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Changemakers

Profile

Chit Chat

FROM THE EDITOR

Dear Reader,

India, a land renowned for its agricultural heritage, is now at a crucial juncture where it must reevaluate its farming practices to ensure a sustainable and prosperous future. As the global population soars and climate change threatens traditional methods, the time has come for India to embrace natural farming wholeheartedly. Natural farming, with its emphasis on organic techniques, biodiversity, and minimal chemical intervention, offers a viable solution to the challenges faced by Indian agriculture today. In this editorial, we delve into the urgent need for India to adopt natural farming as a transformative approach for sustainable food production and rural development.

The cornerstone of natural farming lies in the preservation of soil health, a crucial asset that sustains crop growth and ensures long-term productivity. Unlike conventional farming, which heavily relies on chemical fertilizers and pesticides, natural farming emphasizes the use of organic matter, compost, and beneficial microbes. This approach enhances soil fertility, promotes water retention, and prevents erosion, enabling farmers to achieve higher yields while maintaining the integrity of their land. Furthermore, natural farming encourages biodiversity by cultivating diverse crops, thereby preserving indigenous seeds, protecting pollinators, and reducing the risk of pest outbreaks.

Modern agriculture has often disregarded the detrimental environmental consequences of intensive chemical-based practices. However, natural farming offers a path towards sustainability by minimizing water pollution, reducing greenhouse gas emissions, and conserving energy. By avoiding the use of synthetic inputs, farmers can safeguard water bodies from chemical runoff, protect aquatic ecosystems, and maintain water quality for both agricultural and domestic purposes. Moreover, natural farming's focus on carbon sequestration through organic matter management can contribute significantly to India's efforts to combat climate change.

Natural farming has the potential to revolutionize the lives of India's small and marginalized farmers. By eliminating the need for expensive chemical inputs, farmers can substantially reduce production costs, making agriculture economically viable even for those with limited resources.

The changemakakers featured in this issue are those who encourage natural farming practices. Let's encourage natural farming and ensure environmental sustainability.

Marie banu

EDITORIAL

Latha Suresh

Marie Banu

Working hand in hand with communities to reset behaviour

Imagine you live in a coastal town, sunny and bright with the soothing sound of waves reverberating at your doorstep. Now imagine, you walked to the beach and you were greeted by 33 dead turtles?

This is a true story that the residents and beach-goers of Karaikalmedu and Kilinjalmedu witnessed in Karaikal Municipality, located in the Union Territory of Puducherry, India. The reasons are multiple – abundance of plastic fishing nets abandoned by trawlers, plastic waste generated by tourists drifting in the coastal waters where these turtles reside, and hazardous water from land that mixes with seawater at estuaries.

Climate change is a direct outcome of human behaviour and actions. And the very same humans, as conscientious decision makers, can bring about a difference through daily actions and affirmations.

To maintain a balance in the ecosystem, avoid further destruction in the environment and prevent overconsumption of natural resources, we value resetting behaviour a key part of our community engagement at Hand in Hand India. We believe that every individual has the potential to create a ripple effect for sustainable change. We curate campaigns and communication material based on the mindsets and needs of different target groups to ensure they are convinced of the messaging. This process takes time, so our initiatives are usually long term with active community participation.

Start Them Young

Some habits stick longer than others. Especially if they are taught early on. In line with this, we work with school children to train their mindsets towards sustainable decisions, keeping in mind their impact on the environment.

We conduct training camps at our solid waste management projects' resource recovery parks (large areas where we segregate solid waste and ensure proper treatment/disposal of the same) for school students. We provide live examples of how waste is segregated and disposed of, and what happens if segregation is not done appropriately in their homes. These young minds imbibe the concept like sponges and take the messages back home and to their parents.

Even during the pandemic, with the support of CSR partners, we conducted online training for students on different topics like waste management, energy efficiency, water conservation, soil health, etc. The online training is followed up with project work, with students having to come up with innovative ideas applying these concepts and present it to their classmates. Prizes are distributed and the concepts implemented too.

An interesting example of how this programme has made an impression is at Pudukkottai in Tamil Nadu. The resource recovery park there has a lot of plants in upcycled pots, which happens to be along a route to the local school. One day, our team saw three school girls watering the plants on the way home from school. This surprised onlookers as they were young and so conscientious–an outcome of the training given to them on the importance of nurturing plants and greenery.

A Message a Day

How impactful is an ad in the newspaper you see every day or a billboard on your way to work? If the visuals are catchy, there will be some memory of the brand name. As such, we decided to start a unique "A Message a Day" campaign. Clad in fluorescent jackets and wide-brimmed hats, our dignified sanitary workers, called Green Friends, were seen bustling about town one day. Each of their jackets had a message related to the broad theme of environmental conservation, while they repeated messages about simple actions to take to the residents they serve all day, such as "Avoid using single-use plastics", "Do not litter" or "Keep the coast and beaches clean". This simple reiteration of the message every week created a memory loop among the residents, encouraging them to inculcate these habits in their day-to-day life!

Community Engagement Activities

The concept of community goes a long way in bringing about change in mindsets. It provides an opportunity to engage young and old alike. Our 'Waste Carnivals' are an example of this.

As the name suggests, we bring together the community to participate in events such as competitions on thematic wall painting and rangoli (colourful floor drawings typically found in front of households) with slogans. We hold teaser campaigns, street theatre and mobile auto campaigns.

Each of these tickles a different sense of the human mind and supports effective recall. For example, the colourful rangolis are not merely a feast for the eyes but must be thought through by the teams in terms of their impact based on the theme. The audio campaigns use music as a tool to pass on messages related to proper consumer behaviour. Teaser campaigns have cryptic messages placed in locations all over the community for a week, leaving people guessing and curious!

Community-based events also provide an opportunity for like-minded people to pledge to make a difference together rather than at an individual level. For example, a group of 12 women from a self-help group at Karaikal have come together to voluntarily run a coastal Litter Picking campaign and managed to collect 300 kg of single-use plastic bags, cups, glass bottles, polystyrene, and discarded plastic nets in just one morning! This has now become a weekly activity – taking responsibility for human action.

Wondering what happened to the turtles at Karaikal? We used this incident to sensitise the locals and transform them into model responsible citizens. Through awareness programmes, the village of 2,500 pledged to avoid single-use plastics and keep the beaches clean henceforth. This resolution was also communicated to all tourists and beach-goers.

Whether it is big cities or rural towns, climate change is impacting livelihoods, lifestyles and access to basic amenities. Behavioral change is slow but evident. In our Karaikal project, we have convinced about 56% households to segregate waste out of the 25,000 households over a period of five years through continuous sensitisation activities. Over a period of one year, we can bring about around 10 per cent change towards sustainable habits. Sustained efforts, continuous innovation and reiteration of messages remain the way forward!

A story by Our Better World – the digital storytelling initiative of the Singapore International Foundation (www.ourbetterworld.org)

My family farmer

Many people are becoming more conscious of the impact of conventional farming practices on human health and the environment. Natural farming avoids the use of synthetic pesticides, herbicides, and fertilizers, reducing exposure to potentially harmful chemicals in the food we consume and minimizing pollution of soil and water resources. Natural farming emphasizes sustainable agricultural practices that promote soil health, biodiversity, and conservation of natural resources. By using techniques like crop rotation, composting, cover cropping, and integrated pest management, natural farming aims to maintain and improve the long-term fertility and productivity of the land.

Also, by reducing reliance on fossil fuel-based inputs, preserving soil carbon, and promoting sustainable land management, natural farming can help reduce greenhouse gas emissions and increase the resilience of agricultural systems to climate variability. The combination of such health and environmental concerns have contributed to the growing popularity of natural farming as a sustainable and responsible approach to agriculture.

Mr. M. Senthil Kumar from Rishiyur Village in Needamangalam Taluk, Thiruvarur District hails from a farmer family, whose father continued to do farming till his last breath. His family has been farming since the last 150 years. His father strongly believed that farming can never be given up, irrespective of the scale of hassles farmers have to go through. "It is a big responsibility to feed generations. We must listen to our soil," he would say, as Senthil emotionally recalls. Farming did not give his father much profit in the last thirty to forty years, yet he continued. But Senthil did not start as a farmer. He studied Masters in Business Administration and worked in the corporate sector for almost twelve years. It was the sudden demise of this 78-year-old father that brought him back to the village and his family.

"I just could not accept that my father could fall a victim to multiple organ failure. He led a healthy lifestyle and we siblings were looking forward to plan a grand celebration for his 80th birthday. I explored more about why his health deteriorated. Spoke to friends, doctors and found out that his regular consumption of pain killers, which are actually not advised to be consumed continuously for more than seven days, affected all his organs. In the process, I was drawn to health as a phenomenon," explains Senthil.

A study on 400 farmers above the age of eighty years in 2013-2014 caught his attention and he was impressed by the science of early morning oxygen content in our surroundings, quality of food they consumed and their active lifestyle. "None of this was new, our ancestors also lived like this before. What changed us?" he introspects. He soon understood that natural farming is the only way to keep air, water and soil clean. "Only then all species will be healthy. For humans to be healthy, all other species should also remain healthy," he adds.

Senthil started the Healthy Kids play school in Chennai to demonstrate the power of chemical free natural food on children's health, concentration and performance.But the level of adulteration in food crops convinced him to start farming on his land. He started on three acres and today, farms over 20 acres, producing more than 40 tonnes of different traditional varieties of rice. He showed how profitable cultivation of sesame seeds could be, in just a matter of three months. He used only natural methods and got in touch with many such farmers, soon forming the Tamil Nadu Iyarkai Unavu Urpathiyalar Kootamaipu enrolling more than five thousand farmers. This federation is now planning to do large scale composting to ensure steady supply or organic manure for the farmers. They have adopted the Jawadhu Hills in Thiruvannamali district, Tamil Nadu and aim to transform it into a replicable model 'natural farming zone'. "Awareness and sensitisation always keep happening through food festivals and other campaigns. A model natural farming zone will be able to better demonstrate the principles of integrated agriculture management so that the symbiotic relationship between air, soil, water and health is intact," he says.

Senthil has also formed a 500 members farmer producer group. He uses all his networks and opportunities to promote the idea of 'family farmer'. "Every family needs a family farmer, just like the family doctor and family lawyer they have. By doing so, families are assured of getting naturally grown, toxin free grains, vegetables and fruits. On the other hand, farmers are assured of a minimum price and a consistent demand for their produce, without middle men thus ensuring that they don't run into losses in spite of doing the most significant work for humanity. Farmers and consumers get to interact with each other directly, build a bond and sustain agriculture for the next generations to follow suit," says Senthil.

A recipient of many awards like the Nammazhvar Award (2022) from the Government of Tamil Nadu, Best Farmer Award (2020) for producing traditional rice varieties from the Tamil Nadu Agricultural Technology Management Authority (ATMA), Velaan Semmal Award (2022) from the Lions Club International, Trichy chapter, Nel Jeyaraman Award (2022) from the World Centre for Tamil Culture, Senthil continues to inspire many youngsters who are passionate about natural farming. "Once you choose your family farmer, you will be, too," he laughs.

Shanmuga Priya.T

Strike your roots for permanent solutions

India, with its diverse ecosystems, rich agricultural heritage, and growing environmental challenges, has emerged as a hub for permaculture practices and principles. Permaculture's holistic approach to designing sustainable systems aligns closely with India's cultural and ecological ethos, making it an ideal framework for addressing the country's agricultural and environmental needs. From small-scale organic farming to large-scale landscape restoration, permaculture is gaining momentum across India, offering hope for a sustainable future.

"Individuals, communities, and organizations have begun adopting principles and practices of permaculture in India," says Vijayalakshmi, farm consultant at Vishwapriya Permaculture, "The concept aligns with our diverse agricultural traditions and the growing interest in sustainable and organic farming methods."

She adds: "Permaculture techniques can be particularly relevant in addressing challenges such as water scarcity, soil degradation, and climate change resilience."

In India, permaculture also finds resonance with traditional agricultural practices deeply rooted in ecological wisdom. Farmers have long understood the importance of working in harmony with nature, and permaculture builds upon this foundation. By observing natural patterns, leveraging local resources, and emphasizing biodiversity, permaculture offers innovative solutions to the challenges faced by Indian farmers, such as water scarcity, soil erosion, and unpredictable weather patterns.

"More awareness through courses are inspiring people to take to permaculture," says Vijayalakshmi, "Thousands of certified teachers silently working to spread knowledge and educating. The prevalence of a certified PDC course, Advanced PDC course and practical work on design principles has increased in the last decade, not to mention the benefits of regenerative permanent agriculture are great lessons in going back to the roots."

In 2013, Vishwapriya Permaculture commenced operations in Bangalore. Previously, its practice and natural farming methods were being taught. The main objective of introducing permaculture was to bring about awareness in urban communities and train children as the grass-root level.

Water management is a critical aspect of permaculture in India. With a large part of the country facing water scarcity, permaculture techniques such as rainwater harvesting, contouring, and swales have gained popularity. By capturing and storing rainwater, farmers can ensure a steady supply of water for their crops, recharge groundwater levels, and prevent soil erosion. Additionally, permaculture promotes the use of efficient irrigation techniques like drip irrigation, minimizing water wastage and maximizing crop yield.

Permaculture gardens and farms in India prioritize biodiversity and sustainable food production. Traditional Indian farming systems, such as agroforestry, are integrated into permaculture design, allowing for the cultivation of multiple crops and trees in a harmonious and mutually beneficial manner. Polyculture gardens, where different plants are grown together, mimic natural ecosystems, enhance soil fertility, reduce pest and disease pressure, and provide a diverse and nutritious food source.

"We can inspire people to bring change in their lifestyle and the food they consume," says Vijayalakshmi, "Our workshops have helped thousands of people in taking concrete steps towards healthy living and this has paved the way to collective realisation of the responsibility humans have towards mother nature."

Community-driven initiatives have played a significant role in promoting permaculture across India. Collaborative efforts between farmers, environmental organizations, and local communities have resulted in the establishment of permaculture demonstration sites, training centres, and knowledge-sharing

platforms. These initiatives empower farmers with the skills and knowledge needed to adopt sustainable practices, revive traditional wisdom, and regenerate degraded landscapes.

"I am now working more in rural areas, as permaculture can be practiced anywhere," says Vijayalakshmi, "I believe we need to pass on the knowledge we've received for the betterment of the future and the ecosystem of earth."

However, permaculture's impact extends beyond rural areas; it has found relevance in urban environments as well. Urban permaculture initiatives in India focus on sustainable urban design, organic gardening, waste management, and community engagement. Rooftop gardens, vertical farming, and community gardens are transforming concrete jungles into green oases, providing fresh produce, mitigating urban heat islands, and fostering community resilience.

"Urban spaces are quicker and find it easier to adapt to the principle, as the majority of people live in the city are generating more waste which can be recycled locally to produce locally," says Vijayalakshmi, "Work within the local community paves way for this."

The principles of permaculture are not limited to agriculture; they extend to other aspects of life, including energy systems, building design, and waste management. Renewable energy sources, such as solar and wind power, are integrated into permaculture designs, reducing dependence on fossil fuels and promoting sustainable energy solutions. Natural building techniques, such as adobe construction and bamboo structures, minimize the ecological footprint of infrastructure projects. Additionally, permaculture promotes waste reduction, composting, and recycling, closing the loop and minimizing environmental pollution.

Government agencies and policymakers are recognizing the potential of permaculture in addressing India's environmental challenges. Several states have initiated programs to promote organic farming, sustainable agriculture, and permaculture practices. By integrating permaculture principles into national policies and initiatives, India can pave the way for a sustainable and regenerative agricultural sector, protect biodiversity, and mitigate the impacts of climate change.

Permaculture in India is not just a set of techniques; it embodies a mindset that values the interconnection between humans and nature. By embracing permaculture, India can build a resilient agricultural system that conserves resources, enhances biodiversity, empowers local communities, and ensures food security. It provides a pathway to reconcile traditional wisdom with modern challenges, demonstrating that sustainable development is achievable.

"In the name of development, we have moved four steps ahead, and now we really see that it is not leading anywhere," says Vijayalakshmi, "Going three steps behind can give us clear solutions — to go back to our roots, culture and agriculture is the key to permanent development."

She adds: "Our culture and our agriculture together is permanent, and that's what permaculture is all about."

As permaculture continues to gain momentum in India, it holds the potential to transform the agricultural landscape, regenerate ecosystems, and inspire a new generation of environmentally conscious citizens. By nurturing sustainable landscapes and promoting a holistic approach to development, India can forge a path towards a greener, more sustainable future for itself and serve as an inspiration to the world.

Rahul Philip

Vetiver—The Divine Grass

A Miracle Grass with origins in Tamilnadu and hence its name, also called Khus-Khus, Chrysopogon zizanioides is Natures gift to the World with multiple end uses and benefits. It is now used by about 100 Countries in the world for its properties.

I attended the Seventh International Conference (ICV-7) in Chiang Mai, Thailand during 29th May to 1st June 2023 along with nine delegates. The event was extremely well organised with participation from more than 25 countries including India, Bangaladesh, Thailand,Indonesia, Vietnam,China,Taiwan,Banglades h,Malaysia,South Africa, Netherlands, UK, USA, etc.

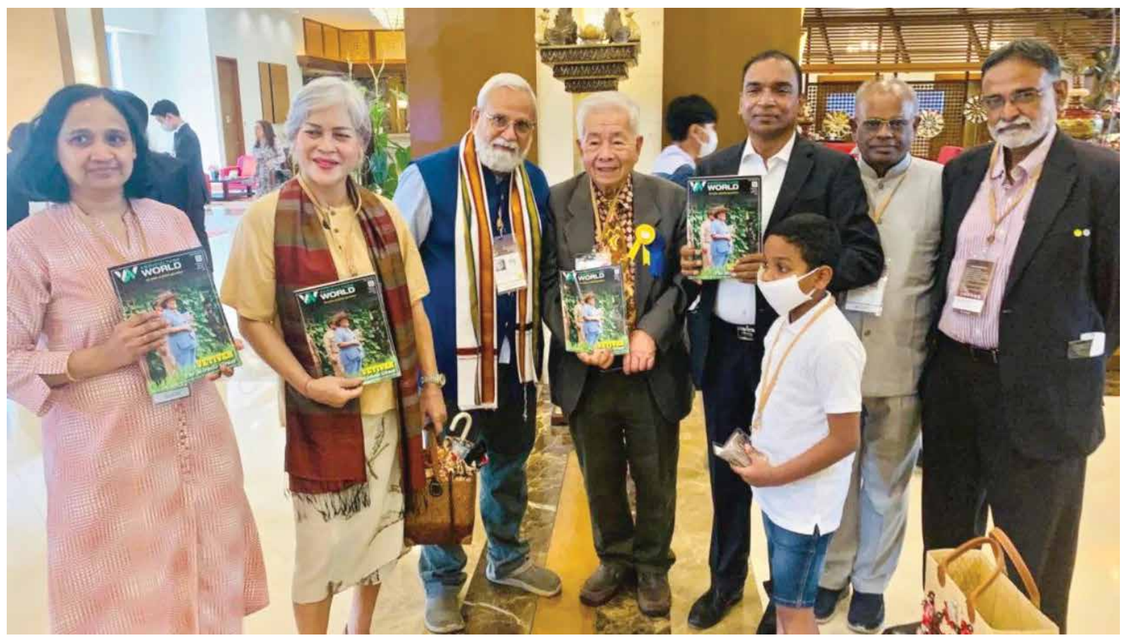
There was an exhibition displaying various products from Vetiver and multivarious applications in Commercial scale besides Pilots, conducted by Thailand Government Her Royal Highness Princess of Thailand, Maha Chakri Sirindhom graciously presided over the Event and bestowed King of Thailand Vetiver Awards to Winners. We were excited to gift Her Royal Highness a Vetiver Saree produced in Anakaputhur, Chennai.

Agriculture World magazine belonging to Krishi Jagran published by Mr. M.C. Dominic, Founder and Chief Editor, carried a full June issue Dedicated to Vetiver and Mr. Dominic and family were part of the Delegation from India too.

World Bank Agriculturists Mr.Richard Grimshaw and Mr. John Greenfield promoted Vetiver Globally when the Duo was part of the Team in India. Historical texts reveal the King Raja Raja Chozha used Vetiver for its erosion resistant properties.

Though there is research going on for its uses and impact, Indian Government should become the forerunner and invest in R&D, Develop Policy framework to introduce VG (Vetiver Grass) in various areas. We are taking initiatives to Approach the concerned Govt Departments to bring policy initiatives.

Dr. C. K. Ashok Kumar, President of Indian Vetiver Association is guiding a Core Team to take Vetiver to Greater Heights in India and Globally. Mr. Richard Grimshaw, even at this ripe age, is contributing extensively in the Indian Vetiver Group and advising us various aspects



Use of Vetiver and its benefits

- Hedgegrows for Soil and Moisture Conservation
- Bio fuels (Bio mass , briquettes for cooking and ethanol)
- Thatch for roofing
- Handicrafts for home and markets
- Soil enrichment for Regenerative natural farming
- Livestock feed
- Mulching

Roots Below the Ground

- Essential Oil for perfumery, Aromatherapy
- Production of Crafts
- Soil stabilization
- Erosion control
- Ground water recharge
- Phytoremediation for waste water
- Removes Nitrates, phosphates, heavy metals and other contaminants
- Tolerant to Solids with high and low Ph, salinity and heavy metals
- Drought and fire resistant
- Carbon sequestering
- Mix vetiver with drinking water in earthern pots
- Vetiver curtains as eco-friendly alternative to A/Cs

Future Plans

- Identify volunteers who can allocate minimum of 1 Acre of Land to experiment and analyse multiple uses of VG
- Delve into Carbon Sequestration capability of VG and develop a Carbon Credit Model
- Lobby with Govt to plan and implement Policies including providing incentives, subsidies. etc to grow VG in many areas
- Develop nurseries in different parts of the country to cultivate different varieties and recommend them for various applications
- Declare a year for Vetiver, the Divine Grass like 2023 being a Millet Year
- Become a Global Leader in VG and support various countries using our Miracle Grass

P.N. Subramanian
Managing Trustee, MSDS,
President Thofa and a Passionate Regenerative Natural Farmer

Beating the odds, This artisan-entrepreneur from Gujarat is weaving upcycled plastic and empowering women

The story of Rajiben Vankar is one of rising above difficult circumstances and changing her life and those of other women around her. She leads her eponymous brand that upcycles discarded plastic and makes beautiful objects of art.

Rekha Balakrishnan 1469 Stories Wednesday June 07, 2023, 6 min Read Rajiben Vankar is apologetic about having spent only two years in school. “Hum zyaada padhe likhe nahin hai, logon se apne kaam ke baaren mein baat karna sikh raahen hain.” (I am not educated; I am slowly learning to speak about my work).

Despite the self-doubt, the owner of the eponymous brand Rajiben is both articulate and passionate about her products’ tagline–crafting a better planet.

Her life has seen a series of unfortunate circumstances and the odds against her—that she narrates through a timeline of 40 years. Her grit, determination, and hard work shine through.

The winner of the President's Award, the Swachh Sujal Shakti Samman, Vankar is a champion of the environment, upcycling discarded plastic to make beautiful utility products, empowering other women in the process.

A difficult life

Vankar hails from Kotay village in Bhuj in the Kutch region of Gujarat. Born into a family of six girls and one boy, she was not enrolled in school, as was the norm. “My father believed women had no use for learning as they had to sit at home and look after the family. My family engaged in farm labour and when my father was away, I secretly went to school. My mother beat me up for this, and when my father came to know, he stopped it altogether,” she recalls.

Vankar helped her family in farming, but work was available only during the monsoon, and during the rest of the year, they were barely able to make ends meet. When she was 12 years old, Vankar learned to weave khadi from her cousin, and this time too, the learning was in secret. Her cousin tried to reason with her father, but to no avail. When a drought dragged on for four years, there was no food at home, and the family was riddled with debt. This time, her entreaties paid off, and her father allowed Vankar to take up weaving work, and she began teaching her younger sisters too.

When she turned 18, despite her pleas that she wanted to stand on her own feet, she was got married. She had to move to Anjar and live with her husband, a labourer, and his brothers. When she expressed her desire to continue with weaving, she was met with a firm no--who would look after the home, as there were no women around. After having three children (two daughters and a son) and 12 years into her marriage, her husband passed away, leaving her with nothing to fall back upon.

“I had not stepped out of the home at all, and only knew a bit of weaving. I was in shock and depressed for three months. I moved to Awadh Nagar to be with my sister and stayed with her for six months. I did not want to inconvenience her, and so moved out with my children and worked as a labourer in fields, on construction sites, etc,” she says.

In these places too, she met with unwanted attention; men would try to hold her hand or try to touch her. “I cried and felt miserable about my situation, but I had to continue working to feed my children,” she adds. Vankar says she was unable to take up weaving as a simple loom cost Rs 3,000 and she had no one to ask.

Weaving a future

In 2009, she was introduced to Khamir, an NGO for crafts, heritage, and cultural ecology. They came to know she wove a bit and gave her a job. This was the turning point in Vankar’s life. Khamir supported her with skilling and training sessions and treated her like family. In 2012, she met Hetal, a designer who showed her a bag woven out of discarded plastic. With this began her journey with upcycled plastic. Soon, she began training women to work with plastic and make products at Khamir. In 2018, she visited London to present her skills and showcase products made from upcycled plastic.

In 2019, Vankar decided to go solo as she felt she and the other women who worked with her were not getting the credit they deserved. She proposed the idea to her self-help group (SHG), Sakhi Mandal, that met every month. Vankar was met with stiff resistance; the women scoffed at working with ‘garbage’, and thought it was a harebrained idea. “Only three agreed to join–my daughter Pooja, my sister, and I started collected discarded plastic bags from our village and neighbouring ones. We washed them and dried them for two days inside out. We cut them into long strips and used a loom to make plastic sheets,” she explains. For a couple of months, she only sold the sheets. But after a meeting with Nilesh Priyadarshi and Noopur Kumari of Kaarigar Clinic, Vankar began looking at her fledgling venture in a new light.

“In 2019, they helped with creating a brand identity, designs for products and marketing my products. We opened a small unit where women would stitch and fashion products out of these plastic sheets. We began collecting plastic from 25 villages for this purpose,” she says.

The Rajiben model

The products were onboarded on pabiben.com–a website run by Kaarigar Clinic where Vankar was listed as an artisan. It began receiving a good response till the Covid-19 struck. During the pandemic, Vankar’s products were included as part of the Gift Box launched by pabiben.com. Once the pandemic eased, she began participating in exhibitions all over India, generating a huge response, with around 90% of her products sold out each time. She also demonstrates how plastic is upcycled on the loom and encourages visitors to try their hand at it.

Today, around 70 women, most of them from underprivileged backgrounds, work in Vankar’s unit that now has 10 looms and sewing machines. They have more than 50 designs that include fruit baskets, grocery bags, foldable trays, clutches, wallets, purses, and more. These are priced between Rs 50-1,500. Each product provides information on how much polythene was used and the name and image of the woman kaarigar involved in making the product and her story.

Priyadarshi says the brand has been growing 50% Y-o-Y and generated sales of Rs 17 lakh last fiscal. They are in talks with leading brands in the US and Europe to stock their products. “To replicate the Rajiben model, we introduced a training programme for 300 tribal women in Palghar district in Maharashtra. This year, 300 women in Kotay village will form a similar cluster,” he says.

“I want a Rajiben in every village to help other women become financially independent. My goal is to grain up to 1,000 women and save the environment in the process. I hope to also employ designers soon,” Vankar says.

Rekha Balakrishnan
Source: Yourstory.com

Breathing hope into a distraught region

Maharashra recorded 2489 farmer suicides in 2021. Over 50% of these deaths were recorded in the state's Vidarbha region. This unfortunately is a problem of many decades in this region. This problem is what moved a Mechanical Engineer to resign his cushy job in Pune and to start a non-profit based in Washim, a district in Vidarbha region. Narayan Solanke is the President of Universal Versatile Society, a multi-faceted volunteer run organization that aims to promote healthy, thriving communities through projects that address the multiple vulnerabilities in the region.

Established in 2005, the UV Society runs a regenerative agriculture program, education and environment-protection programs, a mental health program, women and youth empowerment programs. Says Narayan, "A 2018 study by the World Bank reports that seven out of 10 most-affected climate change hotspots in the world belong to the Vidarbha Region. We can attest to this report as we routinely fall victim to frequent changes in weather patterns". It is true that this region is prone to frequent floods, droughts, changing rainfall patterns and extreme temperatures. The farmer suicides amplifies the magnitude of these problems, spiraling out of control. "I believe that to bring about sustainable development of Vidarbha, we would need to address multiple Sustainable Development Goals (SDGs) through all-encompassing solutions", says Narayan.

In UV Society's everyday work, this looks like Green Skill Development programs, adoption of a circular economy and of clean energy, mental health programs and women development programs. The organization is working towards creating a model village with the attributes of a thriving community that can then be replicated all over the region.

One of the most important programs of UV society is their comprehensive psychiatric rehabilitation project for farmers. Through community gatherings and local media, they promote positive mental health and suicide prevention messaging. They conduct surveys to gather household data on assessing suicide-risk behaviour among the residents. Persons with acute depression are referred to the civic hospital for free treatment. They also provide suicide behaviour management through training the families in the basics of psychosocial care. Local authorities, women's self-help groups and volunteers come together to plan and conduct "happiness programs" to keep the community engaged. Yoga, meditation and community service are some components of the program too.

The agriculture programs are tailored to help the small-landholders to cope with the drastic climate change by providing them training in alternative and organic farming methods, watershed managements and local economy development.

In any household where suicide is a very real risk, it is the women who are the most vulnerable to losses, not just financial, but more deeply, on the social and personal levels as well. UV society established a Women's Counselling Centre in Washim to provide free counseling, referral and rehabilitative services to women undergoing mortal danger, marital discord or maladjustment.

At Nagthana, they have health checkup camps, vocational training, skill development program self-help group guidance programs to bring women's causes and issues to the forefront.

Women are often denied land rights, entitlements, pensions, and therefore institutional credit and other universal privileges in this region. To work around this problem, UV society is helping establish self-help groups, provide training in the basics of business and is encouraging them to build up their own savings and other financial tools. This is useful for the women in times of financial emergency caused by illness, accidents, funerals and so on.

As a member of the White Ribbon Alliance and What Women Want, UV Society conducted the "Say No to Gender Based Violence" program, in which various topics pertaining to women's rights were discussed including gender-based violence, legal supports against violence and government schemes.

Narayan notes with sadness that education is a major drawback in the region. With local schools being understaffed, the lack of amenities and infrastructure means that children are naturally undergoing loss of learning on many levels. UV society involves partners from the education sector to provide training in computer education to the children, as well as to train the teachers in essential teaching skills.

Sole dependency on traditional farming is proving ineffective to farmers. In 2010 UV Society established "Vidarbha Infotech" an information science institute that helps build technical literacy among rural youth. It provides computer education, vocational training, guidance on competitive exams and entrepreneurial education as well. Courses offered include sewing, beauty parlour training, bakery production, leather bag manufacturing, desktop publishing, etc. Each year over 400 students go through this institute and its skill development programs.

The Will Win Academy is a UV Society led initiative that provide spoken English, Science and Mathematics programs for students from classes 4 to 10. Along with that they are also encouraged to take up Dance, Singing, Computer, Yoga and Martial Arts classes.

Through the above mentioned programs, the organization is doing its best to provide the required support for communities living below poverty line.

Due to their acute awareness of climate change, UV Society conducts several practical environment protection programs including the Green School Campus program, the annual eco-friendly Ganesh-idol crafting, and environmental education videos on their social media channels. They also mobilize the participation of youth towards identifying possible climate solutions through their World Climate Change Simulation events at local schools. Young people participate in seminars on deforestation and reforestation, carbon emissions and reducing carbon footprints and other related topics.

For their contribution, UV Society obtained special consultative status with the UN Economic and Social Council, the UN Environment Program, and the UN Convention to Combat Desertification.

When asked what are some challenges that the organization faces today, Narayan says that their remote geographical location makes it difficult for them to find funders and individual donors. Therefore, they are unable to have paid staff and currently rely on the strength of volunteers alone. It is difficult to train volunteers to be on par with hired staff, who would come equipped with the necessary knowledge and skills to do this work professionally.

Narayan is determined to help prevent farmer suicides through providing mental health resources, basic climate change education and promotion of sustainable agricultural practices, all together leading to the wellbeing of the region in the long run.

Archanaa Ramesh

ESG in the boardroom

"I am happy to pay a premium for eco-friendly brands." "As an investor, I prefer sustainable companies." "Our Annual Report has a specific section on our ESG strategy."

One comes across such statements more frequently, in conversations or newsrooms. More and more customers look for green labels, institutional investors for green strategies and employees for responsible organisations. Equally, it's heartening to see the wide-spread interest in Environmental Social Governance action from companies towards protecting the environment, human rights or civil society.

ESG disclosures in India

A quick internet search reveals an estimate of 92% of Indian SMEs adopting ESG practices. The top 1000 listed companies file Business Responsibility & Sustainability Reports in a detailed, prescribed format.

The examples that help the environment are across a variety of products and sectors. Axis Bank introduced biodegradable credit and debit cards a few years ago, in 2017. In 2019, Indian Railways banned single-use plastic and began using biodegradable packaging for its water brand, Rail Neer. In 2021, Kagzi Bottles, a startup based in Noida, has introduced water bottles made out of paper which are not only biodegradable but cheaper than plastic. Jubilant Industries reports that in 2019-20, more than 90% of the power used in its Gajraula fertiliser plant is made from rice husk, a green agro-based source of fuel.

Regulators too are taking on the challenge of improving India's Sustainable Development Goals (SDG) performance. In April this year, RBI released a framework to encourage the offer of interest-bearing green deposits to customers. In February, the financial markets regulator, SEBI, updated its disclosure requirements for green bonds, requiring a stringent reporting of perceived environmental and social risks as well as plans for mitigation.

Are we doing enough

We are taking steps, reporting, monitoring. But are we doing enough?

The facts and figures are there for us all to see. These don't make for cheerful reading.

On the environment front, the world is likely to breach the 1.5 degrees ceiling on global warming by 2027, as reported by the World Meteorological Organisation (WMO). While the damage this will cause is unknown, scientists have repeatedly warned of devastating consequences, irreversible in nature, resulting from this level even if temporarily reached.

All is far from satisfactory in the other areas of social and governance issues as well. Racism, nepotism, inequalities in pay structures across gender, unequal working conditions, lack of concern for workers' and consumers' safety, are regular testimonies from people in every country.

What can organisations do?

Like Pandora's Box, the millennium brought out many risks, none of which were perhaps even thought about thirty years ago. The disastrous effects of climate change, AI and its potential impacts, questions on job security, health pandemics both physical and mental. Others come up every day.

The young adults of today are increasingly the people contributing to the growth of society, as owners of businesses, workers, consumers and in a host of other ways. They know the risks they face and are willing to work towards fixing them.

But do they have the ability to do this? They might be willing to pay a premium for eco-friendly brands, but these are often still too expensive. Their job requirements often mean that electronic gadgets are increasingly used, regardless of the impact on power consumption. Travel itself has become almost essential, whether just to work and back or to greater distances.

Companies employ people and supply these goods.

The onus can then be on the Board to consider certain questions. How can we make our products more ecological without impacting costs, reduce prices of our products while maintaining revenue, increase satisfaction of our employees while enhancing productivity, or support raw material suppliers while protecting margins.

Pursuing a profit motive is laudable, even essential. As many companies are demonstrating, it goes hand in hand with responsible practices.

Assessing the contribution

Organisations may adopt ESG principles out of genuine concern, regulatory reasons, investor demands or the competitive edge they may derive. Whatever their rationale, they may feel constrained to create sustainability teams whose primary responsibility may be to meet regular reporting targets amidst busy schedules.

Greenwashing refers to the practice of making misleading or false claims on the environmental impact of a company's practices. Woke-washing and rainbow capitalism have a similar implication on policies related to staff, consumers and society. Unfortunately, ESG reports may be reflective of these attitudes.

Actions may sometimes consist of turning off a few lights ("reduction in energy and greenhouse gas footprint"), installing a few automatic shut-off taps ("optimisation of water usage"), hiring a few people from a different race or part of the country or having a handful of self-driven women in senior positions ("embracing diversity and inclusion).

Equally, these phrases in a report may represent actual hard, difficult decisions and steps towards a sustainable positive impact, taken by independent committees with a clear mandate to strengthen sustainability strategy and performance.

The distinction will come from the sense of responsibility that the Boardroom gives itself in the ESG arena. A critical self-evaluation is necessary : are we as Directors holding ourselves accountable for our organisation's performance? Is much of our organisation's activity on the surface? What are our actual contributions in this area? What more could we do for the planet and its people while maintaining our responsibility for profit?

Stewardship, the careful and responsible management of the organisation, is the fiduciary responsibility of

every Board member. Understanding the Environmental, Social and Governance risks to the organisation and its stakeholders and taking all necessary steps to mitigate these is a critical part of our duties.

These are difficult questions to ask ourselves. But then, are these not difficult times?

Karuna Luthar

What's in the soil?

Rhegos' is the greek word for 'blanket', and "lithos" is the word for rock, 'Regolith' therefore means 'blanket made from material originated from rock'. When we look up at the moon at night, we may not think of it that way, but the moon is actually securely cocooned in its own blanket, its own regolith. Our earth too is warmly swaddled in its own regolith, and the most visible and familiar part of this blanket is - yes, soil.

Soil sustains life. We all know this fact (though we do sometimes miss the marvel and miracle that this is). Along with mineral matter such as phosphates, nitrates, carbonates, potassium, calcium, forms of iron, magnesium, boron, manganese, copper, zinc, molybdenum and others, soil also contains gases, water, pore- space, organic matter and living microorganisms. Keeping the balance of all these intact is necessary to maintain soil health.

The best aspect of soil health is that it can maintain itself as long as we don't mess with it. (But sadly we humans have this great flaw of messing with everything ourselves, and then wondering what went wrong). Let's discuss for a bit the ways in which we mess with each aspect of soil, how this can be avoided, and how multi-cropping works vis-a-vis our non-interference.

The Mineral Matter of the Soil: The mineral composition of soil is changed when we add mineral fertilisers such as NPK or any of the other mineral-based soil additives now in vogue. We may think that by doing this we are only adding something 'good' to the composition of the soil, but this is not true - we are in fact disrupting two other very importance aspects - first, we are changing the soil environment in which the existing microorganisms were thriving, thus causing their populations to thin and die out. Second, we are causing chemical reactions within the soil that release other gases and substances, and these take up pore-space, edging out the original occupants of this pore-space and also reducing pore-space overall. Both these changes have the consequence of making soil way less hospitable to plant life in the short-term, and much more in the long-term. The paradox here is that we had added the mineral-based fertilisers in the first place with the intention of improving plant life!

This is required with most monocropping systems. Since there are so many plants of the same species and also of the same age, if we want them all to get their food, there's no other way than to add things to the soil. On the other hand, if you had a multi-cropping system, then since all the plants have such different requirements, and are also of different ages and different root depths, they could all thrive together naturally.

Pore-Space Management: Let's now turn to pore-space. This refers to the interstitial spaces between soil particles through which water and gases reach the roots, and which support micro-organic life. Mechanical ploughing with vehicles totally destroys the pore-space versus soil-matter balance - the weight of the vehicles compresses the surface and squeezes in pore-spaces from the top layers, pushing water and air into the lower layers and trapping them there. The compaction that results from this is a huge threat to plant health. Mechanical ploughing is done usually prior to seeding the whole field with the same seeds. Instead, if you were going with multi-cropping, you would sow different saplings by hand, and later on, you would probably do seed-scatters under the grown trees. In the best case scenario, there would be no need to plough mechanically at all - a little light pruning to allow people to harvest comfortably would be enough.

Water: In a forest, for days after a shower, the water keeps dripping, because it has so many landing places, right from the topmost leaves of the highest trees, to the little flower-cups on the shrubs a few inches from the ground. This staggered watering prevents micro-waterlogging, and helps all the roots in the soil access water at their own pace. When we water fields, the tendency is to over-water, because we want the moisture to last at least 2-3 days. But the problem here is that the weight of the water pulls down soil particles, reduces pore-space and contributes to the compaction problem. Multicropping takes less watering because firstly the density of plants is less, and secondly, the varying heights facilitate the micro-cascading of water, and keep the soil moisturised for longer. Less watering also cuts costs for us.

Organic Matter: Allowing dried leaves, and other tree sheddings that have fallen naturally, to remain on the soil is a wonderful way to add organic matter to the soil and also to provide some natural cover that prevents quick drying of the soil in the summer sun. In a monocropping system, adding such organic ground cover becomes an extra job, and entails the spending of money, but in a multicropping system, it happens easily and naturally - the taller trees keep shedding, and keep saving cost and water for you, while also enriching the soil and providing ground cover.

Soil Microorganisms: All of us study all about nitrogen-fixing bacteria in our sixth or seventh grade texts - probably even earlier these days. This information can be easily applied on the field by interspersing leguminous plants with non-leguminous ones.

For instance, groundnut is a leguminous plant, and its roots host organisms that make the soil nitrogen-rich. Therefore, it makes so much sense to pair this with other non-legumes - there are so many non-legumes that need nitrogen, but while driving on country roads, we so often see acres and acres of groundnut alone. True, some of the fixed nitrates do stay for the next crop, but some part breaks down again, without any other plant having used it... And nitrogen fixing is only one phenomenon that we are aware of. There are so many other such interactions in Nature waiting to be discovered.

It's a common observation that Tulasi and hibiscus grow well together - we don't really know why. Experienced gardeners routinely pair these two plants. We know from our own experience that Chandrakantam flowers bloom wonderfully under mango trees. But we don't know why... and so many more such beautiful friendships abound, if only we gave them a chance to.

Multi cropping is not only a profitable business practice, it is also a sustainable way to carry soil health into the future. And on the way, we stand to discover so much more about the marvellous inter-species interactions in Nature...

Ramashree Paranandi

The author Ramashree Paranandi is a partner in The Organic Farm, located near Nedumaram, TN. She consults on all aspects of the farm and often stays over for long stretches to enjoy pollution-free days with the other farm creatures. When in Chennai, she writes, teaches and sings. She can be reached at aramashree@eltconsultancy.org

"Vetiver can save humans from mass extinction."

Shri Patanjali Jha shares with Marie Banu the benefts of Vetiver in farming

Shri Patanjali Jha , IRS (Retd.) has served as Commissioner in Indian Revenue Services in Bhopal, India. He also served as head of the Income Tax department of the Mumbai region. He has pioneered and experimented on the concepts of multi layered and no till farming at a farm called Vanya. Patanjali has worked with the Eco Task Force of the Territorial Army and has donated more than 12.5 million slips of vetiver, a grass that does carbon sequestration and helps fight both soil erosion and depleting groundwater. He has also tied up with the Ramakrishna Mission and Seva Dham, Ujjain, to whom he sends seeds for planting. Besides this, Patanjali goes all over the country delivering talks on his experiences as a food forestry farmer besides time spent at the farm explaining to visitors the benefits first-hand.

In an exclusive interview, Shri Patanjali Jha shares with Marie Banu the benefits of Vetiver in farming.

What was the inspiration for you to venture into natural farming?

About two decades back, I got to read The One-Straw Revolution: An Introduction to Natural Farming by Masanobu Fukuoka. This book changed my life! The book is full of philosophy and all about life. The punch line which moved me most is: "The cultivation or the growing is not about produce; it's about perfecting a human being." The journey started from there.

I was sure about no-tilling and learnt a lot from contemporary scientists and people involved in agroforestry. Above all, I have reverence for our Mother Nature. Every religion says that Nature is the available form of God, but no religion is doing enough.

We started to grow Vetiver in the centre stage making it an integral part of plantation, which otherwise people normally used to grow as a hedge or to stop soil from erosion. This was an incredible success so much so that my brother bought a piece of land in the interior areas of Madhya Pradesh where the soil was completely compacted and not a blade of grass was growing. However, I was very confident of the power of Vetiver and in three years' time this land has transformed.

Your efforts to promote natural farming practices?

Over the last 20 years I have created and developed Vanya Farms, a food forest spread across 100 acres of land situated in Madhya Pradesh and Bihar, with vetiver, moringa and a range of other trees and plants having commercial and medicinal value. The forest is self-sustained with pollinating bees and grasslands. The Vanya Farms has now become a proof of concept of no-till, no-external input, multi-layer farming and has been a source of inspiration for many to raise and switch to natural farming and raising food forests in place of traditional destructive farming practices that use tilling and pesticides etc. This has led to natural farming practices being followed on 1000 acres of land.

I have worked in close tandem with the Eco Task Force of the Indian Army in its afforestation efforts. Through my efforts to I have made known the effectiveness of the Vetiver System and have gifted over 1 crore Vetiver Slips for the afforestation and landscape stabilization and decontamination efforts of the Eco Task Force in Marathawada, Samba Sector, Banks of River Ganga etc. These efforts have also contributed to the revival of the Ganga river ecosystem.

As a natural farmer, I have been instrumental in creating a team of like-minded individuals from varied professional backgrounds and have proposed a composite solution to the global problems based on field experience and thorough study by synergizing the virtuous cycles associated with food forests and the Government's policy on compressed bio gas (CBG). This team is now acting as an advocacy group for the adoption of this concept and reaching out to the Government, Corporates, Voluntary Organizations and Individuals.

Can you describe the role of Vetiver in carbon sequestraion?

Vetiver does enormous amount of carbon sequestration, ranging from 15 to 50 kg carbon per square metre. Vetiver, when grown surrounding the trees, holds the topsoil and retains the moisture besides helping other plants to grow better. Vetiver also brings the micronutrients from the lower depths to the root zone of these trees.

We experimented and realised that it is the best companion plant that you can ever think of for it's obvious advantages of its deep root system and mulching you get by pruning. So, you do not need to create a vermicompost or as it is in situ. Microbes flourish under damp condition, hence mulching and covering every inch of soil is important. This in turn preserves the moisture content of the soil, retains water in the topsoil and recovers groundwater levels, leading to less need of irrigation, and provides advantageous conditions for microbial growth. In our farms, almost every inch of soil is covered by live mulch. The thick cover of Vetiver mulch increases water infiltration and reduces evaporation, particularly important under the hot, dry conditions. It also protects the soil surface from the impact of raindrops, a major cause of soil erosion. The mulch on the ground makes the sunlight that does reach through the trees on the ground lose its harshness that could destroy the living organisms feeding on the mulch from trees.

The soil requires nitrogen, so we started planting Subabool, Tur and later with Agastya, tubers like sweet potato, black mustards to make the soil better.

Fukuoka says to prune the crops and grasses and add slurry of chicken poop so that the bacteria and fungi start working on it. The rain takes the decomposed matter deep inside this soil for micro-organisms and earthworms. Nobody has defined it better than him.

Vetiver grows 8 feet to 10 feet; 6 feet remains inside the soil. It not only prevents the topsoil erosion but also enriches the soil quality.

If you till a soil, the erosion of soil lost to the wind and heavy rains is nothing less than ten tonnes of soil every year per acre. On a slope, it is much more.

Since we practice no till farming, there are no carbon emissions and no nitrous oxide emissions and no methane emissions. Agriculture in its current form of industrial/ commercial farming is contributing around 30–40 per cent of the greenhouse gas (GHG) emissions. The fault is not of the farmers but instead of how they are taught to do farming in the conventional manner with tilling. These GHG emissions if released remains in the atmosphere for anywhere between 50 to 110 years.

On the contrary, if you don't till the soil you don't release these gases into the atmosphere.

Tell us some examples of how Vetiver has positively impacted farming practices.

Citarum is the filthiest river in Indonesia, like as bad as Yamuna river in Delhi. One NGO along with help of the army started planting vetiver on both sides of the river covering a stretch of 30 kilometers. This is the biggest measure to purify the water and make it drinkable because vetiver can sustain while being submerged in water.

We work closely with the Raah Foundation in Nasik. When I was posted as Principle Chief Commissioner in Mumbai, one of the Foundation members approached me after learning about my passion for natural farming and no till farming. She went back and tried multi-layer no-till farming on ten acres of land. She mentioned that her land had a big well which would run dry during summer months, but after she planted vetiver around the well it has nine feet of water throughout the year, till date. This is the effect of Vetiver!

Mr. Richard Grimshaw and others from the World Bank took Vetiver to the rest of the world and China has used it extensively in its infrastructure projects of railroads or in urban dumping sites. But, it is only in India that we use Vetiver for farming.

For the right reasons I can state that Vetiver can save humans from mass extinction. We gifted Vetiver to a friend who works in Bokaro Steel City, Jharkhand. He planted them in the steel city. In the first year, the difference in temperature where the vetiver was growing was less by 9 degrees celsius. We are now exploring various usages of the shavings of Vetiver and it would be a great breakthrough if we succeed.

What are the other benefits of Vetiver?

Vetiver water calms the nerves, aids better sleep and turns your body alkaline. The RO water is dangerous because there is loss of minerals. By adding Vetiver in the water kept in an earthen pot, the pH of the water would be perfect for the human body. This would save us from many health issues including cancer.

We were growing a lot of Moringa at that point of time. There is a Japanese study that states Moringa to be the highest carbon sequester on earth. When compared with the carbon sequestration that other 50 tree species would do in 20 years, two Moringa trees will do that in two years. It is this stark!

ISRO's satellite indicate that we are losing the soil at very fast pace and desertification is happening. That can be stopped in its track if we align Vetiver as it multiplies 10 to 40 times every year on its own. It also helps in recharge of ground water.

Vetiver can be said to have the potential of being the 'Saviour of Mother Earth'. Vetiver along with no till, no poison, permanent multilayer multi-species food forest can be beneficial in increasing biodiversity, reducing temperatures and global warming, carbon sequestering, controlling cancer incidence, water harvesting, rejuvenation of rivers and underground water recharge, and increasing farm incomes.