

Restoring Natural Ecologies

13th -15th September 2022

 Mehrangarh fort, Jodhpur

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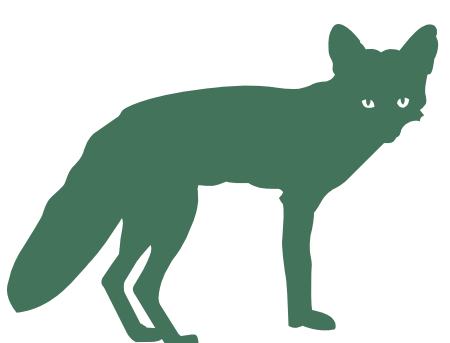


Day 1-

Tuesday, 13th September 2022

at Chokhelao

	Time	Topic	Speaker/Lead
Field Visit	6:30 - 8:30 am	Walk through Rao Jodha Park	Pradip Krishen
Introductions	10:00 - 10:15 am	Welcome and Introduction to ERA	Arjun Singh
	10:15- 11:00 am	Looking back 10 years from now at where we were and what might have gone wrong (or at least what might have not gone terribly right)!	Pradip Krishen
	11:00 - 12:15 pm	Who's who? Getting to know each other 1 minute for everyone- Name? Where are they based? A challenge they are facing within their work related to ecological restoration.	Arjun Singh
Praxis	12:15 - 1:00 pm	Rainforest Etiquette	Suprabha Seshan
	1:00 - 2:00 pm	Lunch	
History	2:00 - 2:45 pm	History of Indian Landscapes the last 12000 years	Paul Blanchflower
Arid ecologies	2:45 - 3:30 pm	Genomics and metagenomics for guided conservation and restoration of the Thar ecoregion	Dr. Mitali Mukerji
	3:30 - 4:15 pm	Understanding the molecular designs for desert adaptation from keystone plant species of the Thar	Dr. Ayan Sadhukan
	4:15 - 4:45 pm	Tea break	
	4:45 - 5:30 pm	Teeming with microbial life: The so-called waste lands of the Thar ecoregion	Dr. Shankar Manoharan
	5:30 pm	Closing remarks and schedule for Day 2	



Day 2- Wednesday, 14th September 2022 at Chokhelao



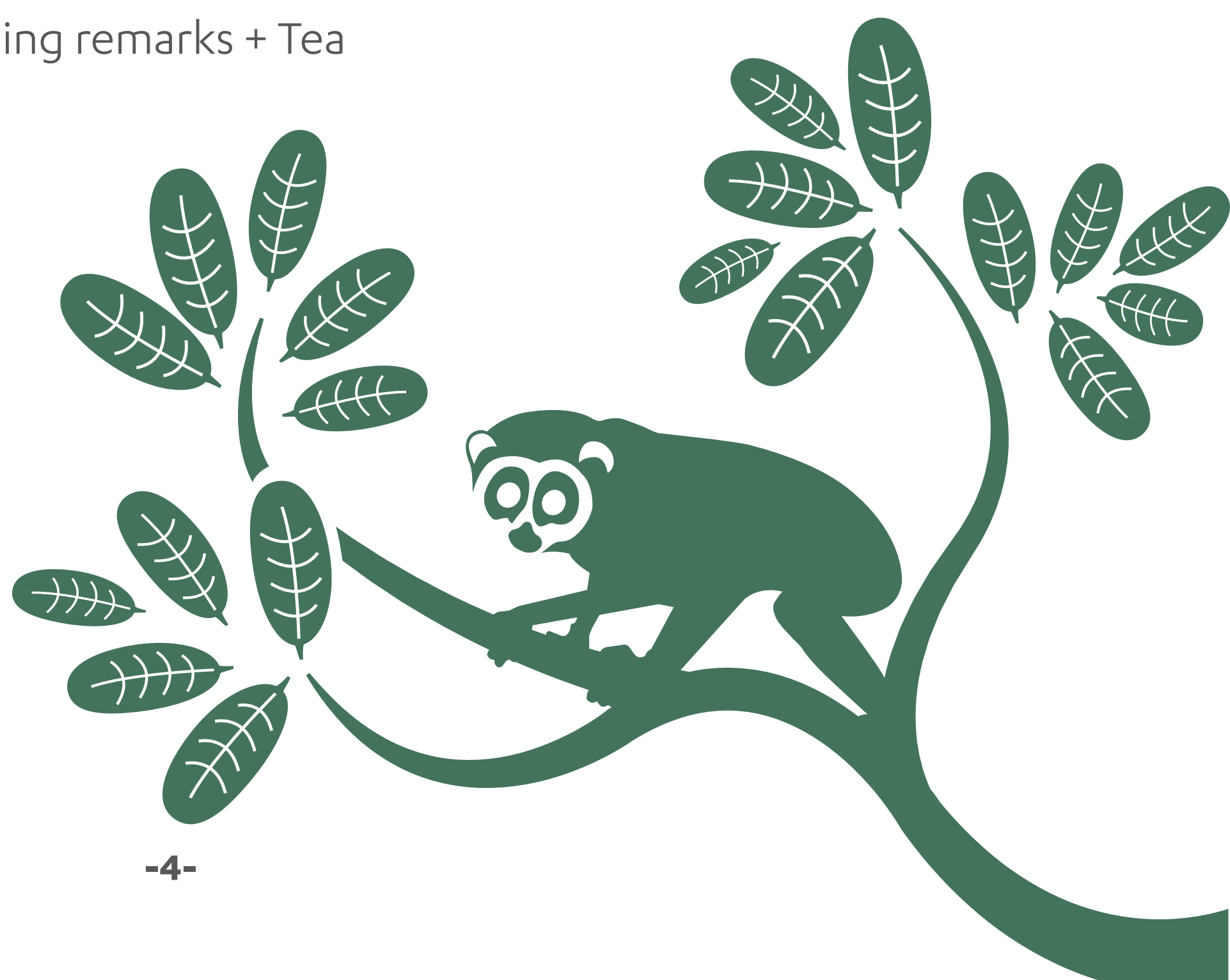
	Time	Topic	Speaker/Lead
Field Trip	6:00 - 8:30 am	Visit to the Zenana Gardens (about 8 kms distant from the Fort)	Somil Daga, Pradip Krishen
	10:30 - 11:30 am	Grasses over the ages	Pranay Lal
	11:30 - 12:00 pm	Break	
Restoration in urban or highly degraded areas	12:00 - 12:45 pm	Assessing ecosystem functions and services of restoration sites as a strategy for long term engagement	Anita Varghese
	12:45 - 1:45 pm	Lunch	
	1:45 - 2:30 pm	10-10 Designing landscapes using principles of ecological restoration	Ketaki Ghate, Manasi Karandikar, Suprabha Seshan
			Facilitator: Somil Daga
	2:30 - 3:30 pm	15-15-15 Restoration in urban or highly degraded areas	Arun V, Kaustubh Moghe, Paul Blanchflower
			Facilitator: Fazal Rashid
	3:30- 4:00 pm	Open discussion: Restoration in urban areas, involving forest department, development authorities and citizens	
Policy	4:00 - 4:45 pm	Break + Tea	
	4:45 - 5:30 pm	Open Natural Ecosystems and Influencing Policy for ecological restoration	Abi Tamim Vanak
	5:30 pm	Closing remarks and schedule for Day 3	
	8:30 pm	Dinner hosted by ERA + Music	



Day 3- Thursday, 15th September 2022 at Chokhelao



	Time	Topic	Speaker/Lead
Community Engagement	9:30 - 10:30 am	10-10-10-10-10 Working with communities in conservation and restoration	Manisha Kairaly, Siddharth Rao, Aparajita Datta, Rita Banerji, Upasana Ganguly,
	10:30 - 11:00 pm	Open discussion: Working with communities in conservation and restoration	Facilitator: Suprabha Seshan
	11:15 - 12:15 pm	Break & tea	
Certifications	12:15 - 1:00 pm	Discussion: Standards and certifications for ecological restoration	Paul Blanchflower
	1:00 - 2:00 pm	Lunch	
Restoration monitoring and approaches	2:00 - 2:45 pm	Approaches, ideas and methods for restoration and monitoring	Anand Osuri
	2:45 - 3:30 pm	Experiences with using technology for restoration and where it can help in the Indian context	Gautham Ramachandra
Funding Restoration	3:30 - 4:30 pm	Funders perspective on Ecological Restoration	Sameer Shisodia, Rushikesh Chavan, Gautam John
	4:30 - 5:00 pm	Closing remarks + Tea	Facilitator: Kshama Bhat



Day 1- Tuesday, 13th September 2022

10:15- 11:00 am **Looking back 10 years from now at where we were and what might have gone wrong (or at least what might have not gone terribly right!) | Pradip Krishen**

My intention is to anticipate some of the things that could possibly go wrong in our endeavours, and to speak about them and address those issues in the hope that they'll hop out of the way when our bandwagon come trundling along (if only because we've anticipated them)

12:15 - 1:00 pm **Rainforest Etiquette | Suprabha Seshan**

How essential is culture to the survival of nature? From my home base in western Wayanad I try to understand the behaviour of a biome, through its human and nonhuman cultures. I've found that using verbs instead of nouns, can be a creative way to understand behaviour, and also to recover health. Piggybackriding is part of the local etiquette, as well as impossibly diverse creatures huddling in interbeing. Some behaviours enhance diversity and resilience, others kill. What once was a dangerously denuding terrain is more a perennial polyculture now, blurring boundaries with the old forest. Attending to all stakeholders, be they human or nonhuman, endemic, regional or pantropical, inspires economic and ecological possibilities. In particular, working with the breadth of plant life-forms and cultures can help advance this biome.

Rainforest plant life-forms include giant herbs, epiphytes and epiphylls, tree ferns, tuberous perennials, saprophytes and parasites, woody climbers and graminoids, as well as dicotyledonous trees. Human cultural forms include: foragers and gatherers, hunters, planters, pastoralists, horticulturists, hobbyists and conservationists, all creating myriads of perennial polycultures, which are, of course, climate driven.

Can nature and culture support each other and revive together? Revival, sustainability and destruction are outcomes of specific behaviours. So are intermingling and interbeing.

Who is the arbiter of ecological health and equity, at a landscape level? Since it's the industrial culture's behaviour that's killing the planet, perhaps the behaviour and practices of landbased cultures, along with their corresponding plant and animal milieus can heal it. Rainforest etiquette requires attuning to all these.

2:00 - 2:45 pm **History of Indian Landscapes the last 12000 years | Paul Blanchflower**

To understand the history of the landscape and the impact that human actions have had is important for two reasons. It is important for the restoration practitioner to be aware of what they are attempting to recreate, as many landscapes have had transformative processes occurring hundreds or thousands of years ago, which may significantly shifted the vegetation of the area. Additionally when communicating with the public, it is helpful to have a clear understanding of the historical narrative of the landscape being restored, as many people will be unaware of the previous

forests that might have existed in their areas. There are many threads to the narrative anthropological as well as natural climatic changes over this period. Hopefully in this short introduction and discussion we can share information and perspectives from the different zones we are working in.

2:45 - 3:30 pm

Genomics and metagenomics for guided conservation and restoration of the Thar ecoregion | Dr. Mitali Mukerji

The Thar is a relatively young, but highly populated hot desert characterized by high temperature with large diurnal variations, scanty rainfall, extreme aridity, and intense UV radiations. Such hostile conditions usually drive life forms to their physiological extremes. Along with genetic adaptations, cultural and traditional practices co-evolve in natives for a harmonious co-existence in such harsh environments. The Thar thus provides a large natural laboratory for evolving innovative 'DESIGNS' that ensure adaptation and survival of its constituent species, their interdependencies and the conservation of the entire ecosystem. The Thar today is not only a treasure trove of natural history but also houses an extensive diversity of flora, fauna and native human populations with ancient cultural systems and traditions and rich indigenous knowledge. Understanding these "DESIGNS" (Desert Ecosystem Sciences Guided by Nature and Selection) from the Thar could reveal cues for health and sustenance of the desert ecosystem. These are likely to provide solutions for management of diseases common and endemic to desert regions, novel bioprospecting opportunities and inspire bio-engineering designs. It could also help evolve innovative strategies for ecological conservation and restoration that ensures sustained livelihood for its inhabitants. The Thar DESIGNS initiative aims to conduct an integrated study of the Thar desert ecosystem using technology-enabled aids to create a knowledge grid for the Thar that can not only be used to guide conservation / restoration efforts, but can also be used to build predictive models.

3:30 - 4:15 pm

Understanding the molecular designs for desert adaptation from keystone plant species of the Thar | Dr. Ayan Sadhukan

The extreme conditions in the Thar desert provide an all-around challenge for the survival of plants, which experience a combination of drought, heat, high light intensity, UV stresses, together with tremendous pressure from the dense human and animal populations. Moreover, soil water deficit can influence the availability and transport of nutrients essential for plant growth. Understanding plant tolerance mechanisms to environmental stress in conjunction with the associated soil microbiome, flora, and fauna are of utmost importance to restoring the fragile desert ecosystem. Next-generation sequencing is a powerful approach for exploring and functionally annotating the genomes of valuable plants from deserts for guided ecosystem restoration. We have chosen two keystone desert plants, Phog (*Calligonum polygonoides*) and Khejri (*Prosopis cineraria*), highly tolerant to the extreme Thar conditions, viz. drought, high salt, heat, and nutrient-poor soils. Khejri is an Ayurvedic medicinal tree with multiple uses, while Phog is an endangered plant known for its antibiotic, antifungal, and antioxidant functions and high calorific value. Neither genomes are extensively characterized. These plants are sources of survival of a wide range of species of flora and fauna including humans of the Thar desert. Analysis of the genome of these desert plants will provide insights into adaptations at the DNA level, which result in desert-tolerant phenotypes. In addition to adaptation at the genomic level, beneficial rhizosphere microbes can also contribute to alleviating water-deficit stress in plants and significantly enhancing the availability of nutrients through the exudation of organic acids. Several species of beneficial rhizobacteria can promote plant growth, triggering plant systemic responses and the production of antioxidative enzymes.

Plants under critical environmental stress increase their phosphate solubilization potentials, auxin production, and proline content after inoculation with beneficial rhizobacteria to increase plant biomass production and ameliorate stress effects. This talk will highlight the adaptations in desert plants and their associated microbes, which both hold the keys for stress tolerance of these keystone species.

4:45 - 5:30 pm

Teeming with microbial life: The so-called waste lands of the Thar ecoregion | Dr. Shankar Manoharan

The land use and land cover monitoring division of the department of land resources, Govt. of India classifies 23% of the land in the state of Rajasthan as waste land. This includes land with dense scrub, land with open scrub, underutilized degraded forest dominated by scrub, degraded pastures, semistable sands and barren rocky areas. Among all so-called waste lands, more than 0% is occupied by scrublands. Though these ecosystems are classified as waste lands, they are home to several unique species adapted for survival in this environment. The push for 'utilization' or 'greening' of these lands could spell disaster for species native to this environment. More importantly, an ecological engineer hides in plain sight in these arid scrubland ecosystems and is also threatened by these uninformed land utilization initiatives. Biological soil crusts (BSCs) are prevalent in these arid desert biomes, where conditions are hostile for plants to thrive. Simply defined, it is a crust formed by the concerted activities of a group of microbes. This group primarily consists of photosynthetic cyanobacteria, algae, fungi and bacteria living in a symbiotic community braving the hostile elements of the desert. The polysaccharides produced by the crust inhabitants along with the microbial filaments themselves hold the soil together resulting in the formation of a crust, which protects the dry desert soil from wind / soil erosion. The biological soil crust is considered an ecological engineer as the microbes within perform several key functions critical to the desert ecosystem. Cyanobacteria in the crust can fix atmospheric nitrogen and carbon into the soil. Soil protected by a biological soil crust is also believed to have better texture, water-holding ability and better supports plant life. Research reports also suggest that the crust impedes seed germination of invasive grass species, while permitting germination of seeds of native grasses.

Several international studies have probed the architecture, formation process, importance, functions and microbial community structure of crusts from various ecoregions. Several initiatives have been taken internationally to preserve these BSCs and to restore the BSCs that are damaged. However, not much is known about the BSCs of the Thar ecoregion. In a unique vertical under the Thar DESIGNS initiative of IIT Jodhpur, we aspire to redefine the waste lands by mapping the crust-covered areas in the Thar ecoregion using remote sensing approaches. We also plan on using shotgun metagenomics to analyze the microbial community structure and function of BSCs of the Thar ecoregion. This information will allow the monitoring and preservation of these BSCs. The generated knowledge is also expected to guide policy on greening initiatives, climate change and other anthropological activities that threaten this key desert resource.

Day 2- Wednesday, 14th September 2022

10:30 - 11:00 am **Grasses over the ages** | Pranay Lal

The humble grass may appear small, uniform and almost inconsequential, but it is complex, diverse, and has had a deep impact upon life on Earth. Grasses emerged rather recently on the geological and evolutionary timescale, just around 100 million years or so ago. And yet, since they arrived on the scene, they have colonized every landscape which has exposed soil or rock and has influenced the feeding habits of almost all organisms - from microbes through to the largest mammals. Grasses are vital for restoring soils, hosting a variety of life, enriching diversity, and are crucial to restoring carbon and nutrient balance.

12:00 - 12:45 pm **Assessing ecosystem functions and services of restoration sites as a strategy for long term engagement** | Anita Varghese

Human settlements bordering areas of high biodiversity are on the rise as in the case of hill towns like Kotagiri which are nested within the Nilgiri biosphere reserve. Opportunities for 'tree planting' were turned around to 'planting sholas' or 'saving wetlands', leading to creating awareness on native plants- trees, climbers, grasses and shrubs. The buy in from local residents to participate and nurture the slow growing natives came about when they understood that this will mean an assured flow of clean water and air. In our efforts we started out by identifying common lands and spaces that are not highly managed by the government departments that own them. Conversations with all interested stakeholders to map out the current uses of the land and prioritising their needs and uses of the land parcel we found was an important step, and when time was not given to this process the programs did not sustain. Mapping the ecosystem services and function that will be revived, sustained and protected while undertaking a restoration program within areas of high human use needs to be prioritised to ensure long term sustainability of the effort. Local users need to be involved in the monitoring and recording of the changes effected through the restoration program.

1:45 - 2:30 pm **10-10 Designing landscapes using principles of ecological restoration**

Ketaki Ghate, Manasi Karandikar, Suprabha Seshan; Facilitator: Somil Daga

Oikos employs two kinds of landscape designing methods that when working on projects:

One method is used to design strategy for restoration projects on big land parcels which mostly triggers ecological succession. Sometimes in such a project, design is evolved more for easy education or to assess the success of the project.

The other one is more appropriate for smaller lands which also can be called as Ecological Beautification, wherein habitats are designed to make the area aesthetically pleasing as well as to attract minor wildlife like bees, butterflies and birds. Here, resource friendly and energy friendly concepts are used to minimize carbon footprint.

In both kinds of designing, the existing status of the land, reference ecosystem and profile of future users is considered.

For Suprabha, the approach to design changes significantly when the community lives in the landscape that is being nurtured, conversation is the key method. Usually certain questions arise: Who makes up the community? What are the needs of the community? What are the desires, imperatives, and pressures? What affiliations and obligations are vital? What is the existing landholding pattern, tenure, and access? What is our past and what will be our future?

The same questions deepen when turned to non-humans. Who makes up the wider community? What are the needs of this community? What are the desires.....? What will be our future?

Design through dialogue revitalizes people's inherence in the landscape and supports its own vital powers, both of which are essential to community-based ecological nurturance/restoration.

2:30 - 3:30 pm **15-15-15 Restoration in urban or highly degraded areas**

Arun V, *The Forest Way*

We are hoping to present the story of afforestation of the stand alone Arunachala hill in the middle of the ever growing Thiruvannamalai town with a huge religious significance and heavy footfall since the late 1980's to now. How the ecology has recovered dramatically with tremendous increase in flora and fauna and the resultant changes in rainfall, the hill acting as a catchment area and causing many streams to flow several months every year resulting in an increase in ground water and filled water bodies. Most importantly, a forest has come alive recreating a home for thousands of animals and trees. This has been a magical journey and a touching example of how little nature needs to rebound back. Sharing our learning and joy of having been on the journey for more than two decades.

Rehabilitation of opencast bauxite mines in Northern Western Ghats

Kaustubh Moghe; Project Period: May 2007 to September 2014

M/s Hindalco Ltd. operated 3 captive bauxite mines in Kolhapur district in Maharashtra. These are located in the Western Ghats of Maharashtra which is among 36 biodiversity hotspots across the globe. Hindalco invited Envirosearch team to participate in their mine reclamation and rehabilitation activity. Some of the main objectives of the project were to restore vegetation cover and vegetation diversity, rehabilitation of faunal biodiversity and return the land to productive use. Bauxite mines in this part of the country are associated with high altitude lateritic plateaus. These plateaus have unique geology and ecology. The plateaus with all its attributes form a very unique habitat which supports large numbers of endemic species of flora (ephemeral herbs and fauna (herpeto-fauna and macro-invertebrates)). These plateaus often have sheer cliffs and scarp below has varying gradient, and it has forest cover. Rehabilitation of such mines poses quite a few challenges such as – lack of soil, inert substrate, poor or no drainage, high rainfall and very high velocity wind. After a lot of deliberations with various stakeholders, we decided to follow forest ecosystem model. We studied the forests areas / patches within and outside the lease to establish a reference ecosystem. The substrate in mined out area consists of clay (lithomarge). This has no texture, porosity or nutrients, it is almost inert. Therefore, first challenge was to rejuvenate the substrate that will support vegetation growth. We, therefore, incorporated press mud, baggasse, cow dung manure along with the top soil and tank silt (silt

collected from percolation tanks and dams close to mine lease). We shortlisted some 65-70 species of indigenous shrubs, climbers and trees based on our study. The next challenge was procurement of the shortlisted species which were mostly forest species from the surrounding areas. In the year 2008-09 we set up onsite nursery for propagation indigenous plants. We started with 12 species and by the third year we were growing 48 indigenous species of plants in this nursery. We used to produce approximately 16,000 to 18,000 saplings per annum and used to procure some quantity from the Karnataka Forest Department Nurseries. Every year on an average, we used to take up about 4-5 ha area for rehabilitation at different locations. By the end of the project we had covered about 33.5 or 34 ha area at three different sites. This figure is exclusively for mined out area and does not include overburden dumps that we stabilized using native fast growing shrubs during this period. The project was commissioned to M/s Envirosearch, Pune. The project team consisted of Jayant Kulkarni, Dr. Prachi Mehta, Vivek Gour-Broome and Kaustubh Moghe.

Paul Blanchflower, Auroville Botanicals

To recognize the potential of degraded areas for ecological restoration opens up important resources for future projects, especially if they are associated with industries that are in some way mandated to restore the land they have been profiting from. In certain situations, such as exhausted mines or abandon industrial complexes, a greater number of niches will be found on the site compared with the situation prior to exploitation, and with an imaginative design a high biodiversity index can be achieve on these sites. Additionally the work on these sites can lead to further engagement with the corporate sector, who normally would not consider supporting ecological restoration. So even though the situation is far from perfect, due to the high levels of environment damage done by some of these industries we can see it as a step in the right direction if we are hoping to restore the environment we find ourselves living in.

4:45 - 5:30 pm

Open Natural Ecosystems and Influencing Policy for ecological restoration

Abi Tamim Vanak

Open Natural ecosystems (ONEs) have historically been neglected in India's conservation policies and action plans. This neglect stems from a historical bias which considered non-forest ecosystems as degraded, and therefore wastelands. ONE's are now one of the most threatened biomes in India, due to this policy. Ironically, "Green" action, either in the form of tree plantation or from solar and wind energy are the latest threats to these ecosystems. Reversing this entrenched mindset requires scientific knowledge, advocacy and a broad based support of communities who depend on them for livelihoods. As a first step, we mapped the semi-arid low altitude ONEs of India. Then, we analysed long-term trends in vegetation productivity to determine if a landscape shows signatures of degradation. As restoration becomes a new buzz word with policy makers and civic actors, it is important to ensure that ONEs do not suffer from poorly planned restoration activities, that may do more harm than good. In this talk, we examine some commonly used activities and discuss the pros and cons as applied ONEs.

Day 3- Thursday, 15th September 2022

9:30 - 10:30 am **10-10-10-10-10 Working with communities in conservation and restoration**

Law of the land in the Wild Wild East | Manisha Kairaly, representing The Timbaktu Collective

Post three decades of restoration work done on common lands, what is the future of the Kalpavalli Community Conservation Area?

A majority of the general population thinks of Hyderabad and Tirupati at the mention of Andhra Pradesh. Rolling hills in savannah grasslands is not the typical mental imagery that pops up. Hyderabad's IT centric Cyberabad is considered one of Andhra's most famous success stories. Post the bifurcation in 2014 of Andhra and Telangana, the race continues in proving success after success.

Andhra has since made district wise plans for boosting 'development'. A narrow lens has been used to determine what 'natural resources' are available and various industries planned accordingly.

Timbaktu Collective's work on restoration began in 1990. The experiments in protecting 32 acres were slowly replicated in surrounding villages. Over the years, 7000 acres of contiguous and another 2000 odd acres of common lands have had various activities undertaken to protect and enhance its biodiversity.

However, technically, at the end of the day, the land belongs to the Government. If, and when the ruling party decides on more 'profitable' uses for the land, does the community continue to have any agency to disagree? What measures could we as the NGO in partnership with the community take to address this? Are there any existing models that could help us chart a path to a less uneasy future?

Working alongside communities to engage with the market | Siddharth Rao

Over the past decade, I have worked alongside communities that have been actively engaged in conservation and restoration. During this time, one of the focuses of our work has been to engage with the market and use various market-based tools to support restoration. These approaches have had varying levels of success and failure, most of which have been context specific. I will briefly touch upon a few learnings and our process.

Aparajita Datta, North Eastern Himalaya, NCF

In Arunachal Pradesh, in the Eastern Himalaya, many forest areas are being degraded and lost due to many factors such as past and ongoing logging, resource extraction, conversion to agriculture or for monoculture cash crop plantations. These threats are especially evident in the lower elevation tropical forest areas which are important for large wildlife. Although there is an immense need and potential for restoring degraded forests, the primary challenge lies in the type of governance and ownership of these forests. Many of these degraded areas in the foothills are Reserved Forests, legally under the ownership of the state forest department, while being under use and settlement by local communities. The ambiguity in ownership, use and access results in challenges for non-state actors to participate in and undertake meaningful long-lasting restoration efforts

and establish working partnerships. On the other hand, in forests with clear ownership (such as in Protected Areas or in community forests), restoration efforts are easier to undertake and maintain. I will discuss the challenges, constraints and opportunities in undertaking restoration projects in such areas with local communities and the forest department.

Rita Banerji, Green Hub

Our learning through Green Hub fellows in northeast India, and how one can leverage the power of youth for ecological restoration and community participation.

Upasana Ganguly, WTI

Our work with the Garo and Adi-Mishing Tribes in Garo Hills and East Siang landscapes of Meghalaya and Arunachal Pradesh respectively, is based on an affirmation of their indigenous rights, self-government and community empowerment creating a multi-level impact. This has resulted in not just enhancing wildlife habitat connectivity but also a positive social impact on the communities with regards to their livelihood and lifestyle. Through the talk, we aim to present aspects of the bilateral benefit sharing model we implement with these communities to protect community forest lands, restore degraded forests wherever needed, build capacity of the stakeholders and implement conservation actions which could be a big step towards sustainable environmental protection in the long term.

12:15 - 1:00 pm

Discussion: Standards and certifications for ecological restoration

Paul Blanchflower

As the world wide movement gathers pace to plant trees as a reaction to the increased effects of climate change, there is a need to monitor and certify tree planting programs to ensure they support the conservation of biodiversity rather than contribute to its demise. Botanical Gardens Conservation International (BGCI) an organization that networks botanical gardens across the global has launched such a scheme which is called the "Global Biodiversity Standard". They are working with a wide range of partners in an attempt to raise awareness amongst governments, funders and tree planting programs, so that meaningful tree plantation programs are undertaken. The standard has been launched and at present it is going through testing and trials, to modify and adapt it to the varying conditions found around the world. Auroville Botanical Gardens is the hub for this project in India and SE Asia, and it is hoping to collaborate with as many practitioners in India to certify projects and to train certifiers in the different eco zones. Their current partners include Society for Ecological Restoration, Ecosia, CIFOR, IUCN, SCC, TRAFFIC, and Plan VIVO.

2:00 - 2:45 pm

Approaches, ideas and methods for restoration and monitoring

Anand Osuri, T R Shankar Raman, Divya Mudappa

An overarching goal of ecological restoration is to identify, and perform interventions to overcome barriers that impede natural ecosystem recovery. Practitioners assimilate a rich understanding of barriers and effective mitigation strategies over the course of restoration projects. However, this valuable trove of information often remains poorly documented and inaccessible for wider audiences. We propose in our talk that it is important to remedy this and discuss how coordinated efforts to document, monitor, and evaluate restoration projects can help do so. By exploring relevant case studies, and sharing techniques and tools

for restoration monitoring, we hope to stimulate conversations and networking within ERA-India for expanding monitoring and evaluation within and across restoration projects.

2:45 - 3:30 pm

Experiences with using technology for restoration and where it can help in the Indian context | Gautham Ramachandra

Unmanned aerial vehicles (UAVs) have become increasingly ubiquitous the world over, largely due to their evolution from expensive military technology to affordable civilian technology. This leap has allowed for the application of drones in precision agriculture & forestry, the latter being the newer of the two. In the era of global warming, restoration at scale is the need of the hour. However, this does come with its own set of challenges, especially in India. The where, what and how of restoration requires a detailed examination of biotic and abiotic factors, from start to finish. In this talk, I hope to shed some light on the potential application of drones and other relevant resources to the planning, implementation & monitoring of restoration projects in India.

3:30 - 4:30 pm

Funders perspective on Ecological Restoration

Gautam John, Rohini Nilekani Philanthropies

We came at this work from our conservation and biodiversity side - the possibility of regenerating land was exciting and in ways that honoured local species, encouraged diversity and enabled a resilient and thriving ecosystem. As opposed to plantations. This is a core philosophy of the philanthropy in all we do - unified, not uniform, honour diversity and do not "See Like A State".

Rushikesh Chavan, The Habitats Trust

We are a conservation organisation and funding is a small part of what we do. Our aim is to secure India's ecosystems/habitats and its functionality. We have a programme on securing & restoration led by Robin. What we would like the participants to know is that we are not just a funding organisation, rather, we are interested in looking at synergies in our objectives and looking for potential collaboration.

Sameer Shisodia, Rainmatter Foundation

Rainmatter Foundation is focused on the problem of climate change, but viewed through a lens of ecological restoration and land use and an economy in sync with our ecology. Our tagline, indeed, is "A little more forest everywhere" and we believe that both adaptation as well as mitigation are served well through this.