

# Conversations Today

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# 6

## COVER STORY

About Aga Khan Rural Support Programme's community-driven initiatives

### Changemakers



# 3

#### From Books to Soil

Ms. Anuradha Balaji, a librarian turned organic farmer from Chennai and her venture into production of value added products

### Profile



# 9

#### The Journey from Relief to Resilience

About The Evangelical Foundation of Indian Commission for Relief (EFICOR), in New Delhi.

### Chit Chat



# 12

#### "Vetiver's role in promoting soil health make it a valuable tool for addressing environmental issues."

An exclusive interview with Prof. Sara Parwin Banu Kamaludeen Tamil Nadu Agricultural University

# FROM THE EDITOR

Dear Reader,

In a world often consumed by fast-paced schedules and material pursuits, the transformative force of generosity and gratitude stands as a powerful reminder of our shared humanity. These twin virtues have the remarkable ability to enhance our lives and those of others, forging connections and fostering a sense of community that transcends boundaries.

Generosity is an act of giving that extends far beyond the exchange of material possessions. It is the sharing of one's time, resources, and kindness, guided by empathy and the desire to make a positive impact. The power of generosity lies in its ripple effect. A single act of kindness can set in motion a chain of goodwill, influencing countless lives. Whether it's donating to a charity, lending a helping hand to a neighbour in need, or simply offering a listening ear to a friend, generosity fuels the bonds that unite us.

The act of giving is often accompanied by a profound sense of gratitude. Gratitude is the recognition of the blessings we've received, whether they are grand or seemingly insignificant. It's an attitude that empowers us to appreciate the beauty in our lives, even during challenging times. The power of gratitude is its ability to transform our perspective. It shifts our focus from what we lack to what we have, cultivating a deeper sense of contentment and well-being.

Generosity and gratitude are not limited to individual acts; they also play a vital role in society at large. Communities that embrace these virtues tend to be more compassionate, resilient, and connected. They are better equipped to address the challenges that arise, as the spirit of giving and thankfulness fuels collective efforts to create positive change.

In a world where division and discord can be all too prevalent, the power of generosity and gratitude remains a beacon of hope. It is a force that unites people, transcending cultural, social, and economic differences. As we embrace these virtues in our daily lives, we not only enrich our own existence but also contribute to the betterment of society as a whole.

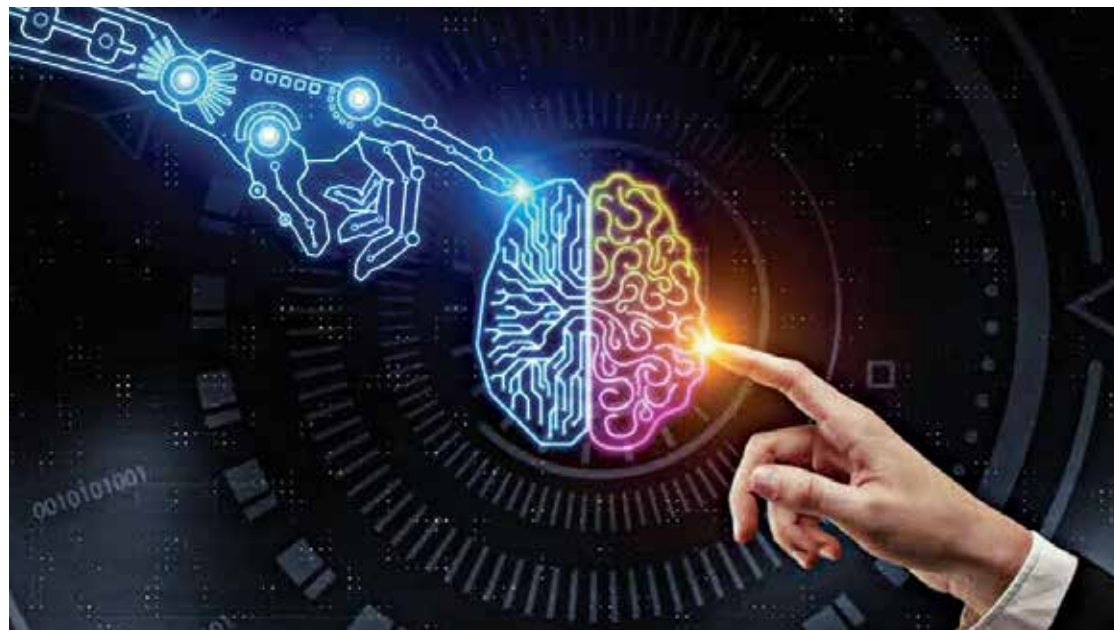
As we cultivate these virtues, we find ourselves on a transformative path, one that leads to a more enriched and interconnected world, where the power of generosity and gratitude knows no bounds.

*Marie Banu Rodriguez*

## EDITORIAL

Latha Suresh  
Marie Banu Rodriguez

# ARTIFICIAL INTELLIGENCE IS NOT A SUPERPOWER



Artificial Intelligence (AI) is a 60-year-old discipline that traces its history from the 1950s. In the mid-1950s, Alan Turing, a British polymath raised the question – Are machines able to think? He explored the mathematical probabilities of artificial intelligence. In the 1960s, Cybernetics was developed. Followed by cybernetics, computers started to defeat humans in chess in the late 1990s. In the age of Big Data, Individuals can expose themselves to an abundance of information and process it based on their needs. People are enjoying the advantages of AI applications in several sectors such as banking, education, business, marketing, entertainment, etc.

The rapid advancement of technology, particularly in the field of artificial intelligence (AI), has revolutionized many aspects of our lives. One notable change is the way customer care is handled. Previously, individuals would have to navigate through automated menus and wait on hold to speak to a representative. However, with the introduction of AI-powered systems, machines can now contact consumers, engage in conversations, and address queries, eliminating the need for human intervention.

Another exciting development on the horizon is the emergence of driverless cars. These vehicles, guided by AI algorithms, have the potential to transform the way of transportation. However, amidst the excitement, there are concerns regarding the equitable distribution of their benefits. At the same time, corners of society raise an important question, Whether the benefits of AI reach everyone?

Existing issues like the Digital divide, gender, health, and literacy biases create barriers that exclude underprivileged communities from the digital world. The flood of information does not chill the thirsty throats of depressed communities. Even people who have a glass, can't fill the needed information and digest the flood of information properly. Digital literacy is a logical framework that helps an individual to understand, consume, produce, and create information from a vast dataset available on the internet. Digital literacy makes the citizen responsibly consume and share information in the internet society. It is the responsibility of a

citizen to develop a well-mannered information ecosystem in the society. For that, one should check the sources of the information, pieces of evidence, and purpose of the information before believing it.

In the case of AI-generated content, one should ask questions like who owns the copyright of generated AI responses? What are the information resources available for the AI chatbot application? How can I use the chatbot to support my creativity instead of making it speak for me? What are the limitations of this tool? How does an individual verify the result produced by an AI-powered Chatbot? Not only chess, automated grading systems of AI defeating our young minds to explore, think, and find knowledge beyond the boundaries. A massive amount of misinformation has been developed and spread with the support of AI. Digital literacy is an invisible weapon for citizens who believe in democracy—where political systems rely on citizen knowledge, participation, and choices to govern. The rise of AI language models highlights the need for digital literacy skills to manage the vast amounts of information to which people are exposed.

Along with digital literacy, Artificial Intelligence Literacy (AI literacy) should be given to the newer generation of this age. A person should know the limits on how strongly they believe the AI interpreted assumptions and results. Now is the time to call for “responsible AI for all”. AI literacy is important because it allows people to understand how AI works, what the risks are, and how to best use it. It also gives them the skills and judgment to question the AI's results and interpretations.

As society progresses, it is essential to ensure that the advantages of AI are accessible to all. It is important to address questions regarding accessibility, affordability, and inclusivity. This ensures that individuals from all walks of life can benefit from these advancements and that the technology does not exacerbate existing societal inequalities.

*Arulselvi Azhagiri*

# FROM BOOKS TO SOIL

Transitioning from a career as a librarian to becoming an organic farmer represents a significant change that requires careful planning and commitment. While it can be challenging, it offers the opportunity for a fulfilling and environmentally responsible lifestyle focused on sustainable agriculture and food production. But all this is easier said than experienced. “I made a lot of mistakes in this transition and I am glad I did them. My lessons have been my guiding beacon,” reflects Ms Anuradha Balaji, a librarian turned organic farmer from Chennai.

Her love for reading encouraged her to pursue Masters in Library and Information Science. She was hooked to knowledge building and started her career in teaching and library management. When she moved to Saudi Arabia after marriage, she was consistent with her career choices. She worked as a teacher and librarian there too, for about a decade. Back in India, she joined Chennai Public School as its librarian and passionately continued her work. “Libraries are cornerstones of knowledge. My deep love for books, knowledge and the power of libraries in promoting self-directed learning inspires me even today,” she shares. Her foray into farming was something totally unplanned but not unexpected, as it was rooted in her concern for children’s nutrition and health. “My husband and I often spoke about our interests in farming but never desired or endeavored to start something. When the interest set in, there was no looking back at all. My family supported me in full spirit and we invested all our earnings in farming,” recalls Anuradha.

In all her passion and commitment, Anuradha tried everything she could on her land in Thiruvallur, including the cultivation of dates. “I had exploited my soil so much. I knew it. But I didn’t want to stop. I wanted to figure out remedial measures, revive soil health and again try some other crop. I began to think and act like a farmer,” she laughs. Anuradha was certain about one fact – that producing food must be understood as everybody’s responsibility. “Had I just wanted organic food for me and my family, I would have restricted myself to terrace gardening. But, we want to think of humanity and therefore foraying into agriculture was inevitable,” she adds.

Lack of practical experience and prior exposure did hinder her progress. However, the real struggle was in promoting the idea of women as capable and independent farmers. “Agriculture is a male dominated industry where women form the major part of farm labour. traditional norms and stereotypes undervalue women’s work in the sector. Less access to education in agricultural practices and limited access to markets/value chains, prevents them from benefiting economically from



their agricultural activities. It all results in reducing their recognition as full-time farmers,” laments Anuradha, who managed to grow in spite of all these obstacles. From her experience, she has become an ardent believer in women’s participation in agriculture. It is not just about social inclusion but allows them to have a voice in community decision-making. It can help break down barriers to their involvement in economic and political life. Above all, it is women who can take a strong stand for good food and nutrition.

Guava, chikku, tomatoes, gooseberries – with every crop it was a

new lesson for her. And the changing prices helped her reflect upon people’s attitude towards food production holistically. “Didn’t we pay lesser for all services like beauty/grooming a decade back? Why is it that price rise in vegetables hurts people so much? While inflation in all other sectors could be understood, accepted, why not in agriculture?” asks Anuradha, disheartened by the disconnect between general community and the agriculture sector. As an insider she saw how prices changed and how it affected the work of a simple farmer. She understood that value addition is a better way of

utilizing the perishable food produce instead of giving them up for very low prices. “Nobody worries about farmers’ plight when prices drop drastically. I didn’t want to fall into that trap and felt that value addition gives me the liberty to do something respectable with my own produce,” she explains.

Her venture into production of value added products gave her newer insights. Anuradha soon realised that every farmer must be groomed to be a business man so that they can decide on alternative means to utilize their produce during times of crisis. While value addition ensures improved pricing and increased shelf life, it also brings in better profits for the farmer. “This is certainly a productive way.

Cooperatives can be formed to build small scale facilities for the purpose,” she adds. Her products became her identity and contributed to building her status as a farmer. She has spoken about her journey and experience in a variety of magazines and channels. Managing organic farming on a ten-acre farm has transformed Anuradha the librarian into an independent farmer/business woman, who now passionately engages in various activities to help people relate to agriculture sector. For her, it is still the beginning and she is determined to encourage more women to prove themselves as farmers.

*Shanmuga Priya.T*

# THE LIGHT OF GOOD HEALTH



**G**ood health is arguably the single most potent factor in our wellbeing. Happiness, peace, goodwill and good cheer don't coexist very well with ill-health, pain, and debility. There are of course some factors influencing health that are beyond our control, such as heredity, but there is one key factor that is totally in our control - the food we eat.

There are always ways to source good, clean organic food wherever we are - all it takes is some dedicated internet time and research, and an awareness of how crucial it is to not keep consuming harmful chemicals along with every meal. But there is also another way to obtain clean, organic food, at least a part of our daily intake, if not all of it, and that is by growing our own food.

This is actually not as difficult as it sounds. There are many, many families personally known to me who meet a large part of their own food requirement by growing their own food on their terraces, gardens, and on farms in and around the city. Many families grow food on their family farms, from where they bring in the produce periodically. There are also people who enjoy being close to Nature and farming, and have realized how productive and fun it can be to grow their own food. They are now actively looking to find some land, whether within their own ancestral properties or outside, to start growing their own food - if you are one of them, then this article is for you. Here are some general guidelines on how to go about identifying fertile land in which to start growing your own food.

## Water Availability

The Central Ground Water Board, Government of India, has mapped the aquifers of most parts of the country, and has brought out this information

in the form of aquifer atlases for different states and districts. These atlases are freely available to all on the website [cgwb.gov.in](http://cgwb.gov.in). Studying these aquifer maps carefully and analytically is a good way to find out about the water availability of a tract of land.



Other ways of finding out about the water availability of a piece of land are:

- **Looking for naturally growing coconut palms:** Coconut palms require a lot of water. So if you find coconut trees growing naturally, it's a sure indication of ground water availability.
- **Observing the Soil:** Cracked and rocky soil shows the lack of water and soils covered with vegetation tell you that there's enough water underneath.
- **Listening to Ambient Sounds:** Where there's water, there is a lot of life. You will be able to hear multiple bird calls in the mornings, and a lot of cricket chirps and the humming of other insects at night. You'll hear the croaking of frogs and toads, and if you observe carefully enough, you'll see the tiny tremors in the grass that are indicative of lizards and other small reptiles living there.

## Soil Fertility

Related to water availability is soil fertility. This can also be seen tangibly in multiple ways.

- **Herbivores:** The presence of cows, goats and other herbivores indicates that the surrounding areas have enough grazing land to support them all, and in turn, that the soil is fertile enough to keep replenishing and re-growing the grasses for them.
- **Organism Response:** What happens to the dung of these herbivores is like a direct insight into soil life. In fertile areas, cow dung which is in contact with the soil sort of blooms over, spreads over a larger area, and then disappears over six or seven days. This is in contrast to what happens in the city - the



mango, lemon, sapota and pomegranate will take care of complete nutrition. You could try the many indigenous and heritage varieties of rice our country has, and use the SRI method of cultivation which is working well in our farm, which has lower seed and water requirement.

Growing our own food is actually an extraordinarily rewarding experience, from a health point of view and also from a sensorial point of view. If you can take a basket with you, pick the things that you need to make a meal from around you, and then cook and eat the meal, you are achieving the central principles of a good, nutrition-rich, healthful, sustainable diet - eating local, eating seasonal, and eating fresh.

Here's to wishing you all a wonderful Deepavali season, with all your days lit up by the best light of them all, the light of good health.

*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](mailto:aramashree@eltconsultancy.org)*

cow dung just sits on the sidewalk, and slowly dries up, because there are neither soil microorganisms nor earthworms to act on it.

- **Vegetation:** Multiple species growing in close proximity would mean that the soil has a variety of micro nutrients and is therefore able to support them all.

### Population

This factor cuts both ways actually. If there are a whole lot of villages around and there is a dense human population, you will find it relatively easy to get people to help you with your farming venture. But on the other hand, a dense population means that the natural resources are already spread thin, so you might have to dig your well deeper, you may also have difficulty finding a large enough plot of land. (The good news here is that it takes as few as 4-5 cents of land to grow enough food for a family, if you're following the multi-cropping model)

In places with low population, you are likely to find large plots of land easily, and the cost of labour might also be a little less. But you might have to work harder and invest more to make your farm do well. For example, you may need two wells instead of one, as each might be less productive, and you may need to add a few loads of cowdung mix from outside to shore up the fertility of the soil.

Once you have identified where you're growing your own food, the next thing is to figure out what you're going to grow. This also can be done simply and sensibly if you go with a multicropping model in which you grow many different varieties simultaneously. In fact, since we are looking at food for your family and friends, just listing out what you eat on a daily basis will give you a blueprint of what you should be growing. Rice, pulses, vegetables, spices (chillies, curry leaves, coriander, mustard) and a couple of oil-producers cover the basics of everyday cooking, and starting with a few fruit trees like papaya, guava, sitaphal,



## Centre for Social Initiative and Management

**C**entre for Social Initiative and Management (CSIM) is a unit of Manava Seva Dharma Samvardhani (MSDS). It is a learning centre that promotes the concept of social entrepreneurship.

**CSIM offers training and consultancy to social enterprises** – for-profits and non-profits to facilitate them to apply successful business practices and yet retain their social mission. It also offers training and hand holding support to prospective social entrepreneurs and enable them to launch their social initiatives. [www.csim.in](http://www.csim.in)

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CSIM also facilitates **Social Accounting and Audit** for social enterprises, CSR projects, and NGOs through Social Audit Network, India (SAN India).

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# RURAL SUPPORT FOR A BETTER LIFE

The Aga Khan Rural Support Programme (India) is primarily dedicated to enhancing the livelihoods of vulnerable rural communities. At the heart of AKRSP India's mission lies community-driven initiatives tailored to the specific needs and priorities of local populations. These initiatives are rooted in the establishment of community-based organizations (CBOs) that serve as the foundation for the organization's work. These CBOs operate in various domains, including agricultural livelihoods, skill development, and enterprise opportunities for rural youth, as well as endeavours aimed at improving rural governance.

A significant focus of the organization is the economic empowerment of women, a key outcome area. Over the past four decades, AKRSP India has positively impacted the lives of 3.5 million individuals through its on-ground programmes. Additionally, the organization has played a pivotal role at the state and national levels in influencing critical policy matters, such as natural resources management and access to clean drinking water.

"There are three challenges which are hampering the progress of rural communities," says Naveen Patidar, CEO at AKRSP India, "These are the impact that climate change has on small farmers, the unemployment among rural youth, and rural governance."

He adds: There is increasing uncertainty around agriculture livelihoods due to changing weather patterns. We are experiencing uneven rainfalls, cyclones and droughts more frequently. These events are going to further increase in the coming future, and it is important to keep rural communities resilient when they occur."

However, it is unemployment or under-employment among rural youth, Naveen says, which is a persistent challenge, especially in the context of decreased land-holding among farming families: "It is critical that they (rural youth) are productively employed, in the interest of overall prosperity of rural areas."

He adds that there is massive scope to improve decentralised governance systems to empower the most marginalised within rural areas. "For example, while there is 50% reservation for women in Panchayats, their current participation in local governance is far from ideal situation," he says "We need to create an enabling environment and capacities at the ground so that decentralised governance systems start benefiting those who are really vulnerable within villages."

Over the past four decades, AKRSP India has been instrumental in enhancing the livelihoods of more than 700,000 rural households, with a particular emphasis on marginalized communities, including tribals, Dalits, minorities, and other backward classes. Notably, the organization has prioritized the economic empowerment of women within these households, especially in the realm of agricultural programmes. In the last ten years, AKRSP India has introduced a programme geared towards enhancing the employability of rural youth. This initiative has successfully facilitated employment opportunities for over



20,000 young individuals, enabling them to secure jobs in the formal sector or pursue self-employment options.

"Over 50 percent of these youth have been young women. We have also put efforts in over 300 Panchayats to bring citizen-centric governance processes in these Panchayats," says Naveen, "This has helped over two lakh citizens through access to basic services and entitlements. In addition to this, AKRSP INDIA also promoted large numbers of community-based organisations (CBOs). These CBOs have not only played an important role in planning and implementation of programmes but also ensured the sustainability of programme interventions."

He adds: "We also derive huge satisfaction from the fact that our programmes have created large numbers of capable rural leaders particularly women leaders. Ms. Hirbaiben Lobi who has been conferred with Padma Shri this year is one of such leaders developed by our organisation."

AKRSP India has distinguished itself through the resounding success of its community-led natural resources development and its efforts in bolstering the employability of rural youth. These initiatives have significantly improved the livelihoods of

numerous highly marginalized households. The organization is particularly renowned for its pioneering work in participatory irrigation development, which has resulted in the expansion of irrigation over 70,000 hectares of land.

Furthermore, AKRSP India's community-led natural resources management programme serves as a compelling example of how communities can effectively and sustainably manage natural resources for long-term benefits. In a similar vein, the organisation's employability programme for rural youth has demonstrated that with effective design, it has the power to transform the career prospects of young individuals from rural areas.

"Our future projects in the field of agriculture and climate resilience will focus on landscapes where communities face high levels of risks due to climate change. We are calling this programme 'Farmer collectives-led agro-ecological systems'," says Naveen, "In our selected landscapes, we are bringing small and marginal farmers to the farmer producers organisations. We will have a production to market approach to implement our agroecology approach."

He adds: "At the production level, we will have several improved production practices

such as regenerative agriculture, agroforestry, water efficiency, use of clean energy and improved livestock health. This production system will lead to improved income, improved biodiversity, and improved food security for the targeted communities in addition to reduced GHG emissions."

The organization is also focusing on developing a more sustainable market for produce through FPOs. Naveen says women farmers will play a crucial role during the agricultural transition.

"Today, small and marginal farmers are facing disproportionate impacts of climate change. If we need to make their livelihoods more resilient then we must work on both mitigation and adaptation approaches together," he says, "The Agro-ecology approach integrates several activities at the local level to achieve better resilience. In the long term, it will also address the much-needed transformation of food and fibre systems at local level and beyond."

AKRSP India has established a clear set of overarching objectives. These encompass an ambitious plan to expand the Agriculture and Climate Resilience programme, with the aim of benefiting one million farmers. The organization also seeks to support 10,000 rural



# IT TAKES A COMMUNITY (AND ART!) TO RESCUE A RIVER



Every river has a story to tell. The Klang River is no different - the main source of potable water in Malaysia in addition to a host of other things it helps grow. Upwards of 90% of our raw water is sourced from rivers. The Klang River is now a raw water intake source. And with that knowledge comes huge responsibilities - if the source or headstream is polluted there is little hope of the downstream being clean. That is why we are working to restore, conserve, protect and rehabilitate the upstream of the Klang River in Taman Melawati.

There are many challenges in undertaking such a task. The first that comes to mind is the unfortunate meeting or confrontation with the twin human traits of apathy and ignorance. So the outcome we encounter down the stream can sometimes be criminal, illegal and irresponsible acts that lead to river pollution. Some of the things we deal with are residential and trade effluents such as fats, oils, grease and grey water that are discharged by washing machines and kitchen sinks, car washes and restaurants, that flow into storm water drains which all lead to rivers.

The other acts are that of littering and



**Before**

outright dumping at undesignated waste areas, storm water drains, roads and directly into rivers. Conventional methods of education and awareness, ongoing since the 1980s, have not worked. So we have adopted unconventional methods such as, an in-your-face approach to polluters, working with local law enforcement to engage and apprehend polluters as well as using art and beauty as a tool to



**After**

discourage such behaviours. One intervention we have created and used successfully is the building of pop-up pollinator gardens to replace undesignated waste areas. The other is to remove garbage bins from our park and nearby areas. With the knowledge that visitors are responsible for their own waste, they are discouraged from bringing things that will become

garbage after it is used, such as food packaging. Not to our surprise, this intervention has actually reduced the amount of left behind garbage and overflowing garbage bins.

By using a community-led place-making approach to river restoration, we have created an easy entry point for the general public. They are able to participate in the river restoration initiative and “own” a publicly accessible place that feels personal to them. Apart from all the science based initiatives (we have collaborations with UCSI, University, International Islamic University Malaysia (IIUM), UITM, UM, Sunway University, Methodist College KL, Dasein Art College, UNDP MY and Tropical Rainforest Conservation & Research Centre among many others) we also use the performing arts and other means to engage and educate the general public. We built PentaSungai at the TMR3 Park and hosted a 39 week community theatre making programme centred around the environment, climate, ecosystem and biodiversity. Another thing we do is to celebrate the major cultural festivals in Malaysia such as Eid, Lunar New Year, Christmas, Malaysia Day and New Year’s Day.

We are hopeful that our efforts will eventually reach a tipping point and will snowball our impacts. We hope to complete the build and operation of the park by 2030 or sooner. We know that changing human behaviour is a slow process but history has also shown us that once you push the right buttons and push hard enough you can create instant transformation.

Everything that we do is predicated on the fact that all human beings operate on the “EGO” operating system, meaning that everyone is primarily concerned with their own interests. It is a highly malleable operating system that is prone to errors and bugs. Our methodology is rewriting the “OS”, or “mindset” and updating it from “EGO” to “ECO”, where it is in everybody’s interest to conserve our environment.

Physically picking up rubbish from the river is an act of last resort as it is dangerous as well as energy and time intensive. The real trick is getting the general public, be they individuals, groups, educational institutions, businesses, corporations and government to be motivated by awareness because the measure of awareness is action. We’ve seen this work at the macro level. Now we are looking for ways to scale and amplify.

*A story by Our Better World – the digital storytelling initiative of the Singapore International Foundation*

([www.ourbetterworld.org](http://www.ourbetterworld.org))

# THE JOURNEY FROM RELIEF TO RESILIENCE



Working with communities underscores the importance of addressing the collective well-being, strengths, and needs of a community as a whole, rather than focusing solely on individual members. This approach is fundamental in community development, disaster relief, social programs, and other aspects of community engagement and governance. “This perspective is the foundation block for all the work we do. And the work on our thematic areas has clearly demonstrated why we must focus on communities as well-knit, independent units,” informs Mr. Ramesh Babu, Executive Director of EFICOR – The Evangelical Fellowship of India Commission On Relief, in New Delhi.

Founded in the year 1967 to anchor relief efforts in situations of famine, floods and conflict situation, EFICOR has come a long way and in the process has established the criticality of collaboration. While collaboration can promise improved logistics, comprehensive coverage addressing diverse aspects, and cross sectoral solutions for complex, interconnected challenges, it also exposes beneficiary communities to a wider scale of institutions that they can approach. “This interface is the key – institutions including NGOs like us and government line departments need community support for maximizing the efficiency, effectiveness, and impact of disaster response and communities need us for resources, expertise, and direction. EFICOR has kept this intact in all its beneficiary communities,” he adds.

Consciously trying to work with communities through collaboration, it takes about six to seven years for EFICOR to exit from a community after preparing them for asset and knowledge management. Having begun with relief operations for the Palamu famine in the then Bihar, followed by relief work for refugees of

the Indo-Pak and Bangladesh-Pakistan war, droughts in Maharashtra, Andhra Pradesh, Telangana, EFICOR has undertaken relief work in a variety of scenarios. As work expanded to newer boundaries and scenarios, the parent body EFI registered EFICOR as a separate entity in 1980 with its own legal identity. From relief to development and to capacity building to resilience of communities, EFICOR has been through many projects, slowly transitioning from short-term relief efforts aimed at addressing the urgent needs of disaster-affected or crisis-affected populations to longer-term development initiatives designed to build resilience, stability, and sustainable development within these communities.

“The transition from relief to resilience is a dynamic and evolving process, with each phase informing and influencing the others. Successful transitions lead to stronger, more resilient communities capable of withstanding future crises and contributing to their own sustainable development,” explains Ramesh. A crucial component of EFICOR’s work in communities involves capacitating and engaging communities to preparing district disaster management plans (DDMPs). Their pilot project in the Madhubani district of Bihar worked out in collaboration with the National Disaster Management Authority (NDMA), State Disaster Management Authority (SDMA) and District Disaster Management Authorities became an exemplar for Bihar. Given our experience and presence across the country, their team always focuses on studying the history of disasters, their patterns of occurrence and effects. This allows them to understand vulnerability from a functional point of view and assess all pertinent parameters every time. In the light of increasing negative impacts of climate change which has adverse impacts on the poor and



vulnerable communities, EFICOR has been working on District Climate Resilient Plan (DCRP) another flagship program to support district administrations in project areas of Madhya Pradesh, Bihar and Uttar Pradesh.

Livelihood and food security is an essential part of community self-reliance. Be it the formation of self-help groups or promotion of entrepreneurship among these women, or the mentoring of farmers on sustainable, scientific methods of farming, land conservation, rainwater harvesting – it is all understood and executed from the intention of keeping local livelihoods alive, and successful. “Disasters do affect their lives but we try to ensure that their lives are not pushed into abject poverty each time,” he adds. Health is another vertical where EFICOR has worked to strengthen locally available resources and build a congenial ecosystem with government line departments. Building capacities of frontline health workers and educating women (pregnant and lactating) about child health, institutional delivery, immunization, and nutrition has had a profound impact on how women perceive health for themselves and their families. Currently, EFICOR is implementing Mother and Child

Health projects in remote parts of Orissa (Bolangir district) and Madhya Pradesh (Burhanpur districts). Alongside, they also provide career guidance, soft skills training, sector specific training, placement support, social security protection, entrepreneurship counselling and self-employment opportunities for persons with disabilities.

Spread across 13 states in the country and consistently reviewing their thematic areas of operation, which also includes urban resilience now, EFICOR’s evolution is a testament to its adaptability, strategic planning and effective management, emphasizing empowerment, sustainability and a broader impact on vulnerable communities. In all these engagements, they have articulated their staunch belief in the strength of collaboration. “No entity can single-handedly work out favorable scenarios for a vulnerable community. We all need each other. The government officials, communities and welfare institutions like EFICOR must work in synchrony. This helps in building a collective vision for sustainable progress,” says Ramesh.

*Shanmuga Priya.T*



# VETIVER REVIVAL PROJECT



The first phase of our project took place on October 8, 2023, where we successfully planted approximately 5,000 Vetiver Tillers. We were honored to have the following distinguished guests: Chief Guest: Shri Vikram Kapoor, IAS - Additional Secretary, Planning, TN Government. Guests of Honor: Shri Subramaniam, IAS - Commissioner, Agriculture, TN, Shri Lakshmiopathy, IAS - Sub Collector, Chingleput District, TN

The event was organized by Ms. Santha Sheela Nair, who played a pivotal role in its success. In addition to our esteemed guests, we were joined by: Dr. CK Ashok Kumar - Founder of First World Community (FWC)

Mr. John Alex - Director, Equitas Bank, and Trustee of Exnora, Mr. P. N. Subramanian - Vice President of India Vetiver Network and President of the Tamizh Organic Farmers Association (THOFA) and Mr. Ganesan - Vice President of THOFA

Ms. Santha Sheela Nair, IAS Retd facilitated the event and extended invitations to Senior Serving IAS Officers for the inaugural function. Ms. Tara Sudhakar, President of Padur Panchayat, was also present.

I shared the history of Vetiver, its origins in India, and the significance of reestablishing India as a global leader in Vetiver. This event was further enriched by the presence of a group of Organic Farmers from across the state who presented their issues and suggestions.

Manava Seva Dharma Samvardhini contributed 10,000 Vetiver Tillers to the project. Dr Anbu coordinated support from Akshaya Kalpa who provided complimentary buttermilk packets, bananas, and sandwiches for all attendees. Watsan Envirotech provided three natural water filters, free electricity, and

drinking water supply to all attendees.

Dr. Sangeet from Padur Panchayat organised volunteers from Hindustan Arts College, Padur who selected a section of the lake and cleared it with the help of workers. Pits were dug for planting, and the Tillers were segregated and placed in open containers for easy access.

On the day before the inauguration, I briefed the volunteers about Vetiver, its history, applications, and planting procedures.

Approximately 150 student volunteers, along with around 30 others, planted about 5,000 Tillers at a rate of 2 Tillers per pit. The inauguration was a collective effort, with all the dignitaries participating by planting a few Tillers each.

Mr. Lakshmiopathy, IAS, Subcollector of Chingleput District, shared his positive experiences using Vetiver in his previous assignments in the rural development sector. He offered encouragement, and contact information was exchanged for future collaboration.

Ms. Santha Sheela Nair connected the team with Shri Vijay Kumar, IAS, Chairman of the River Restoration Authority, Chennai, who was equally encouraging and introduced us to his team. They had already planted Vetiver in the Adyar River and expressed interest in our project.

For the second phase, we cleaned up and dug pits on October 15, enlisting the help of volunteers from TREES Trust to plant the remaining 5,000 Tillers. We were also fortunate to have 10 Black Cat Commandos from the National Security Guard join us, allowing access to challenging planting locations in one part of the lake.

During this process, we observed that some of the previously planted Vetiver had grown well, while others were damaged by human activity and cattle. Given the open nature of the lake's surroundings, this challenge was difficult to prevent due to frequent visits by fishermen.

We express our gratitude to Ms. Santha Sheela Nair, IAS Retd, for her invaluable support in facilitating the event and extending invitations to Senior Serving IAS Officers to inaugurate and address the event. We were also honored to have Ms. Tara Sudhakar, President of Padur Panchayat, join us for this occasion. This event was further enriched

by the presence of a group of Organic Farmers from across the state who presented their issues and suggestions.

We remain committed to our mission and hope to continue our efforts in rejuvenating lakes and the environment.

150 student volunteers, along with around 30 others, planted about 5,000 Tillers at a rate of 2 Tillers per pit.

*P.N. Subramanian*

# TRUE HAPPINESS



Compassionate students of Akshara Vidyaashram made a difference in the lives of the less fortunate Narikurava children residing at Narikurava learning center at Eriayur. It was the annual "Joy of Giving Week," a time when the community came together to spread happiness and kindness.

They showed immense generosity by collecting various items to support these children, who were in need of help. They gathered stationery, provisions, utensils, and even electronic goods, all meant to improve the lives of these young souls. The enthusiasm was contagious, and the collection far exceeded their expectations.

Realising that they had more than enough to make a significant impact, the students decided to extend their kindness to other charities in the coming months. They knew that there were many other children in need, and their hearts were set on helping as many as they could.

On the special occasion when they handed over their generous donations, the Akshara Vidyaashram students mentioned that they were willing to make a regular contribution of essential items like dal, oil, and sugar to the Narikurava children. They felt privileged to be in a position to help other kids and wanted to continue spreading joy and support.

The "Day of Sharing" (DOS) would now become a monthly event, ensuring that the Narikurava learning center in Eriayur had all the necessary provisions to function effectively. This initiative was a heartwarming testament to the power of giving, demonstrating that even small acts of kindness could make a big difference.

I expressed gratitude to the parents of these children, the Akshara Vidyaashram management, teachers, and students for their support.

True happiness came from the joy of giving and making a positive impact on the lives of others.

—Marie Banu



# "Vetiver's role in promoting soil health make it a valuable tool for addressing environmental issues."

## Sara Parvin Banu shares with Marie Banu her passion for research and her notable projects

**P**rof. Sara Parwin Banu Kamaludeen is an Environmental Microbiologist and Microbial ecologist involved in the remediation of soil and water bodies. She is involved in teaching, research, and farm advisory service services for the past 25 years at Tamil Nadu Agricultural University. She has expertise in remediation of toxic Cr(VI) utilizing the biotransformation potential of diverse aerobic and anaerobic microbial communities. Sara has explored the microbial diversity in chrome contaminated zones and confirmed that microbial manganese oxides trigger reoxidation of Cr in remediated sites, a major challenge. Her main focus of research is Bio/Phyto and Rhizoremediation of heavy metals and pharmaceuticals from municipal sewage and tannery wastewaters. Currently, she is working on rhizofiltration in vetiver, exudation patterns, metabolites characterisation and role of biochars in wastewater treatment.

*In an exclusive interview, Sara Parvin Banu shares with Marie Banu her passion for research and her notable projects*

### What is your educational and professional background? How has your academic journey and career evolved over the years?

I hail from Salem, which is also my native place. My educational journey began here with my schooling. Following that, I pursued a bachelor's degree in agriculture. I continued my academic pursuits by completing a master's degree in Environmental Sciences at Tamilnadu Agricultural University. Subsequently, I was awarded a John Allwright fellowship from the Australian Council for International Agriculture Research (ACIAR). This fellowship paved the way for my four-year Ph.D. program at the University of Adelaide, which was closely tied to the CSIRO (Commonwealth Scientific and Industrial Research Organisation). This extensive project, initiated in 1996, spanned a decade and focused on remediating contaminated soils in the Vellore region, with funding and support from Australia.

In 1995, I took up a role as an assistant professor at the university. Following the completion of my Ph.D., I remained dedicated to teaching for over two decades, amassing more than 20 to 25 years of experience in the field. Teaching has always been a great passion of mine, and I thoroughly enjoy being a teacher and lecturer.

In addition to my teaching responsibilities, I've been actively involved in research, primarily focusing on soil and water remediation. My research endeavors have contributed to addressing the challenges of contamination in these areas.

### Could you describe the pivotal moments and influences that led you to pursue a career in environmental microbiology and soil and water remediation?

To begin with, there were two significant triggers in my journey. First, during my master's studies, I was relatively new to the world of research. I had a deep passion for insects and wanted to explore this further. This interest led me to the field of environmental studies. It was my professor, Dr K Ramasamy who noticed my enthusiasm and suggested that we delve into the gut microbiology of insects. We specifically



examined the gut of the mango stem borer, a wood-boring insect. What fascinated me was the discovery of anaerobic microorganisms within the insect's gut that had the remarkable ability to break down cellulose. We decided to inject these microorganisms into biogas digesters, and this experiment resulted in a significant increase in biogas production. This marked my first realisation of the potential of microorganisms in environmental applications.

The second trigger came while working with Sakthi Sugars. The sugar industry faced the challenge of achieving zero discharge, and we had to find innovative solutions. We developed microbial cultures capable of decomposing the Bagasse and effluent from the sugar industry into biomanure that was in turn used by sugarcane farmers as fertiliser.

Another significant turning point was when I worked on a massive Australian project focused on the remediation of chromium-contaminated wells in Vellore. Even after two decades, we discovered that chromium contamination still persisted, despite extensive efforts such as afforestation programs in both India and Australia. This experience heightened my focus on the importance of soil and water resources, given their contamination, and prompted my concentrated efforts in this field.

### What are the main areas you are currently focusing on in your research?

In recent years, I've shifted my attention to water remediation, particularly wastewater treatment, and explored the use of biochar from biomass to trap pollutants. Additionally, I've spent the last five years dedicated to studying the vetiver crop, which led me to collaborate with Mr. P.N. Subramaniam and the India Vetiver Network group.

Currently, I'm primarily concentrating on two areas of research; biochar and Vetiver. We have characterised and used biochars from agricultural residues for metal removal. I'm actively engaged in the remediation of water using vetiver. Over the past five to six years, my research has been focused on exploring how vetiver plant roots can effectively remove metals from water. Vetiver's roots have shown impressive metal-trapping capabilities in our studies. For instance, it can remove up to 80% of chromium, 60% of zinc, and around 70%

of nickel from contaminated effluents. It also detoxifies carcinogenic Cr(VI).

When wastewater flows through vetiver plants, the plant's roots and associated microorganisms act to purify the water. This plant has a unique ability to oxygenate the soil due to its fine roots, which makes it effective in treating water with pathogens and organic compounds. We've also studied how the root exudation changes when the plant is exposed to different contaminants, and we're keen on examining the microbiome associated with vetiver. The ultimate goal is to understand why vetiver is so effective and find practical applications for this knowledge.

Our applications include the purification of water from a variety of contaminants, particularly heavy metals and organic compounds. Vetiver's ability to strip metals from water, its adaptability to different types of contamination, and its role in promoting soil health make it a valuable tool for addressing environmental issues. We aim to standardize the use of vetiver for water purification and work on improving monitoring systems to evaluate its efficiency in real-time applications.

### Could you tell me more about your work in promoting non-food crops in areas affected by contamination, and what impact this has had?

Certainly. In regions affected by this contamination, we've recommended the cultivation of non-food crops to mitigate the risks of metal and salt contamination in food crops. This guidance is based on research conducted in areas like Vaniambadi, Walajapet in Vellore, where we evaluated the suitability of various plants. Some of our recommendations have included Crossandra, which performs well in chromium-contaminated soils, and jasmine and mullai flowers, which have been effective in coping with metal contamination, including chromium. These non-food crops have the potential to absorb contaminants from the soil and, help to arrest the metals entering into food chain. Our efforts have also involved afforestation in contaminated areas to restore soil quality and promote ecosystem health.

### What are some of the notable projects and achievements in your department related to soil and water remediation?

Over the last two to three decades, our department has undertaken several projects related to soil and water remediation with industrial partners. Remediation techniques were developed for tannery affected soils of Vellore region. One of the department project report on Loss of ecology has helped farmers to claim compensation in vellore region and helped to setup CETP. Baseline databases on tannery, textiles and dyeing effluents were documented to the state government. One noteworthy accomplishment is the development of microbial consortia, "TNAU Biomineraliser" that quickens the composting process to 35 days. We've successfully promoted these cultures among farmers to enhance composting efficiently.

Additionally, we've been involved in the installation of Vetiver Floating Wetlands in Coimbatore lakes and studying its applications. Our team has also been focusing on using floating wetlands as tertiary treatment for dairy effluent that showed promising results. Studying the vetiver root microbiomes of is an exciting avenue for future research. Moreover, we've explored the use of biochar, particularly in small-scale biochar filters for treating dyeing factory effluents, offering a cost-effective solution for removing contaminants and color from water. These achievements demonstrate our commitment to addressing environmental challenges, improving soil and water quality, and promoting sustainable solutions for the community.