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Purpose
To excite entrepreneurs, executives and graduate students about immense opportunities in green business.

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How Indians Can Save SE Asia's Rainforests by Cutting Down on Palm Oil

By Benedict Paramanand

India is the biggest importer of palm oil in the world. Very few Indian consumers know what damage they are causing to ecologically sensitive rainforests in South-East Asia by using palm oil rampantly. Most food companies use palm oil but don't mention it in the labels. The Indian government is insensitive and is more worried about reducing the growing import bill. But the poor need this oil as it is the most affordable. Is there a way out of this conundrum?

India is promoting palm oil cultivation in eco-sensitive areas of North-East India with huge subsidies even after many states' official reports show that previous experiments with palm oil cultivation have failed miserably. Farmers are forced to abandon the land as nothing grows for a few years. The productivity of Indian palm oil is one-fifth of that of what's produced in Indonesia and with very high subsidies. So, why is India taking up cultivation of palm oil again?

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Indian poor do need affordable vegetable oil, but at what cost? The Rs. 11,000 crores earmarked for palm oil cultivation in the next few years could be given to farmers to grow indigenous vegetable oils that are healthier and will help improve farmers' income and boost rural employment.

So, what is driving India's affection towards palm oil? Is it ignorance? Is it unwillingness to think medium to long term? Is it policy paralysis? Is it plain indifference? Possibly, all of them.

Way Forward

- The cost difference between coconut oil and palm oil is narrowing. With highly productive hybrid coconut palms replacing old ones, the cost difference is expected to drop even further. **Can India subsidize coconut oil, instead of/along with palm oil at ration shops?**
- Coconut farmers need plantation industry status for coconut farming, if India can give it to coffee and tea, why not to coconut? This will bring in more investment into the sector and make it more efficient
- Subsidies given to palm oil production and distribution can be diverted to production of other oil seeds in India.
- Manufacturers of food products should be made to declare, in bold letters, the name of oil they use, and if they use palm oil, whether it is sourced from sustainable sources.

In its **November 2021 report The Sustainable Trade Initiative (IDH)**, a foundation that works with businesses, financiers, governments, and civil society, has identified barriers and solutions to India importing responsibly sourced palm oil.

- Price implications – The price of **certified sustainable palm oil** is higher than conventional palm oil. Can India subsidize sustainable palm oil?
- Lack of **accountability and awareness** – There is limited awareness about responsibly sourced palm oil in the Indian market and amongst individual consumers. Strong regulatory requirements around responsible sourcing of palm oil further can very quickly push for positive action to limit offshore deforestation risks inherent in our food system.
- **Thought Leadership** – Since palm oil import and trade concerns multiple ministries and key departments in India, there is a need for centralised coordination along with a defined steering role on the sustainability agenda in relation to palm oil and India's deforestation footprint. India is also well positioned to lead regional stewardship for sustainable trade and set a precedence within the Asian continent.

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- **A Better Monitoring System** – A key government agency could be designated for maintaining a central repository of palm oil imports at all terminals and ports. This will improve transparency and accountability through better documentation of origin, port of import, company specific responsibly sourced volumes and overall volumes. This will, in turn, aid the Government of India to inform policy decisions and improve performance on SDGs.
- **Standardization of Duty and Tariff** – Fluctuating tariffs and duty structure were found to be some of the recurring sourcing risks for market stakeholders during the study. Long-term tariff structures will help in providing stability to the sourcing risks faced by companies.
- **Strengthening Efforts on Procurement of Responsibly Sourced Palm Oil** – The lack of a strong regulatory push on deforestation-free supply chain in palm oil imports has been a driver for the low uptake of responsibly sourced palm oil. There is a need to strengthen existing work by the Sustainable Palm Oil Coalition of India (I-SPOC) and the Indian Palm Oil Sustainability Framework (IPOS) to improve the Global South dialogue. This would also serve as a step towards creating a level playing field to help Indian companies in transitioning towards responsible palm oil sourcing practices.

While India draws up its sustainability agenda, it cannot ignore how it sources and consumes palm oil. That the time has come.

Additional Reading – **https://www.npr.org/sections/thesalt/2018/09/21/650431904/amid-palm-oil-boycott-india-wants-to-produce-more-of-it**

Hindustan Zinc To Use BEVs in Underground Mining, Partners with Normet

Hindustan Zinc's Lessons in Responsible Mining

In a free-wheeling chat with Benedict Paramanand, Editor of SustainabilityNext, Mr. Arun Misra, CEO of Hindustan Zinc, passionately shares his vision and plans on how he is shaping his company to be a leader in sustainable mining

You have worked with Tata Steel for a long time, what kind of values were you able to bring into Hindustan Zinc?

I had spent about 30-31 years in **Tata Steel**. Tata Steel is more than a 100-year-old organization, whereas Vedanta is only 25 years old. **Hindustan Zinc**, part of the **Vedanta group**, is a first-generation company. It's a rags-to-riches story. But despite its young age, Vedanta has become a multibillion-dollar enterprise. It is into aluminum, zinc, iron, iron ores, steel, and other minerals.

Unlike the Tatas, Vedanta works on newer business models. It has been a great learning for me here. Here, almost all operations are outsourced. The entire tone and tenor of HR and finance are different. The organization's risk-taking ability is very high. Our Chairman, Mr. Anil Agarwal's stated policy is – even if something is 60% correct (doable), you go ahead and do it.

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It must have been quite an interesting transition for you

Yes, in Tata Steel also, I was known as somebody who would take risks, and I was a go-ahead-and-do kind of a person. I love that way of working. For me, the beginning at Hindustan Zinc was very easy, because that's how I love to work.

Mr. Arun Misra
CEO, Hindustan Zinc

Hindustan Zinc is the lowest cost producer of zinc in the world. So how does one manage being the lowest cost producer and at the same time remain a sustainability champion? Isn't it difficult to do both?

We don't make finished products. Our products go into making of finished products. I know very well that most of these companies we supply to comply with high environmental standards.

If they declare themselves to be green, the pressure will come back on us as we are the suppliers. **So, instead of the pushing us to do it, I thought it is better that we take the lead, and Go Green ourselves, so that we remain relevant in business.**

Second, how do you remain cost effective? Soon carbon price will be a reality, and the world will not allow you to emit CO2 and still do business and make profit. That realty will be in India as well soon. So, it is better that we embrace that methodology, and then look at new projects with the carbon pricing built in.

How green is your energy?

We currently have 275 megawatts of wind power, and solar power of about 40 megawatts. It is much less compared to our demand of 500 megawatts. We are about to sign a power purchase agreement with a company for supplying 200 megawatts of renewable power. With this, about 50% of our thermal power capacity will be taken over by renewable power by 2025. And by 2030, about 80% to 90% of our thermal power will be replaced by renewable power.

As an industry leader how would you define responsible mining in India? How far have we come?

The big question is – How can we ensure that we mine as much as it is needed? That we don't over mine or waste any mineral. How can we recover maximum amount of other minerals from the waste? India has fantastic rules for mineral conservation and if you follow it will help.

World over it is a common phenomenon that people who living around the mines are not benefited from the mining activity.

In India, as well as across the globe, mining towns are desolate while mine owners and executives live well in the cities. So, how does one take care of our neighbors?

At Vedanta or Hindustan Zinc, we are 100% business partner oriented. We are collectively 25,000 work force, about 90% of them are local workforce. Unlike other mines, we engage almost all local manpower in our work. Our pay scale for contract manpower is five to six times the state wages.

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Even if 100% of our operations are outsourced, we take care of our business partner employees as our own, including full health benefits. During Covid, we took care of them with 100% coverage of medical, 100% free vaccination. **Our motto is – in their success, we get our success.**

We also firmly believe that our business partners have a right to the profit we make. This is well-governed by our federation. Normally, other companies' unions or federations are meant for permanent employees. In our case, business partner employees are managed by a federation. It has the power to negotiate everything on behalf of its members.

While maintaining ambient, air, water, quality etc., as per regulations, we have taken steps which are futuristic. We have decided that in the **next five years we will replace all underground diesel-based equipment by battery-operated equipment.** This year itself, we have started introduction of EV vehicles in the mines, and we think that is the only way to go. Our mines are fully digitalized, meaning that a lot of operations can be done from the surface.

Hindustan Zinc is water positive. Let me how you did it

We are 2.41 times water positive, and we want to become 5 times soon. We are putting up more check dams so that villages nearby can conserve water and recharge groundwater.

We are also putting up huge zero liquid discharge plants in all our smelters and mines. All the mine water that we pump out from the mine will be treated and usable at our plants. **We plan to cut down on the water that we take from rivers and lakes so that there will be enough fresh water for the people to enjoy.** This year we are spending about Rs. 400-500 crores on our water projects.

What are you doing about waste?

We have started recovering a lot of minerals and metals from the waste itself. Right now, our waste is from our mines is going for road construction. Many flyovers in Rajasthan would be using some

Hindustan Zinc Limited employees

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of our smelter residues. We are recovering copper, zinc, and have plans for recovering cobalt. We will look at recovering nickel also in the future. Remaining residue could go for cement making. **We may become waste positive in another three to four years.**

Give us your 10-year vision

We will be 100% self-sufficient in water, that is we won't need to draw any water from outside. Will use 100% renewable power. That is, not a single ounce of coal will be burnt to generate power, and 100% equipment will be battery-operated rechargeable equipment, so there will be no fossil fuel in use anywhere. In 10 years, a new HR system will take over, perhaps half of us would operate from wherever we live.

In India there's a perception about Vedanta that it is not a very environment-friendly company. How are you addressing this?

In India whatever grows fast is put to a lot of test. If you start a business, and in five years if you strike gold, everybody will start posting that there must be something wrong. Of course, we are very aggressive, and we are not shy about that. Our chairman is very vocal on issues. His conscience is very clear.

At the end of the day, with all the zinc we produce we have made India self-sufficient. Aluminum can be supplied by Vedanta Aluminum. That's our entrepreneurial spirit. Of course, people would love to question all these things. We are very clear; We are not doing it for personal profit, we are doing it for the country.

How is the global ranking of Hindustan Zinc looking today?

We are already at top five in Dow Jones Sustainability Index ranking, and we hope to be in top three soon. Vedanta is at 16 and is heading to be in the top 10.

Temasek Commits $3.6 Billion for Decarbonization Solutions Platform

Tamasek, a Singapore-based investment company, has launched GenZero, a new decarbonization solutions-focused investment platform. It is committing an initial $5 billion (US$ 3.6 billion) for establishing the platform.

ESG Today reported that the launch of this platform is part of several investment firms' effort to mobilize capital to advance climate and energy transition solutions. Temasek has been part of several initiatives including **Decarbonization Partners**, a climate solutions-focused VC and private equity partnership with BlackRock, and **Brookfield's net zero-focused impact fund**, the Brookfield Global Transition Fund, as a founding investment partner.

Image credit - eltis.org

GenZero will invest in companies developing and commercializing solutions to address the emissions gap to get the world on track to limit global temperature rise to 1.5 degrees, across both the near- and longer-term horizons, targeting opportunities ranging from early-stage companies and solutions requiring 'patient capital,' as well as mature companies that are ready to scale.

The new platform will focus on three key investment areas, including technology-based solutions, nature-based solutions, and carbon ecosystem enablers.

- Technology-based solutions investments include technologies that can deliver fundamental decarbonization impact in sectors such as power and energy, transport and building, industry, and manufacturing, including carbon reduction and carbon removal technologies such as low-carbon materials, Carbon Capture, Utilization and Sequestration (CCUS), and advanced biofuels such as Sustainable Aviation Fuel (SAF).
- Nature-based solutions aims to support and scale the deployment solutions for the protection, restoration, and management of natural ecosystems supporting the avoidance, reduction, or removal of carbon emissions. GenZero will invest and co-develop projects with partners in forestry and agriculture sectors, and leverage carbon credits to accelerate funding into these solutions.
- Carbon ecosystem enablers include investments in areas such as climate advisory services, carbon trading infrastructure, Monitoring, Reporting & Verification (MRV) technologies and rating providers, supporting the development of effective and trusted carbon markets.

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Temasek's Chief Sustainability Officer Steve Howard said: "GenZero expands Temasek's focus on deploying capital to catalyze solutions for a better world. Achieving net zero globally will require deployment of around US$5 trillion annually by 2030 and rapidly adopt and commercialize sustainable energy solutions. Its flexible approach will enable it to catalyze near- and long-term solutions to support ongoing efforts to achieve net zero globally."

The ESG report said that the new platform will be led by CEO Frederick Teo. Teo has been at Temasek for over 12 years, most recently serving as Managing Director of Sustainable Solutions. GenZero's Board of Directors will be chaired by Sunny Verghese, Co-founder & Group CEO of food and agri-business company Olam.

Teo said: "GenZero is driven by the common purpose to decarbonize for future generations. Recognizing the importance of immediate action, we will focus on investment opportunities that can deliver positive climate impact by 2030 while ensuring sustainable financial returns. Besides deploying capital, we will work with our investee companies to address operational challenges and accelerate the deployment of their solutions to achieve our shared net zero target."

https://www.esgtoday.com/temasek-launches-decarbonization-solutions-platform-with-multibillion-dollar-commitment/

374Water Offers a New Paradigm for Water and Sanitation Crisis

By Marc A. Deshusses, Ph.D., and Doug Hatler

Cleantech has enormous potential to shift the waste management paradigm from treatment and disposal to resource recovery and pollutant elimination

Sanitation and drinking water crisis are rampant in many parts of the developing world, including India. Several cleantech innovators are trying to increase awareness and are offering new sustainable waste management solutions.

Cleantech promises to provide benefits beyond basic sanitation and access to clean water. They also offer energy efficiency, water reuse, sustainable infrastructure, and community resilience. Cleantech has enormous potential to shift the waste management paradigm from treatment and disposal to resource recovery and pollutant elimination.

Current methods of handling waste follow older paradigm of either disposal or end-of-pipe treatment. Globally, urbanization and population growth have led to significant increases in resource consumption, and consequently the release of large amounts of waste into the environment. Waste contains toxic, carcinogenic, and non-biodegradable pollutants such as PFAS, drugs, and microplastics. It has led to increased leaching of contaminants into groundwater and surface water, the very source of drinking water.

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Image credit - pixahive.com

Disposal in land dumps emit a large amount of methane, a very potent greenhouse gas. Regulators are responding by prohibiting traditional land application and disposal. **Incineration as the alternative is costly and produces secondary pollution. The world requires new solutions.**

Paradigm Shift in Waste Management

374Water is a US-based cleantech, social impact company working to shift the global waste management paradigm. The company's mission is to preserve a clean and healthy environment that sustains life. It is pioneering a new era of sustainable waste management that supports a circular economy and enables organizations to achieve their sustainability goals.

The company offers an innovative physical-thermal technology that harnesses the power of supercritical water oxidation to transform the simplest and most complex organic wastes such as wastewater residuals and biosolids, industrial waste, food waste, and agricultural waste. When water exceeds 374^{o} and 221 atmospheres (704^{o} F and 3210 psi), it reaches its supercritical state. In these conditions, in the presence of excess oxygen, all organic contaminants are mineralized to clean water, inert gases, energy and minerals, which can be recovered and reused.

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Recovered energy and water can be reused at the local installation. Captured minerals are rich in phosphorus (P_2O_5) which could be marketed and sold to agricultural fertilizer producers and distributors for processing into final form, package and sell it to local farmers and growers.

374Water's AirSCWO™ technology has successfully processed primary, secondary, and digested waste residuals and biosolids, landfill leachate, animal waste, waste oil, food wastes, FOG, drugs, and plastics. The company is conducting research on the ability to process spent granular activated carbon and ion exchange resins from water treatment systems.

The technology achieves greater than 99.9 percent conversion of organic waste. Total nitrogen and phosphorous removal are greater than 80 and 95 percent, respectively. Drugs, PFAS and other trace organic contaminants are destroyed with greater than 99.9 percent elimination efficiency. Microorganisms and pathogens are eliminated. **AirSCWO™ is a truly disruptive technology that is moving society from conventional linear waste treatment and disposal to a circular economy of resource recovery and pollutant elimination.**

374Water AirSCWO™ system

A one metric ton per day capacity AirSCWO™ system has been operating with actual waste at the Duke University campus in Durham, NC, U.S., since 2015. Various waste streams and conditions have been demonstrated during Duke research projects and 374Water treatability evaluations. The tests have enabled 374Water to proceed with commercial design and production of a six metric ton per day AirSCWO™ system.

374Water offers a six wet tons per day (tpd) system today. The company will offer a 30 tpd system next year. A 200 tpd system will be available in 2025. Each wet ton corresponds to the wastewater residuals from 1,000 people, so the respective sizes can serve populations of 6,000, 30,000, and 200,000 people. Prices vary by system size, and 374Water offers purchase, lease, and "as a service" options to enable clients and partners to acquire units in a manner that suits their financial needs.

The first commercial six tpd unit will be shipped in October 2022 to Orange County Sanitation District of California (OC San), a leading wastewater authority located in Fountain Valley, CA. OC San provides wastewater collection, treatment, and recycling for approximately 2.6 million people in central and northwest Orange County, CA. A six-ton-per-day AirSCWO™ system will be deployed

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at one of OC San's wastewater treatment plants to evaluate the potential for AirSCWO™ to solve several longer-term challenges facing OC San.

These challenges include solids processing costs, air emissions requirements for methane and power generation equipment, and emerging contaminants such as PFAS compounds and microplastics, food waste utilization, and efficient use of OC San's treatment plant properties.

Cleantech companies' vision should be to create a world without waste and clean up the environment to preserve clean water. Collaboration with NGOs, municipalities, responsible investors, and humanitarian efforts could accelerate demonstration projects and drive adoption of cleantech to help communities address their pressing water and sanitation issues.

Marc A. Deshusses, Head of Technology at 374Water and Professor of Civil and Environmental Engineering at Duke University, Durham, NC, USA. Marc is a pioneer researcher and entrepreneur. His work on biological filters for air pollution control has resulted in their widespread use for odor and air toxics control. His current work on novel sanitation and waste treatment technologies is breaking new ground in low-cost decentralized sanitation.

Doug Hatler, Chief Revenue Office. Doug is an environmental scientist and engineer who has spent over 35 years applying technology to solve the most pressing global environmental problems that impact human health and the beneficial use of water.

www.374water.com

Demystify Climate Change

Chennai-based Rathindra Nath Roy reflects on how communication on climate change needs to be bottom-up, not elitist, in a chat with Hari Haran Chandra

What do you do when you have spent several decades successfully facilitating and steering many organisations in the development sector worldwide and realise that your effort has not meant much when it comes to impacting the next-door neighbour on simple things that either reduce consumption or make for better ecological footprint?

Rathindra Nath Roy

Rathindra Nath Roy has wrestled with this challenge for some years, in between times, as he says, 'when he is not trying to retire and learn the art of doing nothing'. He has for long been an independent facilitator working with UN agencies, development organizations, enterprises, civil society and communities interested

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Image credit - China Digital Times

in innovation and creative problem solving for livelihoods and lifestyles that reduce consumption and ecological footprints, food sovereignty and governance systems that are mindful and that actually work.

He is from the finest stock as professionals go in India. He read electrical engineering, public health and political science at the IIT, Madras and the University of Miami in Florida. As a researcher and development practitioner he worked with the Gujarat Institute of Development Research, and the Murugappa Chettiar Research Centre back home in Chennai. Over his years, he advised the Swedish International Development Agency on social and community forestry efforts and spent many years facilitating management of small-scale fisheries as a senior professional with the Fisheries Department of the Food and Agriculture Organization of the UN. He sees things from the bottom of the heap, understands the pains and pangs of fisherfolk or of those who live in what we call slums.

How do you benefit the poor, I ask him. How do you take innovative products or ideas to the rural poor? Or for that matter how do you enable value chains to help farmers reach markets? How do you bring reconciliation using dialogue, visual thinking and sketch-noting, calligraphy, gardening, cooking and what can be best described as the archaeology of the ordinary?

Says Rathindra, “One of my concerns is, when we talk about climate action or climate change and environmental issues, our connectedness, interconnectedness and interdependence with nature is hardly talked about. We know it is a complex global problem, which make it all the more difficult to reduce it to simplicity. When an institution has to work, when bureaucracies have to work, they have to be able to communicate things. Sometimes it is about things to do, other times it is about

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things to pay for; who should do what. They have to be able to do it with the agility and guile that is needed to go up and down the bureaucracy and sideways in the bureaucracy."

What gets done in the government or in industry are things that are easy to talk about. City ratings is one good example. The Cleanest City in India, the greenest building in a city …. people seem to love ratings because it is easy to simplify extremely complex things to a nice number and then you can get the PR machinery to take it to social media. We do it because it is a twitter thing to do.

Take the **climate change discussion and discourse. It still remains elitist. It's happening among scarily small numbers of people, and among people who have a language of their own. When the 'expert' talks about climate change,** says Rathindra, "I can easily confess to you the number of words that I'm not really clear about. And it's not because of a lack of education. I genuinely don't know what is being talked about and the more I talk with, 'experts' I realise, to my horror and dismay, that they don't know what they're talking about either."

Rathindra pauses, searching for the right thing to say, "It's an agreed-to concept that is being shared around, you know, and there are hundreds of it when it comes to climate change all the way from words which have become absolutely common like 'sustainability'. Over 40 years of work. **I haven't come across anyone who has clarified to me, how on earth you measure sustainability! What is it anyway? How do we measure it? How do we understand it in a complex system?**

Does Awareness Leads to Change?

Does awareness and knowledge lead to change? Rathindra looks quizzically, "Ah, I have asked that question often in my own life. Take my personal behaviour. I have a degree in public health. I know a hundred reasons why I shouldn't smoke, yet I did for a very long time. I had excellent reasons that I convinced myself upon on why I should be smoking. I'm not saying we should not make an effort to get a deep understanding of causes and reasons. I think we need to ask ourselves, So what does it mean?

"How do people understand these things inside their heads? Take water and usage. We are one of the most water inefficient when it comes to agriculture. Thanks to high science, not low science, and the choices India made in the 1960s and 1970s, we have a legacy that seems impossible to get over when it comes to cultivation.

When it comes to our cities, and water, and the cost of energy that water brings, we ignore the challenge. We are driven by convenience. We choose transportation or water technologies and systems, or energy purely on the basis of convenience. We are willing to pay for it because we want convenience. We want to save time. We want to save our personal effort and energy. And when it comes to play as a primary decider, we hit those inevitable challenges of abuse and excessive use of precious natural resources.

"Let us accept that it's very difficult to talk about any city- or country-wide problem, unless a lot of people start doing things or acting in a prescribed way. We saw how it worked in the initial weeks of the Covid scare when the country was brought to a halt. Scare worked. We saw the real benefits.

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We saw the Ganga in Kanpur running clean, or the Jamuna in Delhi. So what does it take for the bureaucrat to come down on those polluters along the rivers?

"There is a larger aspect that we should be concerned about. Not only should you be changing as an individual or as a collective of people, but you have to encourage others to change because if they don't change and you change, it's not enough. You could say that of the spread of the Corona virus or, well, of the use of water or energy or how you generate or manage waste in homes, offices, hotels, hospitals or industry.

Simplify Language

"Two things which might slow us down a little bit, and offer our cities a better chance. One is about how we use language to understand the peculiarities and the nature of climate change and environmental degradation, not in a scientific sense, but in a way that the rickshaw puller, the school child, the slum dweller, the fisherman and his family, and the lifestyle denizen who uses 80 percent of all resources that a poor urban citizen uses. Why is it so difficult to pretend to be predictable in a system that is basically unpredictable?!"

It is amazing that rapidly over the last 5 to 7 years we have technologies for reducing freshwater use and grid energy demand for your home or office by as much as 70 percent. What's more, they are available at costs that offer returns that you can dream of earning in any business.

Rathindra goes on quietly, as he leans forward in his chair, "How do we unravel these with stories that make it easy for the lay person to understand? How do we get the expert to stop talking to other experts, and start reflecting on how to reach out to those who 'do not understand it'? Their ability to understand what people are talking about becomes much easier with stories, with little things they can relate to in their everyday lives.

"Well, the second key concern I have zoned down upon in my understanding is to with the inequities we have built into our system – economically, politically, socially. They aggravate the essential problem of the resource crisis by making acceptance so much more difficult. It makes it almost impossible to do these things. First we have to build narratives, where we all begin to understand not the jargon that's tossed around, but what it really means to people every morning as they live out their day, as they commute, as they work. That will lead us to ask ourselves what can I do today to make a difference.

Hari is a Trustee at INHAF, Prem Jain Memorial Trust, AltTech Foundation and a Senior Fellow at the Indian Green Building Council. He can be reached at hari1degree@gmail.com.

Re Sustainability to Fund Ideas in Waste

Re Sustainability Limited, formerly Ramky Enviro, a KKR-backed company, a leading provider of comprehensive environment management services, has announced plans to support idea in waste management, recycling and circular economy ideas that have the potential to bring about transformative change.

The company seeks to provide a platform for individuals or organizations who have innovative ideas, technologies, concepts, or business models that can create sustainability impact at scale. The initiative seeks entries from around the world across 5 categories within a 30-day window.

Ideas will then be scrutinized and shortlisted by an Innovation Council made up of sustainability thought leaders and business leaders. The selected ideas will receive a financial support up to INR 5 crores and a customized incubation program including 1:1 mentoring, technology validation, go-to-market support, and where relevant, a longer-term partnership opportunity with the company.

Initial entries, in the form of a brief description of the idea, its impact potential and scalability, have to be mailed to innovation@resustainability.com on or before 05 July 2022. The relevant innovation themes include:

- Waste Segregation & Treatment Technologies.
- Recycling & Resource Recovery Technologies.
- Social Inclusion & Community Engagement towards Circular Economy.
- Fuels and Energy from Waste.
- New Circular Economy and Decarbonization Business Models.

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Following the first round of screening in July, up to 25 shortlisted entries will receive guidance and support from the Company towards second-level submissions and further detailing of the ideas. Up to five finally selected ideas will be taken through a structured "Innovation Funnel" approach, from Proof of Concept/ Pilot Scale onwards, eventually towards full-scale implementation.

The company also announced new partnerships — with Uflex, a leading global packaging company towards recycling of Multi-Layer Plastics (MLP); with Iris-Mec, a leading European recycling technology company for its pan-India network of ELV recycling facilities.

The company also announced that it will be shortly commissioning India's most advanced and fully integrated refinery for E-waste & Li-Ion battery recycling. This recycling plant has been built in Hyderabad in partnership with Reldan, a global leader in e-waste and precious metals recycling.

RE Sustainability offers a whole gamut of environmental services and infrastructure solutions under various categories such as Waste Management – hazardous, municipal, and biomedical, MARPOL, construction waste & e-waste; Waste to Energy; Recycling – wastewater, paper, plastic, and integrated waste; Environmental Solutions such as remediation, ETPs and wastewater treatment; automated car park management and Facilities Management.

Re Sustainability has a growing global footprint, including over 85 operating locations spread across India, Singapore, UAE, Qatar, Saudi Arabia, Kuwait, Oman, Tanzania and USA. With over 25 years of operational history, RE has a dominant presence across the entire waste value chain and has been a long-standing partner in the environmental solutions space to its customers.

resustainability.com

Food-to-Feed Firm Wastelink Raises Rs. 10 crores in Seed Funding

Wastelink, a food upcycling start-up, has secured a seed funding of Rs. 10 crores. The funding is led by Matterhorn Projects LLP, Indigram Labs Foundation, Sanjiv Rangrass, and other angel investors. Wastelink is incubated at the Indigram Labs Foundation. The capital raised will be used to expand Wastelink's footprint across India and scale up their nutrition science and food waste supplier platform capability.

Led by entrepreneurs Saket Dave and Krishnan Kasturirangan, Wastelink is building build a sustainable food-to-feed ecosystem for the country. Through state-of-the-art processing technology, the startup transforms food waste into high energy ingredients for the animal feed industry, generating economic and environmental benefits.

A company note observed that 8% to 10% of global greenhouse gas emissions are associated with food waste. These statistics are released by the **UN Environment Program (UNEP) 2021 Report**. As

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Image credit - circularonline.com

per the **Food and Agriculture Organization 2021 report** 40% of food produced in India gets wasted largely due to fragmented food production systems and supply chain.

Saket Dave, CEO of Wastelink said, "We are extremely excited to have raised our first-ever funding and the opportunities that come with it. The collective experience of our investors along with the capital will immensely benefit us as we chart our journey towards national expansion. **We aspire to make a meaningful positive impact on society by upcycling 1 Million Metric Tons of food waste within 2-3 years."**

Commenting on the investment, Malvika Poddar, Director Matterhorn Projects LLP said, "Wastelink is unquestionably bringing momentum to the circular economy, which is the need of the hour. We are excited to partner with Saket and Krishnan who bring vast experience as well as a passion for working towards a global issue simultaneous to economic growth. The founders have a unique approach to penetrate the food waste supply chain and create monetary opportunities".

Wastelink, a tech-enabled B2B food upcycling startup, strives to build sustainable food-to-feed ecosystem for the country. Keeping sustainability at the core, the team helps food manufacturers and retailers prevent food waste generation by transforming their surplus and rejects into nutritious animal feed. Founded in the year 2018, by engineers Saket Dave and Krishnan Kasturirangan, the team has an expertise in feed nutrition and technical processing and uses it to produce thousands of tons of high-energy feed ingredients trusted by the leading feed brands of India.

The Big Business of Turning Food Waste into Food, See SN's interview with the founders **here**

Image credit - pikist.com

Vanantara – Home in the Forest

People's quest to live with nature as well as have the comfort and efficiency of a city life is throwing up many hybrid models. So far, the options were to have an apartment in the city and a farmhouse on the outskirts for weekends. Several new-age home builders have been striving to provide a natural feel to luxury home buyers by putting up parks and water bodies in the complex.

However, **Vanantara**, a Bengaluru-based firm, is experimenting with a unique model where it promises to provide an authentic and expansive forest experience to its residents in its 100-acre project at Parrakurubarapalli, Shoolagiri district, about 100 kms from Bengaluru in Tamil Nadu.

The firm took to extensive planting of 250 species of trees during monsoon in 2017 on what looked like a barren land with poor soil quality. Abandoned cattle were brought in and taken care at project site. Their dung was used as manure for over 40,000 trees that are now in various sizes and spreads. A nursery with local species of trees, flowering plants, creepers is well-stocked.

"We have the beginning of what I am certain will be a lush forest in the years to come. Much of the joy will be in nurturing this plantation, seeing it evolve and knowing that we had a hand to play in it," says Varun Ravindra, a first-generation entrepreneur, who is driving this project.

Continued on next page

Varun, 39, left his job in a consulting firm to pursue this project. He got a few of his friends together six years ago to pool in to buy 100 acres which the hope of turning it into lush-green forest. He is particular about who buys into the project as he is keen that a community of like-minded people live there in harmony and run it. A fellow of the Institute of Chartered Accountants of India and an alumnus of the Indian School of Business his passion for the natural world led him towards afforestation and regenerative farming practices. He is also the founder of Run Forest Run, an initiative to reforest urban landscapes.

Varun has teamed up with Siddharth Devaraj, a permaculturist, forester and sustainability consultant. Siddharth believes that with regenerative agricultural practices any land, anywhere can be revived into productive ecosystems. He runs a regenerative agriculture consultancy called ElemenTre3.in. It employs principles of permaculture design, syntropics along with forestry systems to help cultivators and developers revive ecosystems quickly and naturally.

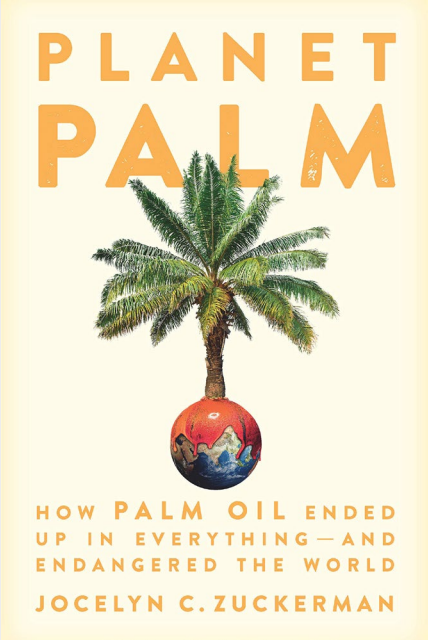
What's Unique

Vanantara is a first of its kind forest farm community. The 100-acre farm includes Miyawaki forests, permaculture food forests, ponds, and catchment areas with a diversity of aquatic plants. Says Siddharth, "We have combined these different systems in ways that will help rejuvenate this particular land scientifically and as sustainably as possible."

The initial response to the project Varun says is good but his bigger challenge is marketing the project's theme effectively. Patience to wait for the right buyers is key.

www.vanantara.com

Only Consumers can Halt Rainforest Destruction by Palm Oil



The nexus between politics and industry is unlikely to save virgin rainforests across the world, especially in Indonesia and Malaysia. Only well-informed consumers can, says **Jocelyn C Zuckerman**, author of the book '**Planet Palm – How Palm Oil Ended up in Everything – and Endangered the World**,' in conversation with **Benedict Paramanand,** Editor of **SustainabilityNext**. The recent **conversation** is part of the SN Dialogue series.

The purpose of Jocelyn's investigative book is to inform consumers of the harm they are causing the planet and show them how they are harming themselves too. A few consumer activist groups in Europe are forcing multinationals to abandon palm oil in most of the food products they make. If abandoning is not that easy soon, she suggests that MNCs could declare on the label that they use responsibly-produced palm oil.

Planet Palm compels readers to examine the connection between the choice they make at the grocery store and the planet under siege.

Consumers are still oblivious to the dangers palm oil is causing their health. And large MNC food companies are taking advantage of it. The reason for writing this book, she says, is to make people aware of the large-scale dangers of using palm oil.

Her book shows how forests are healthier if their stewardship is with indigenous and local communities, better than with the governments.

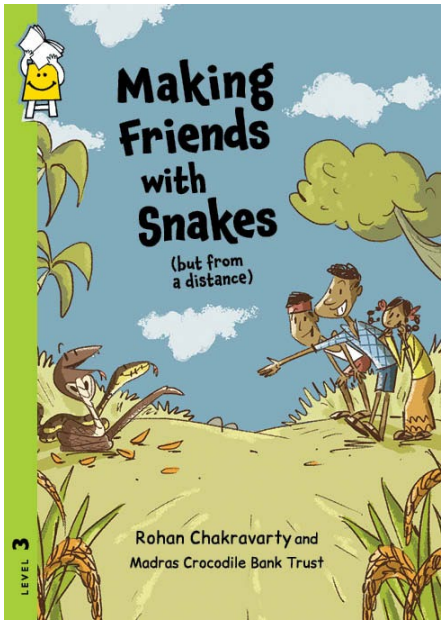
To Jocelyn, the good news is that the global community is beginning to understand the importance of forests to an extent that they never did before. So, she believes chances of reducing the rate of deforestation much better now.

Rich countries like the US and Europe are realizing that they can't sit there and ask Brazilians (for example) to stop cutting down rain forests. There is a new awareness that "we are the consumers who are using most of the stuff that's coming out of it." The author is amused by the fact that India consumes palm oil the most but doesn't show any remorse doing it. "People (consumers) need to be informed how they are responsible for vanishing of tropical rainforests, biodiversity, climate change."

See the book review of Planet Palm – How Palm Oil Ended up in Everything – and Endangered the World **here**

Awsssssssome Snakes!

By Aparna Kher



Making Friends with Snakes (but from a distance) is an apt name for a children's book that begins with the premise that snakes can be scary but only because they are often maligned and misunderstood (also see: **Snakes in Indian Children's Literature**). The book dispels popular myths about snakes, talks about different types of snakes and their peculiarities and gives us the appropriate information we need to keep ourselves safe in their company.

Written and illustrated by Rohan Chakravarty, the celebrated creator of 'Green Humour', the book is a hilarious, graphic tale, told from the snakes' point of view. It plays out through a conversation between Naagin and Dhaman, two friendly snakes and a bunch of children who are about to hurt them. The snakes explain themselves to the children with details about their personalities, their food preferences and how they are afraid of humans because they tower over them.

We are introduced to the four common types of venomous snakes – the Spectacled Cobra, the Saw Scaled Viper, the Common Krait and the Russel's Viper – along with their characteristics and the places they like to hang out. The snakes point out simple ways in which we can avoid frightening them when we are outdoors. What is common to all snakes is that even when threatened, they will first warn humans in multiple ways before they attack. Despite their best efforts, snakes are forced to bite resulting in fifty thousand snake bite accidents a year. The book closes with do's and don'ts in the case of snake bites.

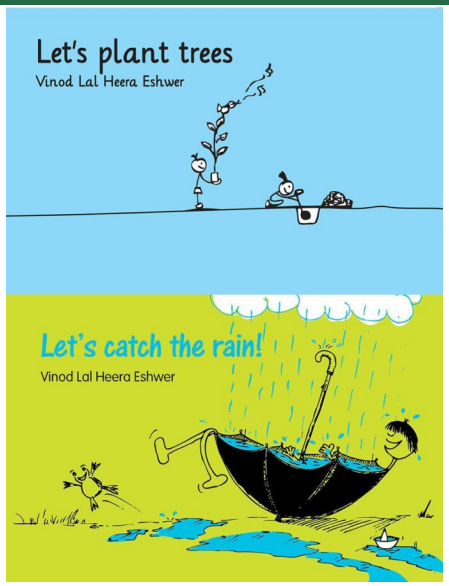
The witty, conversational style and the comic book format makes this book highly accessible for readers who are able to read on their own.

Not all animals are created equal. While this quote from George Orwell's 'Animal Farm' refers allegorically to disparities in society, it very well applies to how likeable animals are to us. Deers or rabbits have endearing stories woven around them while snakes have unfortunately garnered a negative reputation despite their important role in our ecosystem. The best way to address this imbalance is through books for children such as this one, which is as delightful as it is informational and eye-opening. It skillfully shows how predators can also feel under threat. Most importantly, it shows us the critical need to understand the behaviour of species around us so that we can co-exist with them peacefully.

(Also available in various other languages on the Storyweaver platform)

Of Planting Trees and Catching the Rain

By Richa Chadda



'Plant more trees' and 'save water' are probably the most common phrases parroted by children, when it comes to environmental conservation. But how do children understand why they should do this, and what they can do?

With bite-sized, lyrical text and quirky illustrations, **Let's Plant Trees** and **Let's Catch the Rain** – written and illustrated by Vinod Lal Heera Eshwar – offer a great introduction to these concepts.

As suggested by the titles, *Let's Plant Trees* urges young readers to increase the green cover while *Let's Catch the Rain* promotes rainwater harvesting. However, there are no lengthy explanations and certainly no preaching. Instead the books give pithy reasons accompanied by clever illustrations that invite readers to think and explore on their own. For example, one of my favourite illustrations in *Let's Plant Trees* shows a dog barking at a cat on a tree. But the cat is lounging unperturbed by the barking. The foliage ensures that the noise doesn't get to it. Predictably, the text reads 'trees block noise'! Similarly, in *Let's Catch the Rain* the author shows rainwater being collected in all manner of things – from inverted umbrellas to every conceivable kitchen utensil and tumbler. Watch out for the little bird frolicking in the rain – it's guaranteed to make you chuckle!

The call to action is subtle, yet impactful enough for young readers to demand a 'tree' for planting or a container to hold water the next time it starts raining. The small size of the books makes them attractive for children, but a larger size would have done more justice to the illustrations in the books, giving children greater room to pore over the details. It's also interesting that the author has chosen blue for the book on planting trees and green for the one on catching the rain. The colour scheme is even more impactful since the books follow a minimalist, two-colour palette.

Affordably priced and creatively produced, the books are sure to capture the imagination of little children, while giving thoughts and ideas for the rest of the family to mull over. From imaginative ways of illustrating eco-friendly concepts to investigating the reasons cited by the books at a greater level… there is no end to the possible conversations and arty activities one can conceive at the end of the reading. So get your copies, already!

(Also available in Hindi, Marathi, Gujarati, Bengali, Kannada, Malayalam, Telugu and Tamil)

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