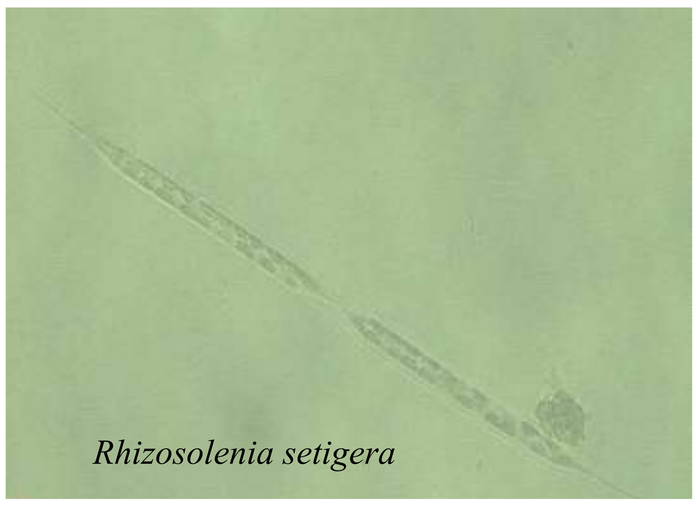




PHYTOPLANKTON

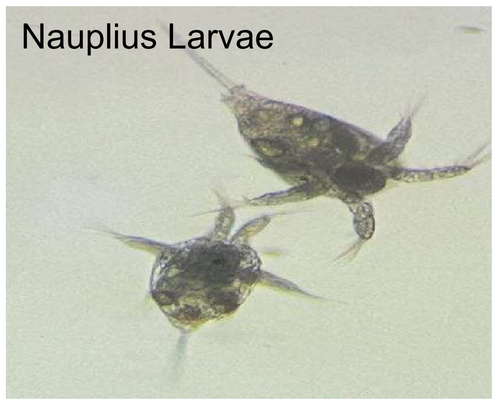

Coscinodiscus sp.

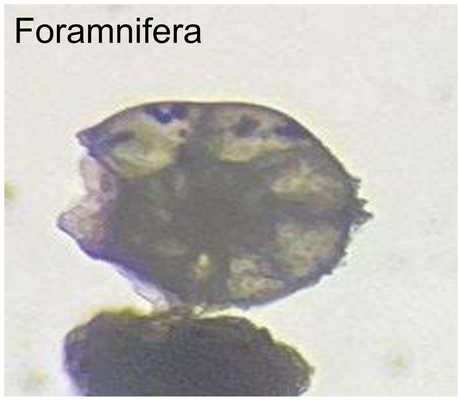

Skeletonema costatum


Rhizosolenia setigera

ZOOPLANKTON


Copepods


Nauplius Larvae


Foramnifera


Nematoda

MANGROVES - A **BIODIVERSITY HAVEN**


Asian Open-bill Stork


Painted Stork


Black - headed Ibis


Brahminy Kite


Eaurasian Spoonbill Stork



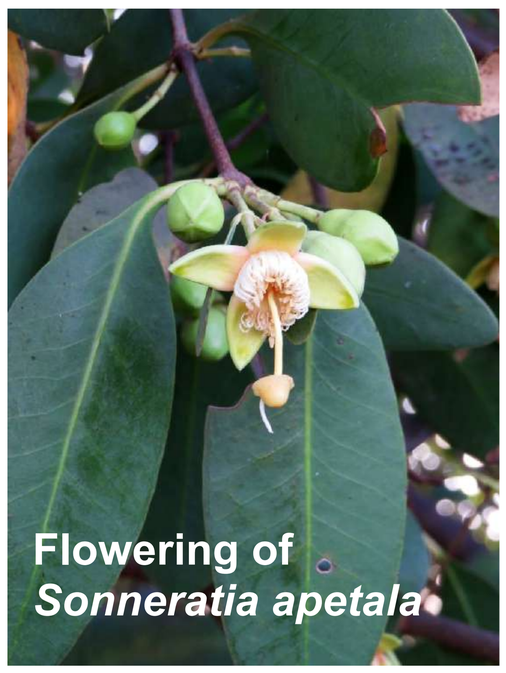


An exciting discovery unfolded in the mangroves of Bhagwadi in Kundalika creek in Alibaug - Roha block. During a bird-watching expedition, and during a survey of the dried fish ponds, a remarkable sighting occurred - a Juvenile Greater Flamingo, a winter visitor to the region.

This observation holds significance as it marks the first recorded sighting of a Flamingo in Bhagwadi. Previously, our team had documented Flamingos in Alibaug, specifically from the Amba estuary. However, the sighting in Kundalika estuary expands the known range of this elegant bird within our monitoring area.

The presence of a single individual is particularly intriguing, as it often hints at the proximity of a larger flock nearby. Our team is eager to explore further and get valuable insights into the migratory patterns and distribution of these majestic birds.

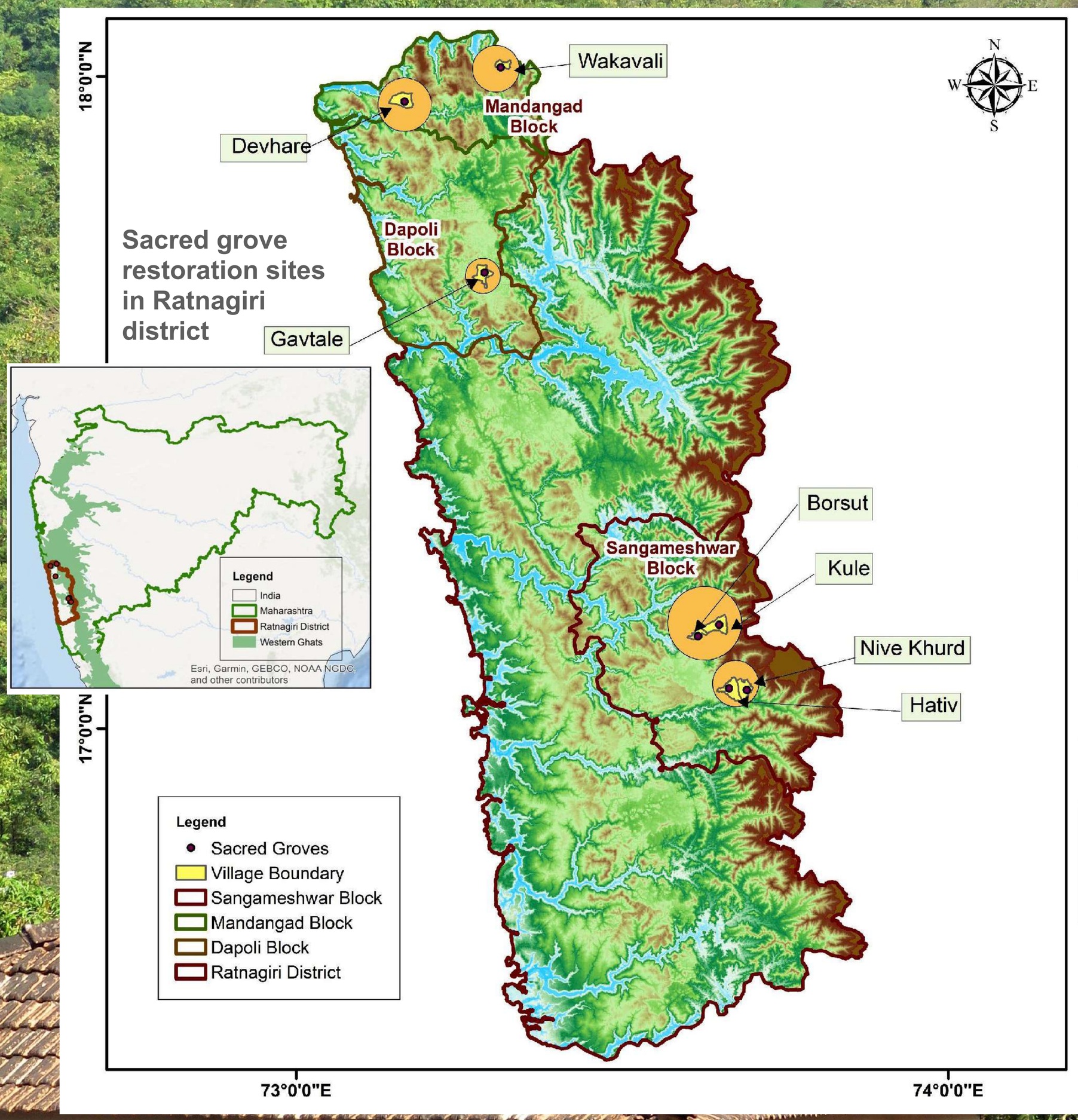
These findings emphasize the importance of Bhagwadi's mangroves as a habitat for diverse avian species, reinforcing the need for continued monitoring and conservation efforts. Such discoveries not only enrich our understanding of local biodiversity but also underscore the significance of preserving these ecosystems for future generations.










Sacred grove restoration sites in Ratnagiri district
Wakavali
Mandangad Block
Devhare
Dapoli Block
Gavtale
Borsut
Kule
Sangameshwar Block
Nive Khurd
Hativ
N
W
E
S
18°0'0"N
17°0'0"N
73°0'0"E
74°0'0"E
Legend
Sacred Groves
Village Boundary
Sangameshwar Block
Mandangad Block
Dapoli Block
Ratnagiri District
Legend
India
Maharashtra
Ratnagiri District
Western Ghats
Esri, Garmin, GEBCO, NOAA NGDC and other contributors

03

CONSERVATION AND RESTORATION OF SACRED GROVES



In partnership with

WORLD LAND TRUST

CHANDRA FOUNDATION

Sacred groves are traditional conservation practice prevalent in the Western Ghats. With the advent of development and modernization, there are many threats that these heritage ecosystems are facing.These age old forests dedicated to deities are deteriorating due to loss of faith and loss of knowledge among local people. AERF has been working for ensuring conservation of both - old growth forests as well as culture and traditions maintaining them for last 29 years. These old growth forests are repositories of last surviving biodiversity and many life-giving streams originate from these sacred groves, which directly nourish the countless flora and fauna species inhabiting these forests. However, due to degradation over the years, these water sources within the sacred groves have dissipated or have been destroyed completely. This degradation of water sources and the forest within the grove has far-reaching effects on people and surrounding environment. Restoring these water sources is a labour intensive task, but a critical one at that!

For long term conservation and restoration, team AERF painstakingly developed management plans for 20 sacred groves in the northern Western Ghats with community participation and involvement. Restoration of ponds in the sacred groves has been an important activity throughout 2023 and we could get remarkable results. As heartening images of a pangolin and a sambar drinking out of these ponds unfolded in our camera traps, we were newly inspired by the graciousness of the sacred groves.

Lets have a look at our achievements for sacred groves conservation in 2023…

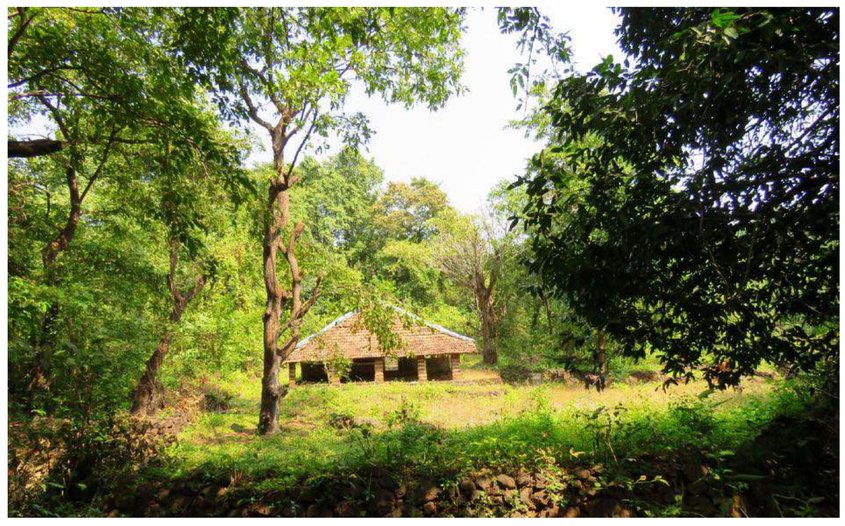


RESTORING **ECOSYSTEM SERVICES** IN DEGRADED SACRED GROVES OF THE WESTERN GHATS

AERF's sacred grove restoration work, in partnership with ATECF, completed its second year in 2023. In our mission to revive sacred groves, AERF's restoration endeavours encompass a multifaceted approach, targeting the root causes of degradation while promoting ecosystem resilience. Our restoration activities include: removal of invasive climbers and shrubs which choke the canopies and impede the growth of native vegetation; plantation of native species; constructing fences and fire lines to prevent grazing and forest fires; and awareness generation.

Through the removal of invasive climbers, we were able to facilitate the resurgence of indigenous flora. **More than 2000 trees in Kule sacred grove were freed from overbearing climbers and have now spread their canopies.** This targeted approach has alleviated competition for resources and also fostered conditions conducive to the natural regeneration of saplings of native, rare, endemic and threatened species, replacing the invasive growth. Plantations **of economically valuable native species in degraded parts of the sacred groves to restore the plant community further contribute to restoration process. In the past year, we've planted 2969 seedlings in six sacred groves in Ratnagiri district.** This plantation not only bolsters biodiversity but also holds promise for sustainable livelihoods of the local communities.









ACTION













IMPACT



Sacred groves are providers of critical ecosystem services such as clean drinking water, but the ponds within the forests have dried up due to disuse. **In 2023, we revitalized previously desiccated water bodies, reinstating crucial habitats and water resources. This was completed successfully in Kule and Devhare Sacred grove and initiated in Vakavli and Gavtale sacred groves as well**. This not only replenishes vital water sources but also reinvigorates the aquatic ecosystem, supporting a myriad of flora and fauna. Encouragingly, our efforts have facilitated the return of avian species, **with sightings of Indian and White-rumped Vultures expanding their known range in these sacred groves.** The resurgence of keystone species, such as the Great Hornbill, underscores the positive ecological trajectory of our management activities. These birds play a pivotal role in seed dispersal, contributing to forest regeneration and resilience.

By addressing the underlying drivers of degradation and implementing targeted interventions, we're not only preserving sacred groves but also nurturing thriving ecosystems.



PRESERVING SACRED GROVES AND **EMPOWERING COMMUNITIES** THROUGH NON-TIMBER FOREST PRODUCTS

At Applied Environmental Research Foundation (AERF), we recognize the vital role that Non-Timber Forest Produce (NTFPs) play in the long-term preservation of sacred groves. These ancient forests, revered for their ecological significance and cultural heritage, are facing increasing pressures from changing value systems and anthropogenic activities. However, through our focus on NTFPs, we have found a pathway towards both conserving these invaluable ecosystems and empowering local communities.

Along with biodiversity surveys, our team has recorded economically valuable native plants present in the sacred groves such as *Terminalia bellirica, Mangifera indica (*wild variety*), Syzygium cumini, Garcinia indica, Carissa congesta, and Embelia tsjeriam-cottam*. Despite the abundance of potential NTFP, the lack of market and the ambiguity regarding using Sacred groves' resources has limited their potential to become a stable livelihood.

We have included sustainable harvesting of NTFPs as an important intervention in the management plans drafted by us for the 20 sacred groves out of the 52 groves that we surveyed last year. Building the capacity of the community in this regard was a high-priority task. In 2023, AERF organized 2 large-scale capacity-building workshops, focusing on topics such as sustainable practices, biodiversity conservation, and the utilization of NTFPs. We hosted almost 70 participants from 30 villages in Lanja block, and about 50 participants form 10 villages in Sangameshwar block. These workshops empowered community members with the necessary skills and knowledge to actively participate in conservation efforts. Moreover, cross-site educational visits were arranged within AERF's conservation sites and green enterprise sites, exposing over 65 community members to successful conservation-based livelihood models and quelling their apprehension along with answering their practical queries. Our green enterprises based on resources from forests as well as sacred groves have successfully demonstrated the possibilities of linking conservation and livelihoods and scaling it up.







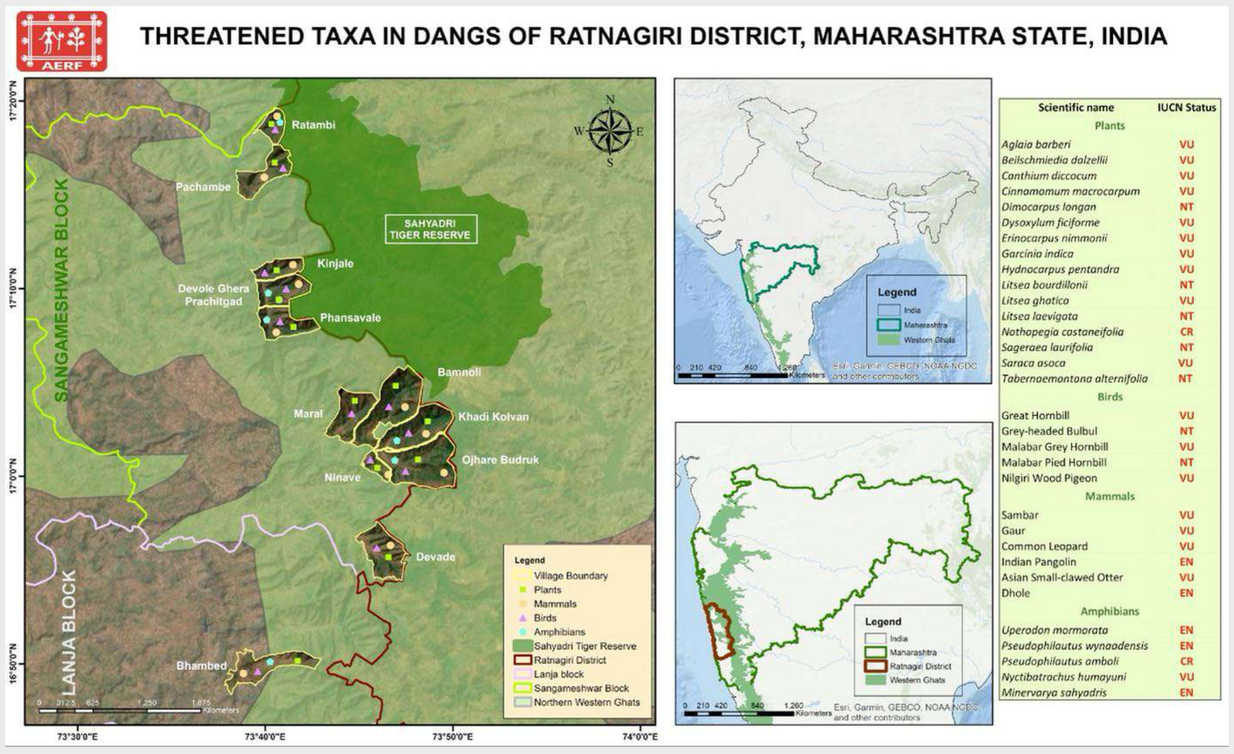
ENSURING LONG-TERM **CONSERVATION OF THREATENED SPECIES** IN THE **DANGS** OF SAHYADRIS

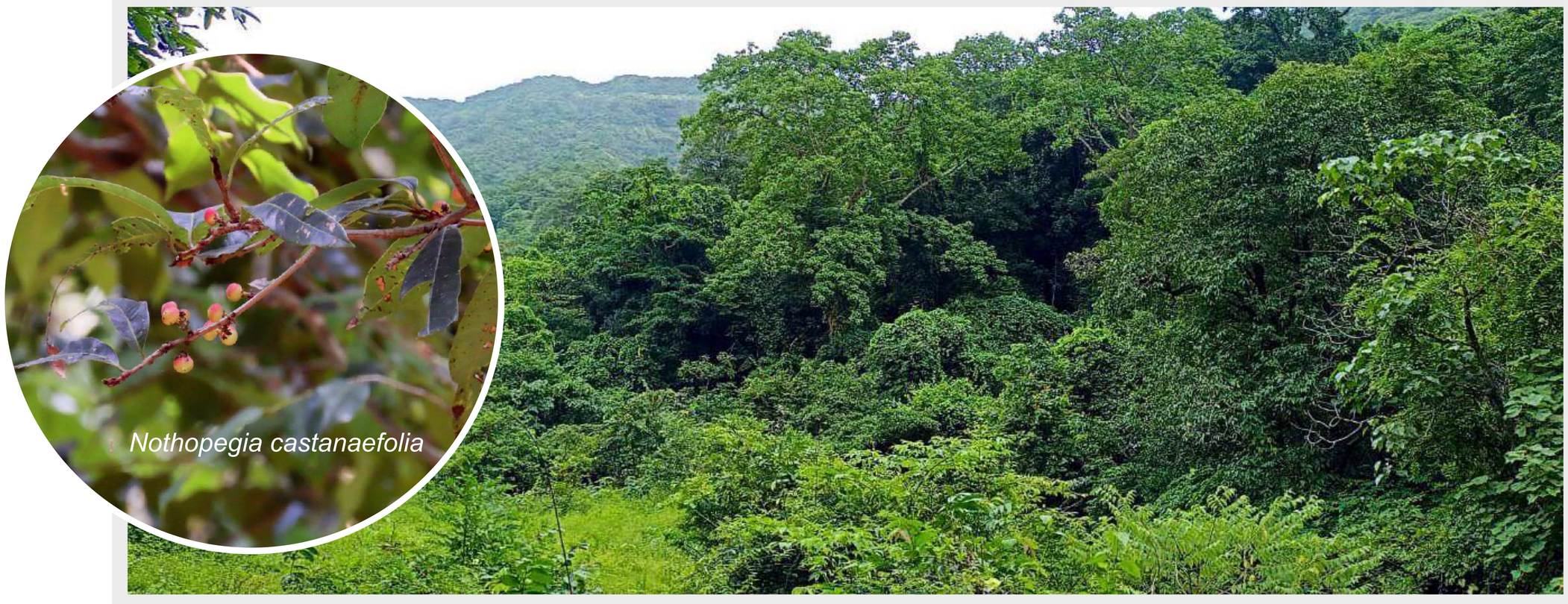
‘Dangs’ are undisturbed patches of forest, that are vital sanctuaries for biodiversity - especially rare and endangered species due to their remote locations. What sets them apart from sacred groves is that they do not have a formal temple or deities. In fact, these forest patches are far away from settlements and yet have been part of the culture and conservation ethos of the local community.

Despite their resilience, the Dangs face ecological threats from clear-felling and degradation in their surroundings. forest. Recognizing the importance of preserving these ecosystems, AERF has focused on safeguarding the connectivity between the Dangs and adjacent forests to ensure the survival of endangered species such as *Sageraea laurifolia, Drypetes venusta, Nothopegia castanaefolia, and Chukrasia tabularis*.

With support from the National Geographic Society, USA, we've made significant strides this year. We secured 90 acres of critical forest areas surrounding two Dangs in Bhambed village, Lanja block, through conservation agreements.







Nothopegia castanaefolia



DOCUMENTING AND CONSERVING **TRADITIONAL KNOWLEDGE** ON **SACRED GROVES**

AERF's foray into the world of forest conservation was through exploring the sacred groves of the northern western ghats, which are a rich traditional system of forest conservation. This was in the year 1995 and since then, **we have rediscovered and studied more than 500 sacred groves or 'devarahatis' in this open access landscape.** Now, almost 3 decades later, we have been able to compile this information with support from World Land Trust, UK. This year we finished working on the **first volume of 'Sacred groves of Ratnagiri - a rare insight into the unknown gems of the Northern Western Ghats.'** We were fortunate enough to host the Director of Conservation at WLT - Dr. Richard Cuthbert, and Conservation Programme Officer Ms. Gwynne Braidwood at our conservation sites in Sangameshwar in March 2023 and hand them the first few copies of this publication.

On the other hand, while working towards collaborative management of the 52 sacred groves surveyed by us in 2022, we began work on drafting the detailed management plans in consultation with the local community and gram panchayat for every sacred grove. Herculean as this may sound, we are glad to report that we have successfully drafted 20 management plans in the year 2023. Each sacred grove management plan documents the essential details of the temple and the surrounding forest with a list of flora and faunal biodiversity documented therein. It goes further to list down the risks and threats encountered by the sacred grove and then a detailed plan to mitigate those risks through conservation and restoration measures. The local community was very supportive in the entire process and was pleased to have a handy booklet to refer to while carrying out the on-ground interventions along with us.



Director of Conservation at WLT Mr. Richard Cuthbert and Conservation Officer Gwynne Braidwood visited Gavtale sacred grove in Feb 2023 to see the restoration work carried out by AERF team


॥श्री॥
कदम घराण्यातील वडिलोपार्जीत
समाध्यांचा जिर्णोध्दार
अर्जुन बाबाजी कदम
(पोलीस पाटील)
सन १९५६

In partnership with LTIMindtree Apple Inc.

ECO-CHULLHAS

MAKING COOKING CLIMATE-SMART ONE RURAL KITCHEN AT A TIME

Food, air, water are all essential building blocks of life. It is unfortunate when they come at loggerheads with each other and man has to prioritise between them. It is a battle set up for loss. The basis of our programme 'Cooking should not kill forests' is that we are removing the dichotomy of preparing food and cutting life-giving trees for cooking it. The means of doing this is through our Improved Cookstove (ICS / Biostove / Eco-chullhas) - which uses **less fuel wood more efficiently to emit less smoke and ensure the health of the forests as well as the person preparing the food!**

Furthermore, this initiative is linked to **'net-zero' goals of our project partners - LTIMindtree** and in 2023 we have rapidly progressed towards our goal of registering our Eco-chullha with **Gold Standard for generating Carbon Credits**. We have completed community processes, capacity building workshops and technological advancements required to get these stoves certified according to Gold Standard protocols. This project will be the first from Northern Western Ghats to be registered with Gold Standard®



In May 2023, we held a 'Stakeholder consultation meeting' in Sangameshwar where about 100 recipients of the improved cookstove from 15 villages participated to discuss the project's environmental as well as social benefits. We also discussed the registration of the eco-chullha under the Gold Standard protocol for generating carbon credits and answered questions from the enthusiastic community as they pondered over the far-reaching environmental impact of adopting this simple change in their kitchens!

Controlled Cooking Test (CCT) results:

***51%** Reduction in specific fuel consumption

***31%** Reduction in cooking time





3342 Eco-chullhas Distributed





151 Villages



16710 Beneficiaries





CO_2

8499

Tonnes of Carbon reduced per year



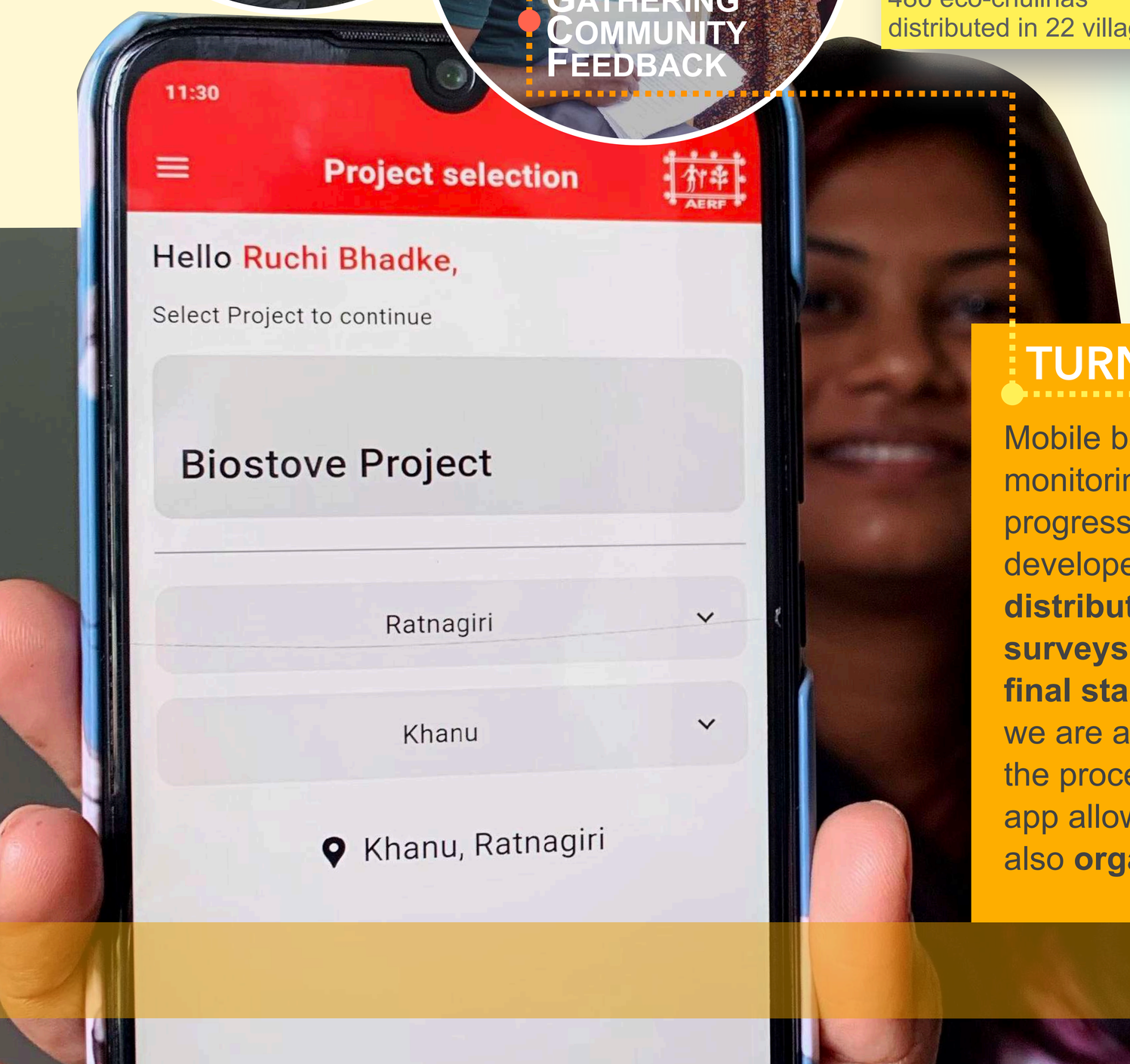
INVENTORY MANAGEMENT ACROSS SITES

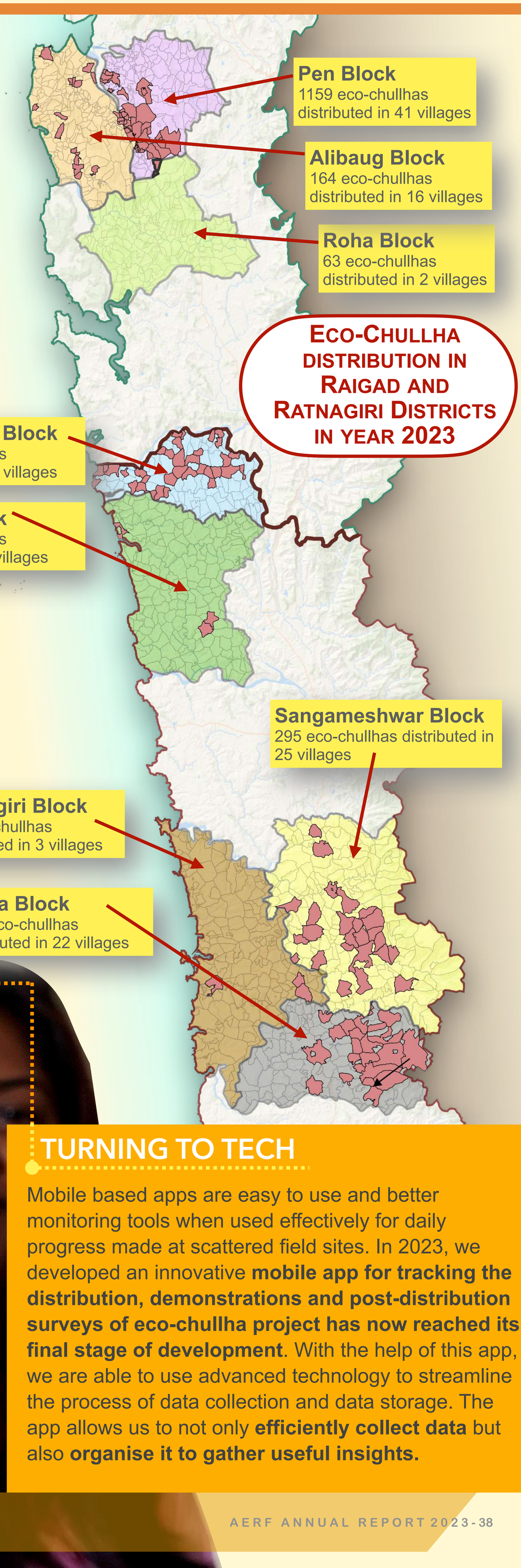


PRE AND POST-DISTRIBUTION SURVEYS



GATHERING COMMUNITY FEEDBACK





ECO-CHULLHA DISTRIBUTION IN RAIGAD AND RATNAGIRI DISTRICTS IN YEAR 2023

TURNING TO TECH

Mobile based apps are easy to use and better monitoring tools when used effectively for daily progress made at scattered field sites. In 2023, we developed an innovative **mobile app for tracking the distribution, demonstrations and post-distribution surveys of eco-chullha project has now reached its final stage of development**. With the help of this app, we are able to use advanced technology to streamline the process of data collection and data storage. The app allows us to not only **efficiently collect data** but also **organise it to gather useful insights.**



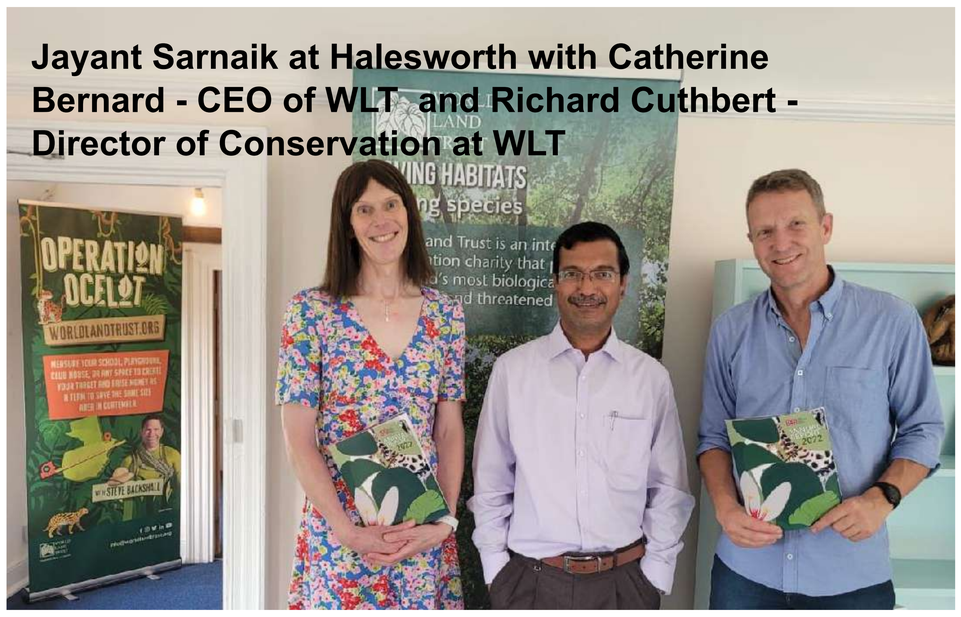
TAKING THE CAUSE OF FOREST CONSERVATION AND RESTORATION **BEYOND BORDERS**



AERF'S Director Dr. Archana Godbole with Viv Burton - Founder of World Land Trust at WLT's Partners' Meet in Cambridge, UK.



AERF'S Joint Director Mr. Jayant Sarnaik in Edinburgh with Andrew Heald - noted consultant on sustainable plantations and forestry



Jayant Sarnaik at Halesworth with Catherine Bernard - CEO of WLT and Richard Cuthbert - Director of Conservation at WLT

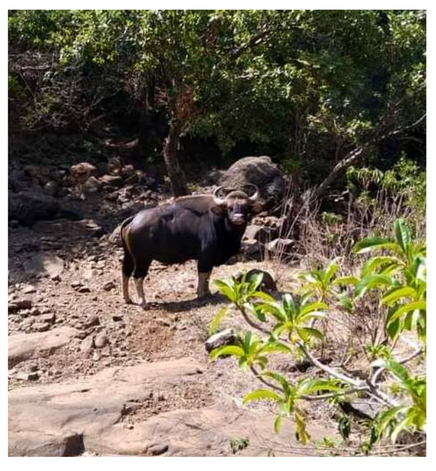


Jayant Sarnaik at RSB Transition Leaders Forum held in Singapore in May 2023

We hosted a very successful **10th Earth Expeditions India course** based on the theme of 'Species, Deities and Communities'. Even though the Western Ghats faced a delay in monsoon due to the effects of the cyclone *Biparjoy*, it set the stage for a discussion around climate change and a first-hand experience of its impact on the local forest-dependant communities. However, nature compensated with breathtaking sightings of species like the **Indian Dot Frog, Indian Gaur, Malabar Pied Hornbill and the Malabar Pit Viper** amongst many others! The students of this EE group learnt about AERF's conservation initiatives and enjoyed their visit to sacred groves, interactions with local communities, participation in sacred grove restoration, and observing the wonderful biodiversity of the Northern Western Ghats. Through their excellent presentations, **it was clear that immersive learning is critical for getting insight into complex topics like community-based conservation.**

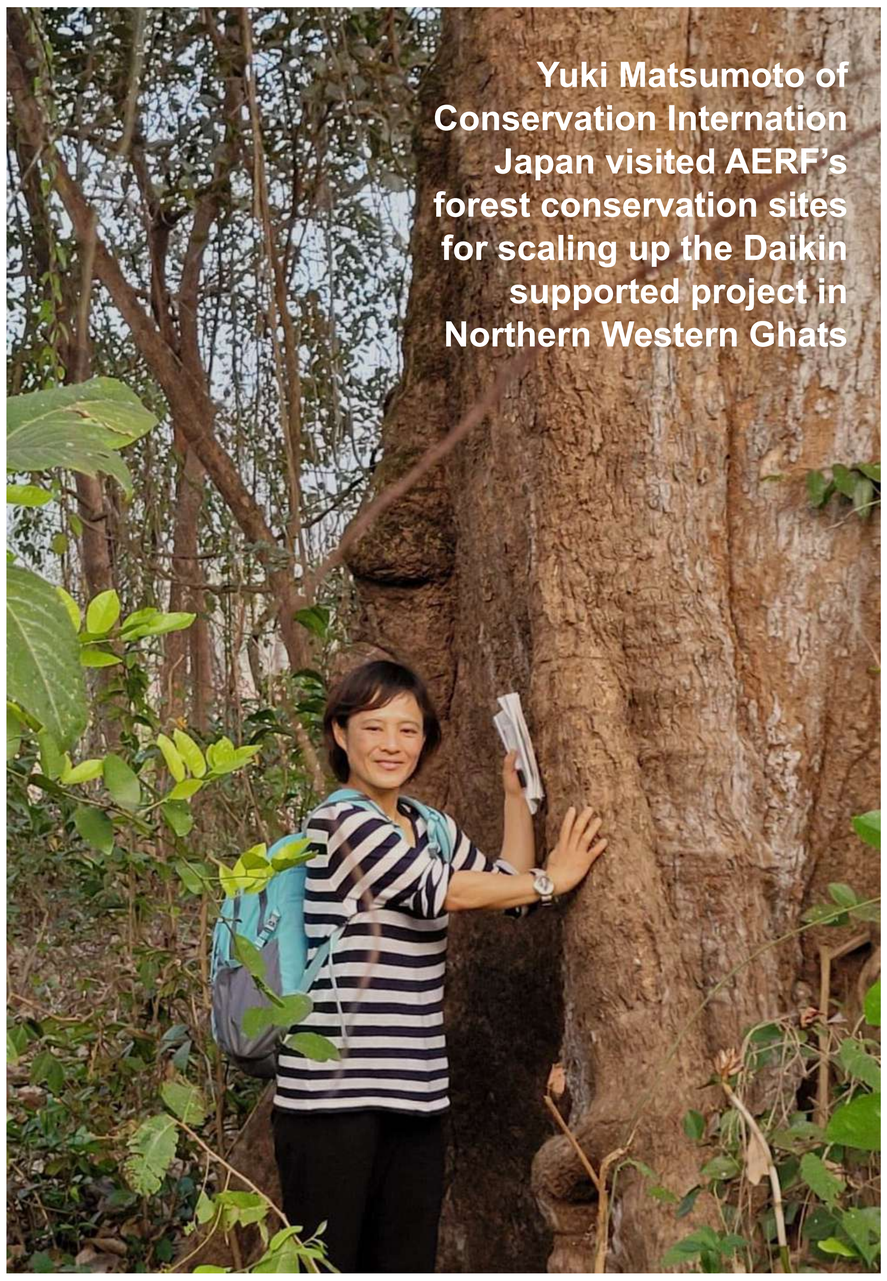








Dr. Archana Godbole and Mr Jayant Sarnaik at Apple India office in Delhi to discuss the apple supported project with Chris Busch - Director of Environmental Initiatives at Apple , Lauren Casey - Manager of Climate change mitigation and adaptation initiatives at Apple, and Poonam Kaur - Lead Strategic engagements and environmental initiatives at Apple.



Yuki Matsumoto of Conservation Internation Japan visited AERF's forest conservation sites for scaling up the Daikin supported project in Northern Western Ghats



Mr Jayant Sarnaik with FairWild Foundation CEO Deborah Vories in London in September 2023



AERF team on a visit to the mangroves on east coast of India for forging partnerships with private sector and academic institutions.



Dr. Archana Godbole and Mr. Jayant Sarnaik with the legendary environmentalist Mr. Ajit 'Papa' Patil at his residence in Sangli in 2023.

Papa Patil has been supporting our cause silently for a long time and was one of the first sponsors of the 'My Forest' programme. His love for our work and our approach to conservation continued to grow and we felt lucky to have spent time with him last year and gain new hope and inspiration for our work. Unfortunately he passed away in December of 2023. We will always remember him fondly at AERF and his support will be sorely missed as we take the cause ahead…



OUR TEAM

Dr. Archana Godbole *Director*
Mr. Jayant Sarnaik *Joint Director*
Mr. Nilesh Bhujbal *Sr. Accounts Officer*
Mr. Bhalchandra Wadke *Administrative Officer*
Mr. Devendra Saralkar *Legal Advisor*
Ms. Prajkta Damle *Jr. Accounts Officer*
Ms. Soniya Narbekar *Jr. Accounts Officer*
Mr. Hasit Trivedi *Programme In-charge*
Mr. Suhas Ghate *Programme In-charge*
Ms. Suchitra Naidu *Communications Manager*
Ms. Sangeeta Pandit *Consultant*
Mr. Kajal Barman *GIS Analyst*
Ms. Tejaswini Adhav *GIS Analyst*
Mr. Omkar Pai *Field Coordinator - Alibaug and Bhimashankar*
Mr. Abhishek Nangare *Field Coordinator - Talmachi*
Ms. Nidhi Rawat *Certification Officer*
Ms. Nandana Chaudhari *Communications Assistant*
Ms. Yogyata Sharma *Communications Assistant*
Mr. Rajeev Rahate *Administrative Assistant*
Mr. Omkar Bambarkar *Administrative Assistant*
Mr. Sameer Thakar *Driver*
Mr. Navnath Jagtap *Driver*
Mr. Ganesh Shedage *Driver*
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Mr. Bhavik Patil *Resource Person*
Mr. Sushant Misal *Resource Person*
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Ms. Chaitali Patil *Field Researcher*
Ms. Twinkle Sathish *Field Researcher*
Ms. Trupti Kale *Field Researcher*
Mr. Shrish Vashishth *Field Researcher*
Mr. Swapnil Chakraborty *Field Researcher*
Mr. Chinmay Mankar *Field Researcher*
Mr. Siddharth Birmal *Field Researcher*
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Mr. Pankaj Bhure *Social Business Officer*
Mr. Rahul Kumar *Team lead - biodiversity*
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Mr. Pramod Hatwar *Field Assistant*
Mr. Pooja Sonloi *Resource Person*
Mr. Dhanu Bahekar *Resource Person*

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Mr. Dnyaneshwar Sabale *Field Assistant*

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OUR ADVISORS



Mr. Sanjay Upadhyay, Advocate, Supreme Court of India, is the founder and managing partner of the India's first environmental law firm, Enviro Legal Defence Firm. He also established the charitable arm of the Law firm through the Environment Law and Development Foundation. Mr. Upadhyay has over 20 years of experience in environmental law and is an advocate at the Supreme Court of India - the Apex body for legal matter in India. He has substantial experience in rules and regulation related to forest governance and is currently member of the committee formed by the Government of India to study the regulatory regime related to felling of trees grown on private lands in India. He has served as an environmental and development law expert to most well known International, multilateral, national and state institutions. He has been part of Drafting Committees of several forest, wildlife and biodiversity related legislations both at the national and state level.



Dr. Eduard Niesten earned his Ph.D. in Applied Economics from Stanford University in 1998. His work and research concentrate on comparing the effectiveness of different conservation approaches, with a particular interest in direct incentives and sustainable finance. He currently leads financial planning, cost modeling, business planning and benefits sharing at EcoAdvisors. He previously spent 14 years at Conservation International as Senior Director of Conservation International's Conservation Stewards Program where he oversaw a portfolio of more than 50 projects around the globe that pursue compensation-based conservation with local communities in developing countries. Strategies for ensuring long-term viability of these initiatives include dedicated trust funds, targeted government programs for conservation and poverty alleviation, and sustainable nature-based enterprise.



Dr. S. Natesh is a recipient of the 'Biospectrum Lifetime Achievement Award (2012) for his contribution towards taking the Indian Biosciences sector to new heights. During his tenure at the Dept. of Biotechnology (DBT) of the Government of India, he headed several divisions and built robust international collaborations for DBT whilst also leading a campaign to bring overseas Indian bio-scientists back to India! He is currently a Sr. Consultant and Project Coordinator at the DST Centre for Policy Research at IIT-Delhi and will soon be coming out with his book on the iconic trees of India.



Dr. Jean Phillipe Puyravaud
A well known ecologist contributed to understand vegetation patterns and peculiar species from various regions in the Southern Western Ghats. He is a rare combination of a researcher and a conservation practitioner.



Dr. Mark Lethbridge has research interests in wine quality detection using active optical instruments, wine yield estimation, chain of supply issues in agriculture, vegetation condition monitoring using field and remote sensing, optimization algorithms, decision support tools in production and natural resource management and ecological, movement and spatial modelling. Together with Dr Micheal Westphal, he developed OPRAH, a landscape restoration prioritization algorithm used in NRM. Dr Lethbridge has 15 years of field biology experience in radio tracking, mark recapture and mark resighting and has undertaken everything from small mammal pitfall trapping to medium-sized mammal treadle trapping to perfecting camel immobilization techniques with Dr Wayne Boardman. He is currently developing new and innovative ways to capture species vital rate and population growth rate data remotely using camera traps and improved aerial survey techniques.

Dr. James Danoff Burg is the Director and Founder of Big Sky Consulting and is dedicated to providing creative, science-based conservation and education solutions for NGOs, zoos, and aquariums. His twenty years in grant writing, strategic planning, evaluation, community-based conservation, biodiversity surveys, curriculum creation, and public outreach help him to be a global leader in conservation, education, and strategy. Dr. Danoff-Burg's graduate training focused on insect and marine invertebrate conservation evolution and ecology. For the past two decades, his research, teaching, and conservation implementation actions have focused on reducing the negative effects of human activities on biodiversity through conservation education

Dr. Alan Hamilton, PhD, ScD, FLS, has been in the field of professional conservation and has also worked as university lecturer in the UK and Uganda for many years. His research specialty is the history of climate, forests and land use in central Africa. He was a founder of the People and Plants Initiative, a joint programme of WWF, UNESCO and the Royal Botanic Gardens Kew, designed to raise global capacity in applied ethnobotany . In 2009, Alan was made an Honorary Professor in the Kunming Institute of Botany, Chinese Academy of Sciences in recognition of his collaboration on conservation with Chinese scientists.

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ground since
1995

Applied
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ENGAGE WITH US

to save the
Northern Western Ghats

BUILD YOUR CONSERVATION CAPACITY WITH US

Volunteer

Intern with us

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Applied Environmental Research Foundation

C 36, Krishnarjun, Madhavbaug Co-op
Hsg. Society, Shivtirthanagar, Paud Road,
Kothrud, Pune - 411038

info@aerfindia.org
www.aerfindia.org
www.myforest.co.in
www.natureconnectindia.com