A NEWSLETTER BY AND FOR THE ANANT FELLOWSHIP FOR CLIMATE ACTION COMMUNITY







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_ancet Countdown 2020

MOHAMMED MOFIZUR RAHMAN

The Lancet Countdown is an international collaboration established to provide an independent, global monitoring system dedicated to tracking the emerging health profile of the changing climate.

This is a landmark report published in December 2020 which comprises five sections related to impact, adaptation, mitigation, economics, finance and political engagement. The report presents 43 indicators and the findings and consensus of the thirty-five leading academic institutions and UN agencies. The results are truly multidisciplinary representations from the natural and social sciences disciplines.

In the year 2015, countries committed to limit global warming to "well below 2°C" as part of the landmark Paris Agreement. Despite all the efforts, global carbon dioxide (CO2) emissions continue to rise steadily and indicators concerning health in all domains (climate change impacts, exposures, and vulnerabilities) are worsening. The health effects of climate change are often unequal, disproportionately impacting populations who have not contributed significantly to the problem such as India.

The discussion on health consequences to climate change goes well beyond the health sector and asks for a deeper question of justice. Climate change interacts with existing social and economic inequalities and exacerbates longstanding, adverse trends within and between countries.

Over the past 20 years, there has been a significant increase in heat-related mortality globally and India is



Urban greenness in capital cities with more than 1 million inhabitants in 2019 Source: The 2020 report of The Lancet Countdown on health and climate change: responding to converging crises

not an exception (31,000 heat-related deaths). In fact, India is ranked in the top five countries in the world in terms of heat-related mortality and sufferings. India will be among one of the worst affected countries, seeing losses of potential labour capacity, which affects the annual gross domestic product (GDP) significantly.

India has the greatest total loss (75 billion working hours lost in the year of 2000 which further rose to 39% in the year of 2019) in terms of labour capacity due to climate change and climatic variability.

Globally premature deaths from ambient PM2.5 attributed to coal use are rapidly declining. However, total deaths from ambient PM2.5 have increased slightly, from 2.95 million deaths in 2015 to 3.01 million deaths in 2018, highlighting the need for accelerated intervention. Air quality remains one of the major concerns for many Indian metropolia such as Delhi. Despite all the effort,

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India's transition to renewables remain insignificant. Indian shares in electricity generation from renewables remained relatively small at 5%. Although Indian National per-capita greenhouse gas emissions from the healthcare sector are quite low, it needs wider attention to improve Healthcare Access and Quality.

As the health impacts of climate change are multiplying, all levels of government need to prioritize building health system resilience to climate change. The public is voicing its concern as individuals, and as members of communities and new social movements, urging for greater ambition from those with power to curb carbon emissions.

The Anant Fellows for Climate Action have a greater role to play in India and beyond in terms of catalyzing the actions to prevent health consequences of climate change while improving human wellbeing. Full report on the link.

Anant Fellow for Climate Action, Elliot, publishes new book





Anant Fellow for Climate Action, Jabir's, waste management company launches 'Waste **Careers Fellowship'**



in trouble. Human Nature is your guide to saving it. In a thoughtful and witty reimagining of environmental rhetoric, Elliot Connor explores how recasting the human character could save our fellow animals. Illustrated with counting toads, gambling monkeys, and Tinder-using rhinos, the narrative sets out to fill the gaps in our ecological IQ and to show how animals make us human." Click <u>here</u> to find out more.

In their words, "The program aims to nurture the Youth to become Waste Management Professionals. Through this program, the selected Fellows will work on-ground activities at our facility, mentorship and active participation in international research projects." Find more out about the first cohort at https://www.instagram.com/p/ CH-eBZxnZY1/



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Arunabha Ghosh

On 23 April, Arunabha published "Beyond negotiated maximum and delivered minimum" in the Financial Express.



On 21 January, Arunabha's Inflexion Points column

engaged with 'The algebra of subsidies' which highlights the issues with poorly designed subsidies that are having a negative impact on India's clean energy potential.

Mohammed Mofizur Rahman

Mohammed Mofizur Rahman was a panelist at Gobeshona's Solar Radiation Modification: Governance Challenges.



of Applied Science

Mahua Acharya

Mahua Acharya, CEO & MD, Convergence Energy Services will be implementing an initiative undertaken by Nilesh Cabral, minister for Power and New & Renewable Energy, Government of Goa that integrates the delivery of renewable decentralised energy with energy-efficient pump sets and LED lamps for rural homes. Mahua said, 'CESL aims to be the driving force behind India's imminent energy transition. It will ramp up areas such as street lighting, domestic lighting, energy-efficient cooking, and e-mobility." Read more here.

Opinion piece

Mahua co-authors an opinion piece for the Financial Express: Indian power sector: Fixing the Plane while Flying it which brought together perspectives from "public, private and philanthropic climate leaders for Emergent's Roundtable on tackling deforestation".



Laurence Tubiana

Laurence wrote an article about the Paris Accord for Project Syndicate. Her piece Getting Back on the Paris

Sumit Arora

Sumit co-wrote an essay that has been published in a book called Crowdsourcing, Constructing and Collaborating. "I am proud to say that my colleagues and I wrote chapter 9 of the book."



Maureen Nandini Mitra

Earth Island Journal editor and Terra Verde host Maureen Nandini Mitra talks with Aaron Weiss about the Capitol riots for KPFA radio. Listen to their conversation here.



Nitij Singh

Congratulations to Aslee on getting selected for Facebook Small Business Grant Programme! Nitij

Chetan Maini

Here is Chetan Maini's conversation with The Times of India about the impact on the EV market with American EV company Tesla to break in soon:

"Chetan Maini, co-founder and vice-chairman of Sun Mobility, which is building a business in electric battery swapping, said the move shows that global companies are seeing potential in India. "the presence impacts the ecosystem, it changes the perception of electric vehicles and if the company exports components, it helps the industry," he said. Read more here.



Elisa Vallette

Our heartiest congratulations to Elisa on graduating with her Master's in Governance, Development and Public Policy from University of Sussex, UK.



Mohit Garg

Mohit organised the 3rd edition of the Abujhmad Peace Marathon in Narayanpur on 20th February 2021. This marathon saw the involvement of nearly ten thousand people, many of whom came from different parts of India.

Climate Track highlights the importance of political leadership in sticking to the Paris Agreement and working towards reducing emissions. She also wrote an opinion piece for CNN about the Paris Agreement.



says, "We feel really thrilled that our efforts to promote a sustainable lifestyle are getting recognised."





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Kicking off Term II with special lectures

The Fellowship's second term was introduced by sessions taken by Anunaya Chaubey and Devdutt Pattanaik. Artist and provost Anant National University, Anunaya Chaubey's session was about an introduction to visual articulations on changing environment since prehistory. He was accompanied by Indian mythologist, Author, Illustrator, Devdutt Pattanaik's lecture on leadership and personal development drawn from certain sects of Hindu mythology.





Devdutt Pattanaik Indian mythologist, management guru, illustrator and renowned author

Our Opinion Editorial column in The Pioneer



Unpacking climate geoengineering

Vinayak Nambiar, Sijo Abraham & Mohammed Mofizur Rahman



Affordable housing & carbon footprint

Ruchie Kothari & Shwetang Monani



Source: Unpacking climate geoengineering | Sunday, 13 December 2020 | The Pioneer

If it works well, it might be able to protect climate-vulnerable regions by keeping temperatures below 1.5°C while the world is decarbonising, write Vinayak Nambiar, Sijo Abraham & Mohammed Mofizur Rahman

Climate change, or more aptly, climate chaos, is arguably one of the major challenges of the 21st century, and is often considered an existential threat to humanity. It leaves no aspect of life untouched, including the economy, environment, health and livelihoods, regardless of which part of the world you reside. <u>Read here</u>.

Source: Affordable housing & carbon footprint | Sunday, 14 March 2021 | The Pioneer

Reduce carbon footprint of affordable housing sector by integrating thermal performance and energy efficiency measures in Pradhan Mantri Awas Yojana, write Ruchie Kothari & Shwetang Monani

Residential buildings accounted for 24% of the total electricity consumption in India in 2016. This total electricity consumption will increase as more housing units are built to meet the estimated demand of 38 million housing units in 2030. <u>Continue reading</u>

Power to the people

NATHANIEL DOLTON-THORNTON | EARTH ISLAND JOURNAL

On a clear spring morning, I drive into the Scottish Highland village of Polbain to meet a man named Iain Muir. His house is easy to find. This charming community on Scotland's northwest coast contains 20 or so homes built along a single-track road. I identify Muir's white garden wall, park my car, and pause to admire the view. Below me, the green hills of the Summer Isles rise from the dark blue Atlantic.

Muir, a tall, middle-aged man, greets me with a steady cadence and leads me into his large-windowed home, where classical music plays on the radio. Trained as a veterinarian, Muir has struggled to make a living from his chosen profession. "I have people coming to me with their animals, but I can't make a living doing it," he says. "I have to have income from other sources." But Muir doesn't tell me only about the limits of economic opportunity in Scotland's rural communities. Actually, I'm here to learn about the opposite.

In fact, Polbain's region of Coigach is a financial success. Eleven years ago, the village's outlook was bleak: The local school had dwindled to one teacher, the shop was set to close, and "things were on the downturn," Muir says. But in 2010, Muir and other residents founded the Coigach Community Development Company to revitalize their area. Now, as the company's chair, Muir manages a princely community fund for Coigach's 270 residents. In 2019, the company doled out £165,000 (\$227,000) to locals, paying for everything from university fees, to music lessons, to affordable housing projects. Since the start of the ongoing Covid-19 crisis, the company has helped provide an array of resources, including masks and hand sanitizer supplies for the villagers, as well as private therapy sessions.

The source of all this wealth? From Muir's house, I look southeast down the road, toward where a single 250-foot wind turbine spins in the breeze.

Polbain's turnaround is impressive, but it's certainly not unique. All across Scotland — and throughout Europe — communities are taking control of their energy sources, often adopting renewables and even making profits in the process. In Scotland alone, roughly 90 community-run renewables projects produce more than 80 megawatts of energy. In Denmark, where one-fifth of energy comes from wind, 85 percent of wind power is community-owned. In Germany, local residents control nearly half of all renewable energy. Europe as a whole hosts at least 1,500 energy cooperatives.

WHO OWNS THE ELECTRICITY that lights your home, washes your clothes, and boils your kettle every morning? In the US, chances are it's a for-profit company, probably an investor-owned utility. These businesses serve nearly three-quarters of all US electricity users. The industry has become increasingly consolidated among a small group of major players. As of 2016, the nation's largest electric utility, Exelon, served nearly 9 million customers across six states for an annual profit of more than \$30 billion.



New, small-scale, locally controlled clean energy systems could be a chance to reshape social, political, and economic structures for people and the environment. According to McCoy, that's where community energy comes in.

"Community energy" is a broad term encompassing a variety of projects that fill multiple niches in the energy system. Some, like community-owned solar installations, produce energy that is then distributed



The Ivanpah Solar Project in California's Mojave Desert. The project, which includes an array of 300,000 software-controlled mirrors, owned by NRG Energy, Bright Source Energy, Bechtel, and Google. The renewable enegry industry has become increasingly consolidated among a small group of major players. Photo by <u>Dennis Schroeder / NREL</u>.

So far, the renewable energy industry is no different. Last year, clean energy investments in the US surged to a record-high \$55.5 billion. Major corporations are leading the transition. One of the biggest players is Berkshire Hathaway Energy, part of Warren Buffett's multinational empire. The company owns nearly 8,000 megawatts of wind energy and 1,500 megawatts of solar, including one of the country's largest solar installations, California's 550-megawatt Topaz Solar Farm. An even bigger scheme, the 690-megawatt Gemini Solar Project, is planned for Nevada's Mojave Desert.

Some renewable energy experts doubt that large companies are the equitable answer to cutting greenhouse gas emissions. Investor-owned utilities "have other interests at heart," according to Maria McCoy, a research associate at the Institute for Local Self-Reliance (ISLR), a research and advocacy group that seeks to help build an American economy driven by local priorities instead of corporate control. "Earning a return on investments and padding the pockets of shareholders come at a price, often paid by customers." over the grid. Others, like community choice aggregation programs, don't necessarily produce energy but choose their communities' energy sources — often with a focus on renewables. Each offers certain advantages. Compared to individual installations like rooftop solar, community energy producers are more cost-efficient because they operate at a larger scale. They also allow more people to reap the benefits of renewable energy, including those who don't own property or whose homes can't support rooftop solar (roughly half of all US residences).

Compared to investor-owned utilities, local energy producers tend to create twice as many local jobs, ISLR estimates. And proceeds often support social, economic, and environmental projects in the community. "Households participating in community energy projects could see their energy bills reduced; communities would see decreased reliance on fossil energy, healthier environments, and the ability to keep energy spending and jobs local," says Miguel Yanez, a senior associate at the Environmental and Energy Study Institute (EESI) based in Washington, DC.

The turbine at Polbain represents a clean energy future — one based on decentralized, communityowned energy, and one that stands in contrast to the feudalism and fossil fuel dependency that defines much of Scotland's history. It's that history community members like Muir are trying to deconstruct in order to build something better.

At Muir's house in Polbain, my thoughts shifted home, and left me wondering: Can the clean energy movement in the United States learn from places like Polbain? Is widespread community-based energy even possible in the US? Ecosystems also pick up the tab. Renewables inevitably use land, but deciding where, and how much, is up to the producer. Because large renewable energy projects need plenty of room, private companies sometimes build them in remote open spaces, including near national parks. NextEra Energy's 550-megawatt Desert Sunlight Solar Farm, for instance, sits just outside of Joshua Tree National Park, and has been criticized for its potential impacts on rare plants and imperiled wildlife. In contrast, smaller-scale installations are easier to build on unused pockets of land, such as rooftops and brownfield sites. Scotland offers clear proof of these benefits. Over the past two decades, for instance, the Inner Hebrides Isle of Gigha has managed a remarkable turnaround. For centuries, a series of wealthy landowners owned this seven-mile-long island tucked in Scotland's far southwest corner. By the late twentieth century, the village had fallen into serious decline.

Local residents decided they'd had enough. Despite pushback from landowners, the community bought the island with the help of grants and loans on March 15, 2002 — now celebrated yearly as "Gigha Day." Determined to pay back debts and revitalize homes, locals looked to wind energy for income. In 2005, they

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installed three wind turbines totaling 675 kilowatts, creating Scotland's first community-owned, gridconnected wind farm. Named Creideas, Dòchas, and Carthannas (Gaelic for Faith, Hope, and Charity), the turbines soon provided roughly two-thirds of Gigha's electricity and an annual profit of £75,000 (\$103,000), which funded renovations for many islanders' houses. In 2013, the community installed a fourth turbine, followed by an innovative storage battery to increase efficiency. In 2019, feeling fiscally secure, the Isle of Gigha Heritage Trust established a community fund to offer its profits directly to residents.

In contrast to the intense opposition that sometimes accompanies wind energy plans in the US, Gigha's turbines have found broad support, in part, it seems, because community members own them. "There was great excitement when the turbines arrived," Andy Clements, renewables manager for the trust's subsidiary energy companies, tells me. "We even had a blade washing weekend where islanders came up with buckets of water and sponges to clean down the turbine blades."

This isn't to say community energy is a magic-bullet solution. Like many community organizations, the Isle of Gigha Heritage Trust has struggled to finance goals, and it's unclear how well the trust's structure would scale up to serve larger communities. Nonetheless, when community energy projects flourish, they can offer numerous advantages over investor-owned utilities.

These advantages are being noticed across the pond. "As a country, the US needs to accept that the dominant top-down utility structure is no longer working," McCoy of ISLR says. "Energy democracy, where energy users make their own decisions, brings equity to the equation and will reroute our trajectory toward a clean and affordable energy industry."

So why do we see such divergent energy landscapes in the US and European countries like Scotland? One factor is key to the success — or failure — of the community energy movement: government policy. And it's here that the situations on either side of the Atlantic most clearly differ.



The Scottish government has been supporting many community energy initiatives through subsidies aligned with the European Union's effort to encourage renewable energy. Photo by Andrew Wilson / Alamy Stock Photo.

AS I SIP TEA in Iain Muir's Polbain home, overlooking the old stone walls that line the surrounding fields, we talk about his family — and his hopes for the future of Coigach. Muir's sense of that future is deeply influenced by the past. He knows the difficulties his and other communities have faced (and many still face) under an unequal system. Community energy, for him, is a way to replace the legacy of centuries of Scottish feudalism.

Even today, much of rural Scotland is dominated by large private estates owned by individuals or companies for leisure or investment. As of 2010, half of Scotland's rural private land was owned by fewer than 450 individuals — a higher concentration of land ownership than any other country in Europe.

"This place has got such a long history of injustices," Muir says, "but I think that people here and now are experiencing it, and here and now they actually have an opportunity to do something about it. I think you have fairly fertile ground to plant some seeds." In recent years, the Scottish government has tried to move beyond feudalism, often encouraging community control of resources. For instance, in 2003 parliament passed the Land Reform (Scotland) Act, which gave rural communities the right and funding to buy private estates from willing owners. Since then, more than 400 community groups have purchased around 550,000 acres, nearly 3 percent of Scotland's entire land area. Much of this land is remote, with few income sources, so clean energy projects have become a goto resource. The government has even directly supported many of these initiatives through subsidies aligned with the European Union's effort to encourage renewable energy, including community energy. For instance, a feed-in tariff scheme offers a subsidy for every kilowatt-hour of electricity that small-scale renewable energy producers provide to the grid. In some instances, that subsidy can be nearly three times the value of the energy itself.

Such support has enormously benefited the Isle of Gigha Heritage Trust and countless others. "Europe has shown us that locally generated clean energy shared through a smart grid energy network is possible," says Yanez of EESI.

At the same time, the Scottish model has seen its fair share of setbacks. In 2019, the United Kingdom government closed the feed-in tariff scheme to new entrants, explaining in its decision that "growth in the small-scale low-carbon generation sector must be sustainable; driven by competition and innovation, not direct subsidies."



Many isolated homesteads in Scotland have wind turbines to supplement their electricity supply. Photo by Oliver Dixon.

This change stopped some community energy projects dead in their tracks. The Assynt Foundation's community land trust, for instance, had purchased 44,000 acres of undeveloped land amid the lochs and peaks of Scotland's northwest corner. For years, the foundation's members debated the merits of a clean energy project. Eventually, it was too late. With the feed-in tariff gone, hopes for a profitable energy future in Assynt have vanished. "Dreams need the capital funds to deliver them," says Gordon Robertson, the foundation's former executive officer.

But vanguard groups like the Isle of Gigha Heritage Trust continue, carrying the community energy movement's momentum in Scotland. The question now is whether they can maintain it.

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SOME 5,000 MILES across the Atlantic, Marin County, California — a wealthy suburban enclave north of San Francisco — is known for its scenic redwood forests and beaches. In 2010, it made the news for a different reason. That May, Marin Clean Energy, the state's first community choice aggregation program, began to serve its nearly 10,000 customers.

California had legalized community choice aggregation in 2002, but Marin Clean Energy's founders had struggled to make their vision a reality. Their biggest obstacle was the Pacific Gas and Electric Company (PG&E), California's largest investor-owned utility, which provides electricity to roughly half of California. In the run-up to Marin Clean Energy's opening, PG&E spent more than \$45 million on a statewide ballot initiative that would have significantly raised the barriers to creating such programs. Then, Dawn Weisz, Marin Clean Energy's CEO, tells me, PG&E hired a call center to encourage customers in Marin Clean Energy's service area to opt out of the new program. They also spent \$4 million on "mailers and other types of marketing," Weisz says.

But PG&E's efforts failed, and Marin Clean Energy now serves nearly 500,000 customers in four counties. It provides customers a minimum of 60 percent renewable energy, with the option of 100 percent locally-produced solar power.

Similar struggles have played out in communities across the country. McCoy notes that "investor-owned utilities make money by building new things, like power plants, whether or not the grid needs them. Distributed energy, such as community solar, reduces the need for additional utility investment." Therefore, when community groups aim to "compete" with utilities in the US, they often have to meet their large counterparts head-on at the ballot box or through other political processes. But that hasn't stopped some groups from trying.

In Winter Park, Florida, residents fought the city's

private utility in court and at the ballot box before successfully transitioning to a municipal-owned utility in 2005. The private utility, Florida Power (owned by Duke Energy), spent roughly \$500,000 campaigning against the transition. In Santa Fe, New Mexico, advocates have struggled since 2014 to replace the private utility Public Service Company of New Mexico with a municipal-owned utility. The company has refused to sell its infrastructure and lobbied against the campaign. They're still fighting.

Many US-based community energy projects exist in spite of federal policy. The US's regulatory landscape leans heavily towards the large-scale investor-owned utilities that have long dominated and influenced it. For example, much government support for renewable energy takes the form of tax incentives. Because community groups are often nonprofits and therefore don't pay taxes, they can't access these incentives.

A messy patchwork of regulations further complicates the situation. "There are many different policies at state and local levels that have increased the transaction costs for clean energy technologies," Yanez tells me. Just seven states currently have laws that allow community choice aggregation programs.

But regulation isn't the only problem. For community energy producers, a major obstacle is finance, especially startup funding. "Even though renewable energy paired with energy storage is increasingly competitive with — and often cheaper than — fossil fuel energy, communities need to make the upfront investments that would otherwise be undertaken by their utilities," Yanez says. That investment can be hard to find.

In spite of these obstacles, California now hosts 23 community choice aggregation programs. And other, more radical, energy projects have entered the mix. People Power Solar Cooperative in California aims to further decentralize energy ownership by helping local groups pool funds to build and profit from solar projects on individual property owners' lands, allowing people to benefit even if they don't have access to land. "What's the point of a green transition if we can't do a just transition?" says Grayson Flood, a People Power co-leader.

While community energy advocates in the US still face significant political resistance, some see a chance for change under President Biden's administration. "Diminishing the power of entrenched monopolies and re-envisioning a bottom-up energy grid will be difficult under any administration, but I'd say that there is more hope under a Biden administration," McCoy says. Big and small, opportunities for reform are there. For instance, the administration could start out by expanding grant and loan programs that encourage clean energy development, such as the US Department of Agriculture's Rural Energy Savings Program.

Regardless, many experts agree that new regulations are key. "Community energy cannot replace [investorowned utilities] without a complete overhaul of policy," Yanez says. Only time will tell whether, and when, that transition might occur.

SOMETHING PEOPLE POWER'S Grayson Flood tells me stands out: "One of the lessons we can learn, I think particularly from Europe, is that we need to work hand-in-hand with environmental justice groups and labor unions that are fighting the bad as we're building the new."

This approach, I realize, has been key to the success of Scotland's community energy movement. By and large, community energy advocates focus on how best to support their communities in the places they call home. At the same time, they recognize and confront existing challenges, in part through national-level bodies such as Community Energy Scotland and Community Land Scotland.

So far, the budding US community energy movement seems to be doing the same. Advocates tend to talk less about what they're against than what they're for:

> clean jobs, a healthy environment, and a more equitable society. But, as Marin Clean Energy's story shows, that fight for the future often involves a present struggle against those in power. The rise of overarching organizations, such as the Energy Project Democracy and People's Solar Energy Fund, are helping to assert justicefocused energy at a larger scale. By continuing to bridge the divide of critique and creation, US advocates just might build a robust community energy movement like the one I found in Scotland.



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We are grateful to Maureen Nandini Mitra for this piece which was originally published in the Earth Island Journal.

Members of California's People Power Solar Cooperative in front of their first installation. The Golden State now hosts 23 community choice aggregation programs. Photo by People Power Solar Cooperative.

Forest Rights Act in J&K: Allow better participation of people in village assemblies

WRITTEN AND PHOTOGRAPHED BY RAJA MUZAFFAR BHAT, ANANT FELLOW FOR CLIMATE ACTION

Preamble of FRA

The preamble of the Forest Rights Act (FRA) recognizes the rights of tribals and traditional forest dwellers and vests those rights in them. It reads:

"[This is] An Act to recognise and vest the forest rights and occupation in forest land in forest-dwelling Scheduled Tribes and other traditional forest-dwellers who have been residing in such forests for generations but whose rights could not be recorded; to provide for a framework for recording the forest rights so vested and the nature of evidence required for such recognition and vesting in respect of forest land."

A large population lives in and around forests in Jammu and Kashmir, especially the Scheduled Tribes such as Gujjars and Bakerwals. There are also other traditional forest dwellers such as Kashmiris, Pahadis, or even Dogri-speaking people of Jammu and Kashmir, who have lived in and around forest areas for very long and in a symbiotic relationship with each other and the forests.

This symbiosis has fostered formal and informal customary rules of use and extraction from forests, which are often governed by ethical beliefs and practices that ensure forests are not denuded.

During colonial rule, the British started looking at forests as the property of the state which were to be used primarily for the exploitation of commercial interests such as dams, railways, mining, and to clear land for agriculture. It was no longer considered a community-owned resource that is a source of sustenance for countless communities.

Post Independence the FRA was enacted in 2006 and rolled out across India in 2008 (except Jammu and Kashmir). It took another 14 years to extend this law to Jammu-Kashmir. However, this policy is facing resistance from forest dwellers and tribal groups who were issued eviction notices by the J&K Forest Department in November and December 2020.

To ensure fair implementation of the FRA, the Union Ministry of Tribal Affairs has been made the nodal



agency at a central level. Similarly, in states and Union Territories, it is the departments of tribal affairs that are nodal departments to implement this law. But in Jammu and Kashmir, the government seems to be ignoring the tribal affairs department and has instead deputed forest officials to implement this law. On 4 January, the Deputy Commissioner, Anantnag, issued a circular asking forest officers to create awareness of the FRA. This is problematic considering the conflict of interest of the Forest Department, which holds the title to the land and is now expected to give the rights of the same land to tribals or traditional forest dwellers. Is this even possible?

If this is a deliberate step, it needs to be questioned. If it is a result of their ignorance, it needs to be rectified. It is unwise to call upon the forest officers to carry out awareness programmes among forest-dwelling communities. Instead, the Government could have directed sub-divisional magistrates, district panchayat officers (DPOs), tehsildars, or block development officers (BDOs) to do the work of spreading information, or it could have involved reputed NGOs. been assembled in this harsh winter. Villages near forests are covered in four or five feet of snow and it's therefore impossible to call such assemblies where people can discuss their forest rights. Instead of waiting for the right time to hold a consensus with people, officials have taken advantage of the weather, and fake gram sabhas have been held behind closed doors.

According to estimates, very few tribal and other traditional forest-dwellers have received the benefits of FRA. Despite this, the government has decided to hastily implement this law in J&K. According to Y Giri Rao, a Forest Rights Activist in Orissa, the benefits of FRA have been received by a dismal 14% of people.

The hasty and erratic manner of implementation can also be seen by the fact that representation of women in these alleged gram sabhas has been negligible. Mushtaq Ahmad, a traditional forest dweller from Surasyar area of central Kashmir asks a pertinent question, "The participation of women was meager, can the government produce even a single video clip wherein one dozen women can be seen participating in these gram sabhas? In fact, there is chaos in each forest village."



Closed-door meetings

The manner in which the government has been

Conclusion

It is important to remember that forests are not simply

trying to implement FRA in J&K has been highly problematic and hasty. Holding village assemblies, also called gram sabhas. is a constitutional method under which local people are ideally supposed to made aware of be decisions that impact them. Further, their consent is essential to implement such decisions. At present, hardly any however. such gram sabhas have

a commercial resource to be exploited, but ecosystems that have been home to several communities as well as wildlife. The decline in forest cover is also a major factor in the increase in global warming. It is of the utmost importance that the government hold genuine Village Assemblies or Gram Sabhas afresh after the weather becomes better. Not only that, but the Govt officials involved in FRA implementation should be trained properly before being sent to the villages for implementation of this pro poor and pro tribal legislation. The participation of women shouldn't be sidelined and must be given due diligence. People must not be misled and they must be given accurate information so they can make an informed choice that will impact not just their own future, but that of many generations, an entire ecosystem and the planet.

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NEWSSTAND

The Great Green Wall Initiative

The Wall "snakes the Sahel region from Senegal in the West to Djibouti in the East of Africa." It aims to "restore Africa's degraded landscapes and transform millions of lives in one of the world's poorest regions, the Sahel."

Developments were made on this initiative in the One Planet Summit as well. Read more here: <u>https://</u><u>www.unccd.int/actions/great-green-wall-initiative</u>

The EU recovery plan

Read more about the largest stimulus package ever: "The Recovery and Resilience Facility: the centrepiece of NextGenerationEU with €672.5 billion in loans and grants available to support reforms and investments undertaken by EU countries". Know more.



Source: <u>EBS Live | Ursula von der Leyen:</u> <u>Coronavirus is an 'economic crisis'</u>

COP26: UN Climate Summit, 2021. The basics:

UN Decade on Ecosystem Restoration launches on World Environment Day 2021 (June 5)!

The UN Decade is a rallying call for the protection and revival of ecosystems all around the world, for the benefit of people and nature. It aims to halt the degradation of ecosystems, and restore them to achieve global goals. Only with healthy ecosystems can we enhance people's livelihoods, counteract climate change, and stop the collapse of biodiversity.

The UN Decade runs from 2021 through 2030, which is also the deadline for the Sustainable Development Goals and the timeline scientists have identified as the last chance to prevent catastrophic climate change.

Led by the United Nations Environment Programme and the Food and Agriculture Organization of the United Nations, The UN Decade is building a strong, broad-based global movement to ramp up restoration and put the world on track for a sustainable future. That will include building political momentum for restoration as well as thousands of initiatives on the ground.

Through communications, events and a dedicated web platform, the UN Decade will provide a hub for everyone interested in restoration to find projects, partners, funding and the knowledge they need to make their restoration efforts a success. <u>Know more</u>.

5 years of the Paris agreement - are we on track?

Read Laurence Tubiana's twitter thread which chews over how we designed the Paris Agreement and how it is working today:

"We knew how big the task would be. We were all veterans of the UN negotiation process and had lived through the trauma of #COP15 in Copenhagen. We knew we needed to take a new approach, one built on an integrated theory of human, organizational, and state behaviour"

Laurence ends on a hopeful note telling us that though there is major work to be done, the "Paris Agreement [is] itself not just surviving, but is now the overarching global framework for ... better societies and economies of the future!". Link.

Laurence Tubiana 🕸

Replying to @LaurenceTubiana

The fundamental premise of the **#ParisAgreement**: it had to be a flexible legal framework, that could over time accommodate the changes in technologies, economies, & societies that would need to happen over the long-run for us to succeed & limit temperature rise 3/16

5:13 pm · 12 Dec 2020 · Twitter Web App

Source: Laurence Tubiana on Twitter

CEEW reports: Is ex-situ crop residue management a scalable solution to stubble burning?

The United Kingdom will co-host with Italy a major UN climate change summit, (Conference of the Parties) COP26. Originally scheduled for November 2020, the summit was postponed to November 2021 due to the Covid-19 pandemic. Read more about what a UN climate summit is, the implications of the postponement of COP26, expectations from nations to deliver updated NDCs 'by 2020' and more: https://eciu.net/analysis/briefings/ international-perspectives/cop-26 "This study focuses on the ex-situ crop residue management and examines the economics of crop residue supply chain in Punjab... The study also identifies tangible solutions to support the biomass supply chain and scale up ex-situ management in Punjab." Find out more on the following links: <u>link1</u>, <u>link2</u>



Diving into the plastisphere: Exploring the challenges of ocean plastics

BHAMINI JAIN, ANANT FELLOW FOR CLIMATE ACTION

When we first began to explore the ocean, we thought that there was no way we could alter or harm something so vast. But now, in 2021, the picture looks different. Our marine systems shoulder the heavy cost of sustaining human material progress fueled by industrial consumerist economies. We've managed to expand our impact to the depths of the Deep Ocean as well, where a familiar plastic smog envelopes unfamiliar species. Every year we add 300 million tonnes of plastic pollution which is nearly equivalent to the weight of the entire human pollution! And to top it off, as a consequence of our increasing plastic pollution, we have contributed to the formation of a new biosphere-the plastisphere. Even as we are left with images of turtles choking on plastic bags and tides of plastic washing on our once pristine beaches, the greater scope of our negative impacts lingers in the background, out of immediate view.

Researchers estimate that since the 1950s over 8.3 billion tonnes of plastic have been produced where the rate of production has only increased with a shift favoring disposables over durables. Only 9% of this has been recycled while 12% has been incinerated and the remaining 79% has found its way into landfills and our natural environments. In 2010, approximately 15-30 million tonnes of plastic entered the ocean adding to the 15-51 trillion plastic debris already circulating in our marine ecosystem. The physiological processes of the sun, salt and waves break apart the plastic into microplastics. The microbial life teeming within the plastisphere, adds to this process through enzymatic action. Scientists are exploring what this exactly means and how these processes occur across various marine ecologies and distinct plastisphere, and what it entails. The microplastics pose an additional threat of further breaking apart into nanoplastics, adding to a "plastic smog" omnipresent in our marine systems-both on and below the surface.

The plastisphere is much like the biospheres on the surface of the earth. It is a highly biodiverse microbial layer colonizing the hydrophobic surface of microplastics. Researchers studying the ecology of the plastisphere have indicated that it is a complete ecosystem whole with primary producers, grazers, predators, and decomposers. Dr. Tracy Mincer referred to this community as the "microbial reef" as it appears similar to the complex systems found on the surface of the coral reefs. Dr. Linda Amaral-Zettler, at the Marine Biological Lab, found over 1,000 kinds of microbes on a single piece of microplastic less than 5mm in size. Astonishingly, microbes that weren't usually encountered in the ocean now cling onto these tiny bits of plastic and mark their stories of survival and longevity. These include opportune disease-causing pathogens and harmful algal species now travelling and surviving longer distances on the novel ecological habitat of plastic debris, thus raising concerns over human and ecological health.





The plastisphere community. Source: "Ecology of Plastisphere," Nature Reviews Microbiology

down", evidenced by certain fungi on land. However, scientists are still beginning to explore and understand the plastisphere and its possible effects and interactions with the greater ecosystem. We must tread with caution of the possibility of invasive faux solutions and very importantly, in how we define the key processes of degradation here. Diverse definitions within the scientific literature on "degradation" vs. "biodegradation" coupled with rampant greenwashing-which is more accessible to the general public, have fostered confusion. Furthermore, given the broad and complex context of organic processes taking place within a natural ecosystem, there is a greater need to be mindful of how we define biodegradability. Also, we must keep in mind that current standards often do not sufficiently account for toxicity or adverse effects due to fragmentation within marine ecosystems. Therefore, the process will look different across ecosystems, especially between the ocean and the land. There are key gaps in regards to improving methodologies, further research, and improving the current standards to account for the effect of the debris in the open waters and unmanaged marine, and even freshwater ecosystems, that are <u>yet</u> to be bridged. For the scope of this writing, I bring in the definition endorsed in "Ecology of Plastisphere:" where biodegradation would entail a complete breakdown of the plastic into CO₂, H₂O, and biomass under the aerobic settings and CO_2 , CH_4 , and biomass in anaerobic settings, within a reasonable timeframe. At this moment, it remains unclear what the plastisphere could do in the context of the debrispollution problem.

would still need to conduct further studies to explore any potential health risks if any. However, given the current research on plastic compounds and their effect on health, including key concerns around endocrine disruption and leaching of harmful chemical compounds over time, there has been a well-reasoned cause of concern. Furthermore, the plastisphere risks disrupting native habitats by introducing possible invasive and foreign species. Within a marine system where nutrients are limited and cycled across the ecosystem, the additional microbial life takes up habitat space by consuming said nutrients that would have otherwise been consumed or out-competed by free-living microbes. These findings add to the critical questions raised over the past decade over our "misuse" of plastic which came as a boon in key areas like the creation of disposable syringes. However, in its 60 years of existence, it now looms as a greater bane (specifically, single use plastics) if we continue as business as usual and leave critical questions of consumption, production and disposal unengaged.

Moving forward, we must critically assess our consumerist hyper-dependence on plastic and its impacts on our environment and us, and build solutions from them. Recycling as necessary as it may be, alone is not enough. Only <u>9%</u> of the over 8.3 billion tonnes of plastic produced since the 1950s has actually been recycled. Its greatest limitation is that it does little to address the issues of production and consumption. Furthermore, most plastics cannot be recycled, and others can only be recycled, or rather downcycled, a few times before they end up in landfills or oceans. Moreover, many countries in the Global South that had been importing plastic waste from the Global North have begun refusing it, with current recycling capacities being limited across geographies as it is. It becomes crucial to look at alternative processes of production away from petrochemicals, where we must also consider the negative impacts of

In some spaces, there has been some hope tied to the enzymatic processes of these microbes as a possible solution to tackling plastic pollution by "breaking it As mentioned earlier, the plastisphere adds to our existing gamut of concerns over public and ecosystem health and resilience. There is already evidence of microplastics entering the food system with high detected frequencies of micro and nano plastics <u>embedded into human tissues</u> as well. Researchers

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monocropping and the creation of other extractive economies driven by industrial agriculture (in using soy, corn, avocado-based plastics) for ecosystem resilience and biodiversity health-both of which are essential to mitigate the climate crisis. Herein, possible solutions in algal bioplastics based on regenerative seaweed farming, possible moratoriums on new fossil plastic production, extensive recycling, and ocean plastic recovery have come up, with algal bioplastics showing great promise. Our solutions will need to take up the creative challenge of engaging with the plastic already in circulation, the need to move beyond the current consumerist and exploitative practices of our current industrialized socio-economic systems, and transitioning to circular economies based on regenerative processes. All towards stewarding health and resilience across our socioeconomic-political and ecological ecosystems.

As an estimated 300 million tonnes of plastic and trillion tonnes of plastic bags are produced <u>annually</u> globally, the question presented to us isn't "if" or "when" we will choose to rise up to the challenge, but the question instead is of "how" as the when is already set to now. We need to innovate across disciplines through collaborative actions to tackle the issue at its roots. Herein, our technologies and innovations will not be limited to what we generally understand as IT or robotics, but also in policy, governance, business practices, and communal practices. In order to avoid intensifying existing issues around the exploitation of both ecological and social systems, extractive economies, a diversified approach centered upon resilience and inclusivity is essential. Especially since the contribution to the plastic problem is highly disproportionate with the brunt of it being dealt by communities with the least impact to it. In this regard, regenerative solutions embedded in systems design and circular economies offer great potential.

The issue may seem "too big" but as we break it down and maintain an ecological systems perspective, the scope for solutions and tapping into our collective action and entrepreneurial spirit are immense! In permaculture design, they say that the solution isn't limited by the problems but instead the creativity of the designer. What makes a difference is the ability to take ownership, our openness to the interconnections, and our readiness to delve into the complexities. Along with the priorities, values, and vision that drive the solutions we build—however extravagant or simple. We can never truly move forward if we cannot move beyond duct-tape solutions that sound exciting in the short term but do little to address the inherent inequities and ecological exclusion of the current design principles we use.

Once upon a time, we couldn't have imagined exploring the deep ocean or space, but we have! As the scope of our knowledge grows and our questions become more advanced: how we choose to harness our creativity, our passions and our potential will make all the difference. Just and ecological transitions aren't just necessary, they are possible as folks, communities, and organizations across the world have already been demonstrating. The question is how can we critically and radically engage with the plastic problem as we swim through the plastic smog?

Our limits, after all, will only be defined by our vision for the future and the present.



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Fig. 2 | **The lifecycle of plastic litter.** Diagram illustrating many of the possible pathways over the lifecycle of plastic litter on its journey from land to sea. Plastic debris enters the ocean through both aquatic (rivers, accidental escape at sea) and land-based sources (littering, escape from municipal waste management such as waste water treatment plants (WWTPs)). Depending on the density of the plastic material, plastic items will remain afloat for a given part of their lifecycle or, as they become weighted down by biofouling, will begin to sink into the water column, ultimately to the ocean bottom. Mechanical, photochemical and biological forces break down plastic debris into microplastics and nanoplastics that subsequently become incorporated into the marine food web. Organisms such as filter feeders may further concentrate these smaller particles, given their capacity to filter large volumes of water. Microorganisms begin to attach, colonizing plastic in the water within hours, and can include potentially harmful microorganisms, such as disease-causing pathogens. The 99% 'missing' plastic refers to the fact that estimates of surface plastic account for only 1% of what has been released into the ocean⁴. PET, polyethylene terephthalate; PVC, polyvinyl chloride.

Source: Ecology of Plastisphere

May 2021

India's Bamboo Story

Transforming poor man's timber to green gold

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NITIJ SINGH, ANANT FELLOW FOR CLIMATE ACTION

In 2017 the NDA Government took a landmark decision to change the definition of bamboo from 'tree' to 'grass'. The Indian Forest Act 1927 Section 2(7) was amended making it legally possible to cultivate bamboo outside forests. This minor change in definition has brought in new promise for India's bamboo industry. However, data suggests that a lot needs to be done at various stages of the bamboo value chain before India can compete globally.

As per figures given by the National Bamboo Mission, India has the highest bamboo bearing area (15.7 million ha) and is the second richest country, after China, in terms of bamboo diversity with 136 species - 125 indigenous and 11 exotic. Despite its huge bamboo resources, the product's annual market value in India is only about USD 4.5 billion. This is low, especially when compared to China's bamboo market value of USD 30 billion with only 6 million hectares of bamboo area.

According to the Union Ministry of Agriculture and Farmer Welfare, India's annual average bamboo production is 3.23 million tonnes (approximately). In contrast to China's average yield of 50 MT/ha., the maximal range yield in India is 10-15 MT/ha. Poor yield of good quality bamboo is the critical difference in the pricing of bamboo and bamboo products.

During 2015-16 & 2016-17, the export of bamboo and bamboo products was INR 0.11 Cr and INR 0.32 Cr respectively while the import was INR 148.63 Cr and INR 213.65 Cr.

In 2011, India was exporting bamboo products worth INR 65 Cr. But now that situation has completely reversed, which could adversely impact rural industries like agarbatti (incense) making – an MSME that generates an annual revenue of Rs 3,000 crore.

For incense making, rounded bamboo sticks are key. In 2010, their landed cost was about INR 108 per kg which slid to INR 68 per kg in 2017. Additionally, imported agarbatti (incense) with all its additions is sold at INR 74-75 per kg in India. The local bamboo products which were available at INR 84 per kg have become INR 92-94 per kg after GST was introduced in 2018.

Moreover, over the last few years, the local handmade round bamboo sticks have been replaced by machinemade ones that are better in quality. Currently, 96% of the domestic demand is met through imports and that too mostly from China and Vietnam. Indian factories have also adopted machines but the wastage in Indian Bamboo, as we know, is about 88%. The wastage adds to the cost of the final product.

The 2017 change in definition of bamboo from a tree to a grass was then hailed as a step that could potentially revolutionise the sector in India. Data, however, unravels a different reality that points at systemic inertia and policy flaws begging to be driven out if at all the change is to fructify on ground.

Moving Forward

As a starting point, the National Bamboo Mission could focus on cultivation and promotion of high-yielding bamboo species like Mozo Bamboo that was instrumental in the growth of the Chinese bamboo industry. Public-private partnerships should be encouraged and start-ups should be promoted.

Assam Agarbatti Project is one such initiative that began in 2020 under which Cycle Pure Agarbatti (India's largest agarbatti manufacturer) and 26 local Bamboo entrepreneurs are collaborating. Similar initiatives across the country can strengthen supply and enhance the value chain of Bamboo in India.



Photo by zoo_monkey on unsplash.com

31.3.21

May 2021

Big Energy Company energy transition report – WIP- DO NOT LEAK TO PUBLIC

TATHAGAT CHAUBEY

Greetings, our beloved energy users,

It has recently come been brought to our attention by a baby-faced intern that global warming is actually real. This truly saddens us and in this moment of newfound chaos, we wish to extend our deepest condolences and send thoughts and prayers for all those around the world who may be suffering the consequences of us burning fossil fuels. We wish there was more we could do.

Thank you —

It has recently been brought to our attention by the same baby-faced intern that we can actually do something about this issue. We know it's not done. It is unfair for you to be dealt a bad hand and endure the effects of something out of your control. You poor, stupid, deluded brave people hardly contribute to CFC emissions and still try your hardest to make changes to your life. This is a commendable effort. Commendable that you have hope that it will make a difference.

Anyway, we have edited some solutions our BFI came up with and would like to propose two ways of dealing with this mammoth problem. The first one is:

For every person that comes to one of our petrol stations and fills up their tank, we'll consider not usurping a plot of land from a third world country to set up an oil rig. Energy companies have feelings too which is why we are choosing to ignore the current environmental degradation lawsuit against us. The mean Nigerians were so busy moping over their lost agricultural land, delta and its consequential impact on their livelihoods that they forgot to consider how we felt having our name dragged through their ash-covered mud.

Yes, your home has been turned into a wasteland and the river you played in as children is gone. But you should have thought of that before you let us take advantage of you! You refuse to take our money saying it's hardly enough to cover the damages but we can only afford to give you an amount we can make back in one day! It's ridiculous that you and your impoverished communities would seek to hold powerful corporate actors to account. Our BFI has just told us we can't further discuss this because it's a "bad look". You youngsters with your hip slang -- back in my day we could get away with major oil spills in the ocean and nobody would care.

Moving on. The second solution, which was much harder for our board of highly experienced trustees — Bob Whiteman, Bob Fair, and John Smith — to accept, involves Big Energy's total transition to clean energy. This is a slow process that we expect should be completed within the coming two years and when these unrealistic goals aren't met we will definitely rework our estimations and suggest that they'll be met by the end of the century.

We would also like to mention that we have received all your "suggestions and feedback" from supposed "scientists" and have discarded all these letters in the hatemail landfill which is burnt every weekend. We were moved by your propositions and would like to assure you that we are 100% committed to being a cleaner and greener oil-guzzling corporation that most certainly cares about the environment and will not leave to Mars as soon as Elon is done with his rocket.

We wish you all the best in this rat race,

Those with all the advantage.

Dig Deeper:

https://www.shell.com/energy-and-innovation/the-energy-future/shell-energy-transition-report.html https://www.bbc.com/news/world-africa-56041189 https://www.ipcc.ch/report/renewable-energy-sources-and-climate-change-mitigation/ https://www.theguardian.com/environment/2021/mar/18/oil-industry-fossil-fuels-air-pollution-documents

SINCERRE APOLOGEEZ VV



May 2021

Frozen earth and a warm heart

WRITTEN AND PHOTOGRAPHED BY SIJO ABRAHAM, ANANT FELLOW FOR CLIMATE ACTION

I was always fascinated by the idea of exploring the frozen, clandestine treasures of our world. In 2018, I planned a trip to Norway and landed in the white lands of Bergen. It's a small city located on the west coast of Norway surrounded by the Seven Mountains and illuminated in the night by a twinkling starry sky. Rolling hills span the landscape from the shores to the mountains and it seemed like nature had hidden this precious land far away from human interference.

My three days in Bergen were filled with its millennia old history and the resultant colourful culture which



Bryggen (colourful houses), UNESCO world heritage site.

seemed like a mix of classical and modern art. This postcard-perfect town with its unadulterated atmosphere, a melange of UNESCO world heritage sites like Bryggen and Fantoft Stave Church, also serves as the gateway to the fjords surrounded by the seven hills. Yearning to go deeper into this scenic landscape, I took a train from Bergen to Oslo.

The train journey produced 0.44 kg of CO2 in lieu of 119.7 kg for a flight and showed me beautiful untouched white fields of snow alternating between mountains, plains, and forests. Tall conifers lined the railway tracks as if booming with pride in the land they stood on. Frozen lakes played hide and seek with me while the sight of hills embraced me. I rested my head

on the window, watching nature's scenery unraveling itself around me. Every second of this journey filled my heart with awe and gratitude at the grandeur of nature.

In Oslo, I missed the nature that had surrounded me just a few days ago. The city lights seemed too dull after my rendezvous with the night sky in Bergen. I continued my journey to Tromso, located within the Northern Arctic Circle, at 69 degrees north. Being here made me realise that nature's majesty towers over human civilization.

My tryst with Ersfjord left me deeply mesmerized and content. The calmness of frozen lakes seeped into my mind calming the storm within. To this day, whenever I feel overwhelmed, I try to mimic the peace I felt that wintry afternoon. The untouched snow glistening in the dull morning light looked pure as if mother nature had sprinkled powdered sugar all over the top of the mountains. Cold brisk air pierced through my windbreaker while I conversed with the local indigenous Sami people. They gave me a chance to become one with nature as I fed berries to reindeers in front of a slippery frozen lake (found out about the slippery part much too late).

When I met the Sami people, I witnessed their knowledge and understanding to live in synergy with their surroundings, creating a perfect balance between their needs and resources. If we humans could imbibe



Ersfjorden.

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Somewhere in the north of Tromso.

half of their gratitude and respect for nature, we wouldn't be on the path we are currently on. Living in such extreme conditions with scarce resources had not encumbered their admiration for nature. On the contrary, they understood how important it is to co-exist with the natural surroundings. Despite the -12°C, I felt a warmth in my heart just being with them.

My journey now took me towards the legendary northern lights or the souls of the dead as per the Sami people's beliefs. Here, I lost myself in the white desert of the north. As we approached the border between Finland and Norway we struck green. You could see these whispery green lights breaking the darkness of the night the way the sun breaks the grip of dawn. Sitting underneath the irresistible pulchritude of these flickering lights, drinking in the entire sight, I wondered how could we as a species ruin such a beautiful thing. Mesmerized, my friends and I decided to camp there and drifted into a deep sleep with these thoughts.

The following morning, waking up to the crisp chilly air was one of the best sunrises I have ever witnessed. The sun peeked shyly through the mountains, as if jealous of the light show the night before. Later that evening I experienced the outlash of nature when we got caught in a snowstorm. It was as if nature was mimicking the rage I felt against humans for attempting to destroy this sanctuary. Fortunately, we made it to the border where we waited for over an hour for the snow to clear. I experienced kindness when the border police offered us traditional drinks in that cold, reminding me that there is still hope left within us as a species. The final leg of the journey was spent in contemplation of all the splendour that we had witnessed.

The polar regions of our planet are one of the most affected areas by climate change. Arctic sea ice cover has shrunk to the

second-lowest extent since modern record-keeping began in the late 1970s (NASA, 2020). The melting of these regions has already begun catastrophic consequences globally, disrupting the polar ecosystems and the livelihood of the people who are both, directly and indirectly, dependent on them. For instance, the Sami people are finding it increasingly harder to forage for food due to erratic weather conditions.

Sitting here today in the cold, I am reminded of the bleak cold winter and the moaning winds of the Arctic. This experience has fostered within a warmth that fuels my drive to fight this threat looming around the frozen crown of our planet.



(The Northern lights with our home on 4 wheels the excess green is due to the high exposure from the camera).

May 2021

Trip to the tallest chilli pepper plant

WRITTEN AND PHOTOGRAPHED BY GOMA KARKI, ANANT FELLOW FOR CLIMATE ACTION

During this pandemic, my whole family was together after almost five years. My home lies in a small town called Manthali in Ramechhap District of Nepal, about 130 km east of Kathmandu. Manthali is a small valley surrounded by mountains. Someone passing through my hometown would see agricultural land and a path leading to the main Bazar that spans about 2 km with mostly retail stores on either side of the road. Among the many things, the sound of tractors is difficult to miss.

My sister and I planned to walk around the town in the morning to discover its hidden gems. When I was living here, I did not see anything beyond the scorching heat of summer and its dry land. However, my perceptions of Manthali changed as I started to explore the scenic beauty that was new to me. These early morning walks not only provided me with an escape from the noise and dust of the town but also a newfound appreciation of this place.



receive us. As we walked to his house, I was awed to see how simple, traditional, and functional everything was. Before we saw the chilli plant, he offered a tour of his farm. While walking through his cowshed I noticed that he had created a channel to let cows' urine run



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On one of our walks, we came to hear about the tallest chilli pepper plant in the world being grown near our town. Excited to see this place, my sister, cousin, and I embarked on a journey early in the morning one day. The chilli was being grown by a well-known farmer in our community, Anar Baje (Anar is pomegranate and Baje is elderly in Nepali). As implied by his name, Anar Baje has a pomegranate farm. His practice has now extended to growing seedlings and providing training to other farmers. He proudly says his pomegranate seedlings have reached 73 districts out of the 77 of Nepal. A fun fact – he imported pomegranate seeds from India and wanted to see if he could grow them in Manthali. Since pomegranate is high in nutrients and is an expensive fruit, he wanted to make it affordable for all.

A journey that would've taken 5-10 minutes by a vehicle, took us around 90 minutes because we decided to walk to reach Anar Baje's house. We left our house at around 5 in the morning, the only sound accompanying us was the chirping of birds. When we reached the top of the hill where his farm was, we saw streams flowing on both sides of the road. The freshness of the air and the absence of hustle and bustle of the town made this walk very enjoyable. Even though we got lost a couple of times and had to call Anar Baje multiple times to ask for directions, this whole experience made the journey much sweeter. Humble in nature, Anar Baje had come to the road to





reservoir he had built to collect rainwater. Not easy to notice at first look, the chilli pepper plant was standing tall and strong. It was supported by a bamboo tree and looked like a vine at first glance. Fruits were grown on the top and it was not visible from the ground. We actually had to climb up a ladder to see the tip of the plant and the chillis. It took him almost eight years to grow this chilli to its massive height of eighteen feet. It was truly an amazing experience.

and collect in a container that is later diluted to spray in the field. Grown organically, I could hear the pride in his voice as he showed us exotic plants he was able to grow without the use of chemicals. He showed us the pepper plant and offered us some pepper seeds to try. I was overjoyed with the whole experience of being on the farm and trying all these different varieties of chillis that I had only seen on the cover of packets.

He plucked a cucumber from the vine and brought it for us to have for breakfast. We sat drinking tea and overlooking his beautiful garden and the farm and ate cucumber with chilli and salt paste. Though an unusual combination for breakfast, it felt perfect at that time.

Finally, it was time to see the chilli pepper plant. He walked us through the cowshed and I saw a water

We had known Anar Baje for quite some time. I can even call him my gardening guru. When I saw him in town, I would ask him to come and look at our plants and give me advice. Every time I had plant-related questions, he was the first person I would reach out to. His real name is Hiralal Aachary. A plant enthusiast since he was a child, he started his farm some thirty years ago. I am amazed to see how he is always experimenting to see what other varieties he can grow in Manthali and how he can grow them better. This round trip of 10 km enriched us with countless and unforgettable experiences and memories.

May 2021

COURSE REFLECTIONS

TERM II

Carbon Emissions R Prakash

"The in-class city case studies on transport planning were insightful. There was a lot to learn from our in-group discussions as well"-Aman Gupta

Theme 1: Sustainable Habitat Learning Journeys

"I found truly valuable the discussions with representatives of each of the organisations. It was also impressive that the organisations presented were really diverse. I appreciated the exposure to nuances, opposition... It made me want to travel to Indial."-**Elisa Vallette**

Carbon Reporting Indra Guha

"The course structure was very well defined to better understand the intricate nuances of the different reporting mechanisms. It was also particularly interesting to learn about the various motivations that institutions have to report."-**Sijo Abraham**

Change management Devdutt Pattanaik

"It was insightful to understand leadership and personal management from a variety of perspectives. To relate to different aspects discussed made us ask difficult questions which challenged our arguments about morality in making decisions."-Aman Gupta

TERM III

Branding for cities and nations Anupam Yog

"Understanding the concept of using branding as a tool to implement change in an entity and the live discussion with an expert in the industry, Mr Arun Maira, were the most valuable takeaways from the session."-**Ruchie Kothari**

Nexus of poverty

Mustapha Mokass "I enjoyed Mustapha's innovative approach on global finance for developing projects."-Aman Gupta

Sustainability in fashion, India's perspective Rina Singh

"I love that Rina shared her story, communicated Eka's philosophy but also the challenges she faces. It was also nice that she left a lot of time for questions. I appreciate her oppenness and honesty during the discussion."-Elisa Vallette

Placemaking for healthy cities Anupam Yog

"The course gave me new insights to understanding 'healthy cities'. I particularly enjoyed the discussion around meditation and mental health."-**Sijo Abraham**

Sustainable transport R Prakash and Chetan Maini

"The course provided a holistic overview of sustainable transport, spanning business, policy, and technological solutions. The presentations were well conceptualized and presented, specifically the one by Mr. Chetan Maini. Moreover, their expertise was very well leveraged to get insights into this emerging domain."-Aman Gupta

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Special badges awarded to the Fellows for their exemplary performances



May 2021

Spicy coriander aubergine

SUMAMANI VEDULA, ANANT FELLOW FOR CLIMATE ACTION

It is an extremely simple dish to make but tastes delicious. My personal favorite. Goes well with rice or chapatis. It is low in carbs and a healthy meal alternative for lunch or dinner. It can also be used as a dip for nachos.

Ingredients

Aubergine / Brinjal / Eggplant – 2 (these are the big aubergines/brinjal, as shown in the picture above) In case you choose small aubergines, then this recipe becomes a stuffed version Green coriander – 1 bunch (150 gm) Mint leaves (optional) – 30 gm (10-15 leaves) Ginger – 1 inch (chopped to tiny pieces) Green chillies – 4 Cumin seeds – 1 ½ Tsp Salt to taste Sugar (optional) – 1 tsp

Preparation

1. Wash the aubergines properly and chop them into big long pieces

2. Take a pan, add some oil and heat it on a medium flame. Once the oil is hot, transfer the chopped aubergine to the pan. Add a tsp of salt and mix the pieces well. Lower the heat and let the aubergines cook. Keep stirring the pieces in between to avoid them from sticking to the pan (you can add a little bit of water too)

3. While the aubergines are getting cooked, take the rest of the ingredients in a blender, add a little water and blend to a fine paste.

4. Once the aubergines are 80% cooked, add the blended mixture/gravy to the pan and let the whole mixture cook together on low-medium heat. Cover the pan with a lid for 5 min.

5. After 10 min, the aubergines and the gravy will be completely cooked and ready to be served.



Source: <u>link</u>

Walnut and mint chutney

RAJA MUZAFFAR BHAT, ANANT FELLOW FOR CLIMATE ACTION

Walnut and Mint Chutney is an ethnic Kashmiri recipe. The chutney is a great appetizer that is taken with the Kashmiri cuisine of Wazwan or even with the day-to-day Kashmiri vegetarian foods prepared at home. One can easily make Walnut & Mint chutney at home in just fifteen minutes.

Ingredients

Walnuts — 4 to 5 walnuts with shell or 200gm kernels Mint — 10 to 15 leaves (100gms) Fresh curd — 200 ml Green chillies — 4 to 5 Salt to taste

Preparation

- 1. Grind the walnut kernels.
- 2. Add ten to fifteen leaves of mint along with three to four normal-sized chopped green chillies and

grind it again.

3. Then add some salt and 200ml of curd. Grind it well. Finally, serve in a glass bowl.

This chutney is an excellent source of Omega-3 fatty acids and is heart-friendly. It is also apt for those who want to watch their calorie intake. Serve this mouthwatering and flavourful chutney to your friends and family with Roti, Rice & Dal, fried snacks, tandoori chicken, Pakoda's, Sandwiches, Kebabs or Tikkas.



Source: link

19 RECOMMENDATIONS

Gravity

May 2021

BOOKS

Demystifying sustainability

HAYDN WASHINGTON

Much has been said about the terms 'sustainability' and 'sustainable development' over the last few decades, but they have become buried under academic jargon. This book is one of the first that aims to demystify sustainability so that the layperson can understand the key issues, questions and values involved.

Accessible and engaging, the book examines the 'old' sustainability of the past and looks to the future, considering how economic, ecological and social sustainability should be defined if we are to solve the entwined environmental, economic and social crises. It considers if meaningful sustainability is the same as a 'sustainable development' based on endless growth, examining the difficult but central issues of overpopulation and overconsumption that drive unsustainability. The book also explores the central role played by society's worldview and ethics, along with humanity's most dangerous characteristic – denial. Finally, it looks to the future, discussing the 'appropriate' technology needed for sustainability, and suggesting nine key solutions. (Routledge)



Pachinko MIN JIN LEE

This novel by Korean-American author Min Jin Lee traces the history of colonisation and parition of Korea through the story of multiple generations of the same family. It is rich in characters and profoundly moving with its depiction of pain, loss and the few, temporary moments of happiness that these dislocated people manage to find. In a world that is racing towards globalisation and uniformity, the novel silently raises many questions about culture, colonisation, immigration, education, class and race.

Silent Spring

RACHEL CARSON

Silent Spring is considered the book that started the global grassroots environmental movement. Released in 1962, it focuses on the negative effects of chemical pesticides that were, at the time, a large part of US agriculture.

Rachel Carson and her work began initiating a shift in global environmental consciousness. Carson was, by formal education, a marine biologist who also published a few bestselling books about the sea and ocean biospheres. Her work is said to have led to the creation of the US Environmental Protection Agency. Silent Spring carries a message that is as relevant today as it was back in the 1960s. Humans are dependant on their living environment and it is, therefore, pure madness to disregard this environment's protection. Because of the boldness and simplicity in how Carson articulates this truth, her book still inspires activists all around the world today. (Know more)

The sea are out of the sea are o

The Systems View of Life FRITJOF CAPRA AND PIER LUIGI LUISI

The book talks about the concept of emergence, the interconnectedness of sub-systems in the domains of biology, physics, mathematics, and sociology. In my opinion, this is a fundamental concept which needs to be understood by anyone working in the field of climate change.

Fritjof Capra and Pier Luigi Luisi

Leave the World Behind

RUMAAN ALAM

"From the bestselling author of Rich and Pretty comes a suspenseful and provocative novel keenly attuned to the complexities of parenthood, race, and class. Leave the World Behind explores how our closest bonds are reshaped—and unexpected new ones are forged—in moments of crisis."

I found this book to resonate quite well with the times we find ourselves in currently -- global crisis after global crisis. The questions Alam brings up are questions we have all asked ourselves before. The way he addresses them, though, are a mark of everything that makes us human.



All Things Shining

HUBERT DREYFUS AND SEAN DORRANCE KELLY

"What constitutes human excellence?" and "What is the best way to live a life?" These are questions that human beings have been asking since the beginning of time.

To add to my existential angst over the winter break, I read All Things Shining which to me seems like a tome for our modern, industrial age. What appealed to me the most were their insights on the transformation of human nature over a massive expanse of time. We seem to have lost our "passionate engagement" with things and Dreyfus and Kelly offer a suggestion as to how we can live a life of wonder where we find All Things Shining.









Reading the Western Classics to Find Meaning in a Secular Age



HUBERT DREYFUS and SEAN DORRANCE KELLY

May 2021

20 RECOMMENDATIONS

FILMS

Song of the Sea

An intensely beautiful movie that combines the story of boy in modern times with ancinet Irish legends of a mythical creature called a Selki. The animation in this movie is one of the most exquisite works in the history of cinema, fitting for the story which is equally enchanting. The background score of the movie is based on Nordic music and makes use of traidtional musical instruments.



Source: <u>Geeks of Doom</u>

Iron Jawed Angels

History, or His-story has always been the story of men fighting for the rights of men. Where are the stories of countless women whose fight for independence has brought us the things that many of us take for granted today? Watch the story of these women activitists who put up a fight equalling in sacrifice and heroism, any fight for independence that this world has seen.

IRON JAWED ANGELS



Source: pinterest.com

More of Everything

A film about Swedish Forestry that questions the popularisation of the Swedish Forestry method. Many prominent scientist and researchers examine the claims of the forest industry with respect to the Swedish forests which are largely commercial and mono crop forests. <u>Know more</u>.



The Man from Earth

A farewell party turns awkward as the protagonist of the movie recounts his history which spans more than a thousand years. His lifestory contains several contradictions to the history of the world as is known today. The contradictions force the other members of the party and the audience to reconsider some of the most basic belief systems held by them.



Source: <u>Wikipedia</u>

MUSIC

Sufi Music

Listen to the poetry of Rumi, Bulle Shah, Farida and other sufi mystics whose words are especially relevant at a time when progress is understood only in terms of economics and material wealth. How can one claim to understand or change the world if one doesn't understand one self? <u>Listen here.</u>

PODCAST

Human Nature Cast

AFCA Fellow Elliot Connor talks with Ellen Windemuth: veteran wildlife film producer and distributor, who brought us Netflix's My Octopus Teacher. We discuss lion hunts, stumbling upon giraffes, and of course the magical mystery of our mollusk friends. Why are octopuses going slowly blind? And what role might filmmaking play in saving them? Here is the latest episode of Elliot's <u>podcast</u>.



Photo by Ahmad Odeh on Unsplash



Source: <u>elliotconnor.com</u>



May 2021



Tell us what inspired you, what left you thinking. Tell us what you would like to see or what value can be added and how you would like to contribute.

All creative possibilities and inklings are welcome.

Contact us at climateaction@anu.edu.in

Editorial team



May 2021



CALLING ALL SOLUTIONARIES FOR CLIMATE ACTION

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