A Region Transformed by Purpose, Not Policy Alone

ASEAN FORWARD

2025
Second
Edition

Our Future, Our Choice

A Gen-Z Wake-Up Call on ESG in ASEAN

AI isn't just forecasting weather — it's forecasting **hope**.

"What impact am I truly making beyond the classroom?"

From the heartland of India's farmer suicides to the rise of biodegradable straws
— Dr. Saji Varghese

From Tariffs to Transformation

Why ESG Must Be a Regional Mission

ASEAN FINTECH FORUM

A special thank you to our contributors:

Daniel Ng, Managing Director, **Omni Integra**
Eva Au, Managing Director**, Sabio World, Sustainability Transformation**
Neha Mehta, CEO, **FemTech Partners**
Dr Norsaidatul Mazelan, Managing Director, **Thinkplus Consulting**
Dr Saji Varghese, Founder, **Sunbird Straws**

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FOREWORD
ASEAN FORWARD | Sustainability Edition

"There are more lives we can touch without seeing them."

Some of the clearest perspectives are found in the deepest places — not just underwater, but in quiet observation of people and systems.

Diving isn't just a hobby— it's about surfacing into someone else's world. After a dive, I often step into a modest local eatery, listen to strangers, and learn how they live. It reminds me that real transformation begins with empathy, not algorithms.

In diving, no one risks their life through inaction. Every seal, gas mix, and plan is checked. We take responsibility for every breath. Why aren't we doing the same for our planet?

Through ASEAN Fintech Forum and Sabio World, I've spent the past year building platforms that connect policymakers, bankers, technologists, and community leaders — people who often don't sit at the same table. We work to align not just strategy, but shared language, trust, and outcomes.

The articles in this issue prove that we don't lack tools — we lack coordinated will. ESG cannot remain a scattered effort. It must become our shared system of action.

This magazine isn't just a showcase. It's a call. Let's lead with purpose, move early, share openly, and build together.

Let's go deeper — and further — together.

Adam Tan
CEO, Asean Fintech Forum
adamtan@asean-fintechforum.com

Empowering Change: Climate Solutions for Sustainable Futures

Neha Mehta, CEO & Founder,
FemTech Partners

I have always been passionate about creating solutions that bridge economic growth with environmental responsibility and social inclusivity. My journey into sustainable financing and environmental advocacy began with a realization that financial mechanisms, if properly designed, could drive meaningful change for both people and the planet. My experience working with international organizations such as the UN has reinforced the importance of aligning financial flows with sustainability goals.

Technology plays a crucial role in this equation. By leveraging digital solutions, data analytics, and climate innovations, we can enhance access to sustainable finance, create scalable impact, and empower marginalized communities—especially women in climate-vulnerable regions. My vision has always been to harness technology for both environmental sustainability and social equity, ensuring that the most affected populations are not left behind in the transition to a greener economy.

Challenges Due to Climate Change: The Impact on Women in Vulnerable Regions

Women in climate-vulnerable regions face a multitude of challenges, including:

1. Disproportionate Economic Burdens:
Women often rely on agriculture and informal employment, both of which are highly susceptible to climate disruptions like droughts, floods, and erratic weather patterns.

2. Limited Access to Resources:
Women have less access to financial services, land ownership, and education, making it difficult to invest in climate-resilient solutions.

3. Health and Social Impacts:
Climate change exacerbates food insecurity and water scarcity, placing a greater burden on women, who are traditionally responsible for household food and water supply.

4. Gendered Barriers in Climate Decision-Making:
Women's voices are often underrepresented in policymaking and climate action planning.

Harnessing Climate Tech & Sustainable Finance to Empower Women and Build Resilience

Innovative climate technologies and sustainable finance mechanisms are powerful tools in addressing the disproportionate climate risks faced by women—especially in underserved and rural communities. By aligning financial innovation with social impact, we can unlock inclusive growth and resilience. Key interventions include:

1. **Microfinance & Green Bonds**: Targeted financial instruments such as green bonds and microloans enable women entrepreneurs to launch and scale climate-resilient businesses—from solar-powered ventures and eco-friendly enterprises to climate-smart farming practices that regenerate land and livelihoods.

2. **InsurTech for Climate Resilience**: Customized insurance products designed for smallholder women farmers offer vital protection against crop failure, extreme weather, and other climate-induced disruptions, enabling faster recovery and long-term sustainability.

3. **Mobile & Digital Finance**: The integration of fintech and blockchain technologies ensures that women can access carbon credits, climate subsidies, and social impact funding directly and transparently, reducing dependency on intermediaries and increasing financial autonomy.

4. **Capacity Building & Skills Training**: Digital literacy, agritech education, and entrepreneurial skill development are essential to equip women with the tools and confidence to not just adapt to climate change, but to lead the transition to a greener, more equitable economy.

Having worked closely on sustainable finance projects, I've witnessed several impactful initiatives that have transformed women's livelihoods in the APAC region:

1. Solar Microgrid Initiatives in India & Bangladesh:
These projects provide off-grid rural communities, particularly women-led households, with affordable solar energy. Women entrepreneurs manage solar kiosks, creating employment while reducing dependency on fossil fuels.

2. Women-Led Agri-Finance in Indonesia:
A microfinance project has been supporting women farmers in shifting to climate-resilient crops, improving food security while providing financial stability.

3. Fintech for Climate Insurance in the Philippines:
A blockchain-based initiative enables women farmers to access rapid climate disaster payouts, ensuring financial stability after typhoons or droughts.

These investments not only reduce the climate vulnerability of women but also position them as leaders in their communities, fostering economic independence and resilience.

Climate Tech Innovations: Advancing Socioeconomic Opportunities for Women

Some of the most promising climate tech innovations that benefit women include:

1. Smart Irrigation & Soil Sensors:
These technologies help women farmers optimize water use and increase crop yields without exhausting natural resources.

2. Biodegradable Packaging Startups:
Women-led businesses are leading sustainable packaging solutions, reducing plastic waste and promoting eco-friendly supply chains.

3. AI & Remote Sensing for Disaster Prediction:
Digital tools that predict floods, droughts, and extreme weather events allow women to prepare and adapt.

4. Clean Cookstoves & Bioenergy Solutions:
Replacing traditional firewood stoves with solar or biogas alternatives significantly improves women's health while reducing deforestation.

Each of these innovations not only addresses climate resilience but also generates employment, entrepreneurial opportunities, and enhanced decision-making power for women.

Future of Agri-Tech: The Intersection of Climate Tech & Sustainable Agriculture for Women

Agri-tech is playing a pivotal role in reshaping sustainable agriculture and enhancing women's participation in the sector. Key trends include:

1. Vertical & Hydroponic Farming:
These methods allow urban women entrepreneurs to grow food sustainably in limited spaces, reducing dependency on traditional farming.

2. Regenerative Agriculture Training:
Women-led cooperative farming models are promoting soil restoration, biodiversity, and carbon sequestration.

3. AI-Powered Market Access Platforms:
Digital marketplaces connect women farmers directly to buyers, reducing middlemen exploitation and ensuring fair pricing.

4. Drone Technology for Precision Farming:
In some APAC countries, women are being trained to use drones for pesticide-free, precision agriculture, improving efficiency and yields.

These innovations not only contribute to food security but also enhance women's economic empowerment by providing new pathways for employment and entrepreneurship.

If we want real progress in climate resilience, we must stop treating women as beneficiaries and start recognizing them as leaders. Climate finance must intentionally include women-led enterprises, with targeted funds and green investments that close the gender gap. Governments should back this with tax breaks and grants for women in sustainability and mandate their presence in climate decision-making forums. Expanding STEM and digital access for girls isn't just education—it's empowerment. And until women have equal rights to land and capital, their potential remains stifled. A climate-smart future is only possible when gender equity is built into every policy, every program, and every investment.

To create an inclusive and sustainable future, we must recognize that women are not just victims of climate change but powerful agents of change. Governments, businesses, and financial institutions must prioritize gender-responsive climate policies, invest in women-led innovations, and ensure equitable access to resources. By doing so, we can drive systemic transformation that benefits both the planet and its people.

Neha Mehta, CEO and Founder of FemTech Partners, is a former UN Diplomat and a distinguished author. Her latest book, One Stop: The Untold Story of Super Apps, is an Amazon hot seller- explores the rise of platforms like WeChat, Grab and GoTo. With over two decades of experience, Neha has successfully managed multi-million-dollar projects and led large teams across the Pacific. She specializes in sustainable finance, working on initiatives like blue bonds and climate tech. As a faculty member at NTU, she teaches fintech and sustainability, sharing her insights with the next generation of leaders.

The Gen-Z Vote: The Future of Sustainability in ASEAN

An interview with,
Dr Norsaitadul Mazlan, Managing Director, Think Plus Consulting

Amidst the rapid evolution of global markets and environmental concerns, ASEAN stands uniquely positioned to pioneer a path toward sustainable growth and technological integration. Dr. Nor, a venerated policy maker and thought leader, offers a visionary approach for leveraging these changes to drive forward the region's economic and social dynamics.

With her work at Think Plus Consulting, Dr Nor has been encouraging leaders to build sustainability within their workflows. She has played an integral role, spearheading the move to the effective implementation of ESG policies, that move past a compliance approach, rather to be taken seriously, built in within the DNA of a leader.

From Agrarian Roots to Industrial Powerhouse

In the transition from agrarian roots to industrial prowess, ASEAN has undergone a profound transformation. The region had evolved from simple beginnings to a complex, interconnected economic system.

ASEAN's journey from agrarian economies to becoming a global hub of industrial prowess represents one of the most significant economic transformations in recent history. Historically dependent on agriculture, many ASEAN countries have successfully diversified their economies, embracing manufacturing and services to drive growth and development.

Agricultural Beginnings

Initially, the economies of the ASEAN region were heavily reliant on agriculture. As of the late 20th century, agriculture accounted for more than 30% of the GDP in countries like Myanmar and Laos and employed a significant portion of the workforce across the region. This sector was crucial not only for domestic consumption but also for export revenues, with products like rice, rubber, and palm oil being predominant.

Industrial Expansion

Starting in the 1980s, there was a deliberate shift towards industrialization as part of national development strategies. This transition was marked by substantial foreign direct investment (FDI) inflows, particularly in manufacturing. For instance, by the early 2000s, FDI inflows in ASEAN had surged to $38 billion from just $8.5 billion in 1990, reflecting the region's growing industrial base.

Manufacturing sectors such as electronics, automotive, and textiles began to flourish, contributing increasingly to the GDPs of nations like Thailand, Malaysia, and Indonesia.

Technological Integration and Economic Complexity

The adoption of technology in industrial processes introduced a new era of economic complexity in ASEAN. The Economic Complexity Index (ECI), which measures the diversity and sophistication of countries' export baskets, shows significant improvements for ASEAN members. For example, Singapore and Malaysia are among the top 20 countries globally for economic complexity, highlighting their transition to producing a broader range of high-tech and value-added goods.

Services and Digital Economy

The shift towards a service-oriented economy has also been pivotal. The services sector now accounts for nearly 50% of GDP in countries like the Philippines and Singapore. The rapid growth of digital infrastructure has further enabled the expansion of sectors such as fintech, e-commerce, and digital services, attracting a new wave of investments and innovation.

Interconnected Economic System

ASEAN's economic integration efforts have been crucial in this transformation.

Initiatives like the ASEAN Economic Community (AEC) have aimed to create a single market and production base, allowing for the free flow of goods, services, investment, and skilled labour. This integration has not only multiplied intra-regional trade but also strengthened ASEAN's position in the global economy.

As Dr. Nor reflects, “The wave of sustainability has always been driven by technology,” highlighting the 1980s as a pivotal time when technology began to reshape ASEAN economies, promoting growth and enhancing decision-making processes.

As businesses worldwide strive to align profit with purpose, Dr. Nor shares a comprehensive framework for sustainable growth. The 7P model she advocates—encompassing product, process, people, planet, prosperity, payment gateway, and partnership in goals—offers a roadmap for embedding sustainability into the core operations of businesses.
This model advocates for a comprehensive strategy where each component plays a critical role:

1. Product and **Process** ensure that what businesses create and how they create it are both efficient and environmentally sound.

2. People emphasizes the importance of considering employee welfare and community impact, aligning with ASEAN’s focus on inclusive economic development.

3. Planet reflects a commitment to environmental stewardship, a priority for a region prone to the effects of climate change and environmental degradation.

4. Prosperity signifies the shared economic gains from sustainable practices, crucial for the continued economic upliftment of the ASEAN populations.

5. Payment Gateway highlights the role of innovative financial technologies in facilitating secure, sustainable economic transactions that are critical in the digital age.

6. Partnership in Goals underscores the importance of collaborative efforts—both within the region and with global partners—to achieve sustainable development goals.

These elements are particularly resonant in ASEAN, a region experiencing rapid industrial growth and urbanization, which intensifies the need for sustainable urban planning and management.

The integration of the 7P model can guide businesses and governments alike in creating systems that not only bolster economic growth but also enhance the quality of life and environmental health.

Dr. Nor further stresses the necessity of this holistic approach as ASEAN countries navigate their unique challenges and opportunities in the global economy. By embedding these seven pillars into their operations, businesses can contribute significantly to the region's sustainable development agenda, fostering an economy that is robust, resilient, and responsive to both current needs and future challenges.

THE GEN-Z VOTE

Navigating generational divides is one of ASEAN's most pressing challenges as it influences not only workforce dynamics but also policy formulation and corporate strategy. Generational differences manifest in the workplace and the broader economic context, showcasing the urgent need for modernized leadership approaches that resonate with younger demographics. There is an apparent disconnect between traditional leadership models and the values and technological fluency of newer generations.

“Younger generations are not just passing participants in technology; they are its architects and innovators,” Dr. Nor states, emphasizing that Gen Z and Gen Alpha bring a digital-first perspective that is crucial in today's technology-driven market environments. Younger cohorts are entering the workforce with a different set of expectations—they seek purpose, sustainability, and innovation at their workplaces, not just job security.

Dr. Nor critiques the traditional corporate cultures that often undervalue these younger voices, which can contribute fresh, technologically savvy insights into sustainability and digital transformation. “Adapting our strategies to align with the expectations and capabilities of technologically adept generations like Gen Z and Gen Alpha is not just necessary—it’s imperative,” she insists.

This adaptation involves not only acknowledging the unique skills and perspectives that younger workers bring but also rethinking how these qualities can be integrated into current business models and strategic objectives.

Highlighting the importance of this integration, Dr. Nor argues for a collaborative approach to leadership that bridges generational gaps. She suggests that by fostering an inclusive environment that encourages innovation and values feedback from younger employees, organizations can better navigate the complexities of modern business challenges. “It’s about creating spaces where intergenerational collaboration leads to innovative solutions, not just for technology problems but for global challenges like climate change and economic inequality,” she adds.

Dr. Nor calls for ASEAN leaders to not only mentor young professionals but also to learn from them, creating a reciprocal learning environment. This approach will ensure that policies and corporate strategies are robust enough to handle future challenges while being dynamic enough to adapt to the rapid pace of technological change.

Rethinking Leadership and Sustainability

In today's global business environment, leadership must transcend traditional boundaries to prioritize sustainability effectively. Dr. Nor emphasizes the critical role of Environmental, Social, and Governance (ESG) principles in reshaping contemporary business practices and governance structures. As industries and economies evolve, the integration of these principles becomes essential for long-term success.

"Leadership and governance should actively promote integrity, transparency, and accountability, reflecting the core values and long-term sustainability goals," Dr. Nor advises, advocating for a profound shift from superficial compliance to genuine commitment to these ideals.

The need for this shift is underscored by increasing demands from consumers, investors, and regulators who seek more than just financial returns. They demand transparency in how companies manage environmental risks, treat their employees, and govern themselves. Dr. Nor points out that integrating ESG principles goes beyond mitigating risks—it enhances corporate reputation, fosters consumer trust, and builds more robust community ties.

“True sustainability is achieved when these principles are woven into the fabric of company culture and operations, driving decisions that align with both ethical standards and business objectives,” she elaborates.

In Conclusion

Leaders that push for sustainability within their organisations have the power to secure a sustainable future for the businesses themselves but also contributes to the broader global goals of environmental stewardship and social equity.

By advocating for these changes, Dr. Nor calls on today's leaders to embrace a visionary stance that views sustainability as an integral part of business success. She encourages leaders to engage actively with the challenges and opportunities presented by the ESG framework, thereby fostering a business ecosystem that is resilient, ethical, and aligned with the evolving priorities of a rapidly changing world.

There is an urgent need for proactive leadership in ASEAN. A commitment to ethical practices and technological integration that aligns with global sustainability goals.

“We must shape a future that respects our environmental and social responsibilities, ensuring a prosperous legacy for the generations to come,” she concludes, urging ASEAN leaders to embrace change and lead with visionary purpose.

AI's Role in Sustainability and Climate Action in ASEAN: Balancing Innovation with Human Impact

Daniel Ng, Managing Director, Omni Integra

The accelerating climate crisis and environmental challenges in ASEAN demand urgent and innovative solutions. Artificial Intelligence (AI) is emerging as a powerful tool in sustainability efforts, driving efficiency, reducing waste, and optimizing resources. However, beyond the numbers and technological advancements, AI's real impact lies in how it transforms human lives—empowering communities, improving livelihoods, and fostering resilience against climate threats.

AI is shaping sustainability initiatives in ASEAN, playing a pivotal role in climate action, with its implementation remaining human-centric to create lasting positive change.

AI's Role in Sustainability: Driving Impact at a Human Level

ASEAN is one of the most biodiverse and resource-rich regions in the world, but rapid industrialization and urbanization have placed immense pressure on its natural environment.

AI-driven sustainability initiatives are already creating significant human impact:

1. Smart Energy Management: Reducing Costs, Improving Lives

AI-powered energy management goes beyond efficiency—it improves lives. By reducing electricity costs and minimizing environmental health risks tied to fossil fuels, AI enables more affordable and sustainable living. Singapore stands out as a leader, integrating AI into its Smart Nation initiative to optimize energy use in public housing. Through smart meters, AI-driven thermostats, and automated lighting, residents can lower their energy bills. For lower-income households, the impact is especially meaningful. Take the example of a single mother in public housing: with AI-enabled energy analytics, she can better manage monthly expenses, freeing up resources for essentials like her children's education.

2. Sustainable Agriculture: Enhancing Farmers' Livelihoods

AI is transforming agriculture by increasing crop yields, reducing waste, and enhancing climate resilience. In Malaysia, palm oil farmers are leveraging AI-powered drones and soil analytics to optimize water and fertilizer use—cutting costs while minimizing environmental harm.

For small-scale farmers, the impact is deeply personal. One farmer, previously struggling with declining yields, now uses AI insights to grow more with less. His income has improved, and his land is healthier, ensuring it remains productive for the next generation.

3. Waste Management: Cleaning Cities, Creating Jobs

Across ASEAN, AI is helping cities tackle mounting waste challenges while creating safer, better-paying jobs. In Jakarta, AI-powered waste-sorting robots now efficiently separate recyclables from general waste, boosting recycling rates and easing pressure on landfills. But the real transformation lies in the human story: waste pickers, once exposed to hazardous conditions and unstable incomes, are now being trained to operate these AI systems. Their work has become safer, more dignified, and better compensated—proof that technology can uplift livelihoods while cleaning up our cities.

Balancing Profitability with Sustainability: AI as a Bridge

Businesses often see sustainability as a cost rather than an opportunity. AI is shifting this perception by demonstrating that green initiatives can drive both profitability and positive social impact.

1. Lower Costs, Higher Efficiency: Supporting Livelihoods

AI-powered logistics and supply chain optimization are helping companies cut costs, reduce emissions, and improve delivery efficiency—freeing up resources to reinvest in their people. In Thailand, logistics firms are using AI to streamline delivery routes, lowering fuel use and environmental impact. For workers, the benefits are personal: a local delivery driver who once endured long, unpredictable hours now completes his routes faster thanks to AI-driven planning. The result? More time with family, less stress, and a better quality of life—proof that tech-driven efficiency can be a win for both business and humanity.

2. Sustainable Finance: Empowering Ethical Business Growth

Investors are increasingly relying on AI-powered ESG assessments to identify and support businesses that align with sustainability goals. In Singapore, DBS Bank uses AI to evaluate companies' carbon footprints and environmental practices, directing capital toward responsible enterprises. This tech-driven shift is opening doors for the next generation of changemakers. A young entrepreneur, building an eco-conscious startup, secures funding thanks to AI-verified insights that show her business is not only sustainable—but also investment-worthy. AI is helping redefine value, where profitability and purpose go hand in hand.

AI for Climate Action: Protecting Lives and Communities

Southeast Asia is highly vulnerable to climate change, facing rising sea levels, typhoons, and extreme heat. AI is emerging as a key tool for mitigation and adaptation efforts, with direct benefits for human well-being.

1. AI for Carbon Emissions Reduction: Cleaner Air, Healthier People

AI is becoming a powerful ally in the fight for cleaner cities by monitoring air pollution, reducing emissions, and ultimately improving public health. In Vietnam, AI-powered sensors are deployed across cities to track real-time air quality and adjust traffic patterns, cutting down vehicle emissions. The benefits are more than just environmental—they're deeply personal. For a child living with asthma, these AI-driven interventions mean fewer attacks and a safer, healthier life. Technology like this isn't just about data—it's about delivering cleaner air and better futures.

2. AI for Climate Resilience: Protecting Communities from Natural Disasters

AI is playing a vital role in protecting vulnerable communities by predicting and mitigating the impact of climate disasters.

In the Philippines—where typhoons are frequent and devastating—AI analyses complex weather patterns to forecast storm intensity with greater accuracy. These AI-powered early warning systems enable governments to issue timely evacuation orders and safeguard lives. For a fisherman in a coastal village, this technology means the difference between disaster and survival: with enough notice to secure his home and evacuate his family, he escapes harm's way. AI isn't just forecasting weather—it's forecasting hope.

Challenges in AI for Climate Adaptation and Disaster Response

While AI offers tremendous potential, real-world deployment faces challenges that must be addressed to maximize human benefits.

1. Data Accessibility and Inclusivity

AI models rely on data, but many rural areas lack accurate climate data, making AI predictions less effective. Governments and private sectors must collaborate to create open, inclusive data-sharing platforms that reach all communities, not just urban centres.

2. High Costs and Limited Technical Knowledge

AI solutions often require significant investment and expertise, making them less accessible to small businesses and communities. ASEAN governments should invest in AI training programs and subsidies for AI adoption in SMEs and rural areas, ensuring no one is left behind in the transition to sustainable technology.

3. Ethical and Social Considerations

AI systems may reinforce social biases, particularly in resource allocation during disaster response. Transparent AI governance frameworks must be implemented to ensure fair and equitable decision-making in sustainability efforts.

AI is more than a technological breakthrough—it's a catalyst for social transformation. It's true value lies not just in efficiency, but in its ability to improve lives: lowering energy costs for families, boosting farmer incomes, and protecting communities from climate disasters. To fully harness this potential, ASEAN nations must invest in AI education and infrastructure to ensure equitable access across urban and rural areas. They must also prioritize ethical governance to embed fairness and inclusivity in AI-driven sustainability policies. Most importantly, collaboration between governments, businesses, and communities is essential to design AI solutions that serve both people and the planet. Empowerment, not just innovation, must define the region's AI journey.

The future of sustainability in ASEAN is not just about technology—it is about people. AI, when thoughtfully applied, has the power to create a more sustainable, equitable, and resilient region for generations to come.

About the Author: Daniel CF Ng is an accomplished leader with over four decades of experience in leadership, management, sales, marketing, sustainability, and communications. His approach to humanizing technology involves transforming complex challenges into relatable, interconnected stories. Specializing in integrating Asian markets with cutting-edge technologies, Daniel excels in merging innovation with practical solutions for a significant impact. In 2024, he has been a vocal proponent of Artificial Intelligence (AI) in Southeast Asia, utilizing his insights to navigate unique opportunities and challenges in the region. As a dedicated mentor, Daniel continues to nurture professionals, enhancing their adaptability in the rapidly changing digital landscape. He maintains a dynamic LinkedIn presence and ranks in the top 1% for social selling in his industry, consistently engaging a global audience with insightful content. Committed to fostering innovation, collaboration, and sustainable futures, Daniel leverages technology and human connections to drive progress.

NOT YOUR AVERAGE "STRAWMAN": THE STORY OF SUNBIRD STRAWS

An interview with,
Dr Saji Varghese, Founder, Sunbird Straws

Before the birth of Sunbird Straws, Dr. Varghese's journey into sustainable innovation began years earlier, far from academic lecture halls—in a village in Maharashtra, India's heartland of farmer distress. The area had the grim distinction of recording the highest number of farmer suicides in the country, and it was here that Dr. Varghese first encountered the profound intersections between poverty, environmental fragility, and social neglect.

As he walked to school each day, he would see children growing up in informal settlements, caught in the cycle of inherited hardship. While he held a secure teaching position, a question began to form: What impact am I truly making beyond the classroom?

Teaching English for the next 20 years, though valuable, didn't seem sufficient when confronted with the depth of inequity surrounding him. This seed of thought became the foundation for a deeper commitment to create real, tangible change—especially for marginalized children and communities.

His moment of inspiration came from an unlikely source: the biography of George Washington Carver, an African-American agricultural scientist known for his innovative use of natural materials to create economic opportunities for poor farmers. Though not a scientist himself, Dr. Varghese was drawn to the idea of low-tech, resource-based innovation that could serve both people and the planet.

That seed grew into Sunbird Straws.

The turning point came during a conversation with a Dutch visitor, who mentioned the growing concern around single-use plastic straws. Reflecting on this environmental scourge, Dr. Varghese looked around his campus and noticed the large number of fallen coconut leaves—typically collected and burned, releasing carbon into the air. What if these leaves, discarded and forgotten, could be turned into a biodegradable alternative?

He refers to it as an "epiphany moment." The vision was straightforward: to transform waste into utility, and to ensure that the transformation benefited those most in need. With two of his students eventually becoming co-founders, the concept became a venture. Together, they developed a simple, chemical-free process for converting fallen coconut leaves into straws.

Unlike industrial-scale solutions that require complex machinery and extensive training, the Sunbird method relies on manually operated machines designed for ease of use. This intentional simplicity made it feasible to decentralize production and bring the technology directly to rural villages—places where the raw material was abundant and where jobs were most urgently needed.

At its core, Sunbird Straws embodies a dual mission: protect the environment while empowering communities. The use of coconut leaves tackles the issue of plastic pollution while also reducing the carbon emissions caused by burning agricultural waste. But the environmental value is only one side of the coin. The business model is structured to create sustained economic empowerment in rural India—particularly for women.

Currently, Sunbird operates five production centers across three Indian states, employing 115 women. Of those, 103 have remained employed for over three years—a testament to the initiative's reliability and impact. By localizing production, Sunbird ensures that the economic value of the straws stays within the community.

One woman, previously unable to secure a loan, used her steady Sunbird income to build a two-storey house.

In another village in Tamil Nadu, a woman who is hearing and speech-impaired found employment for the first time in her life. Now a key contributor to her family's income, she is also the fastest straw roller in her unit. These aren't just feel-good anecdotes—they are stories of transformation.

Sunbird's model thrives on collaboration, not charity. Institutional support has played a crucial role in scaling the initiative. NABARD (National Bank for Agriculture and Rural Development) was one of the first to recognize the potential and provided funding to establish a production unit in Karnataka. The Karnataka state government, along with corporate CSR initiatives, also stepped in with crucial support.

What makes Sunbird distinctive is how it transitions ownership to the communities it serves. Production centers are now increasingly managed by the women themselves. Rather than treating rural workers as passive recipients of aid, the model is one of participation and pride. The women are trained, equipped, and trusted to lead.

Dr. Varghese is adamant that this work cannot be seen as a one-person mission. It is the product of partnerships—between educators and engineers, state agencies and local leaders, students and communities. That collaborative spirit is embedded into Sunbird's DNA.

Dr. Varghese's perspective on inclusion is refreshingly grounded. He argues that financial inclusion isn't just about giving people access to a digital wallet or a bank account. "What's the point of banking the unbanked," he asks, "if they don't first have a way to earn?"

His appeal to banks and policymakers is clear: invest in the grassroots economy. Recognize that environmental and social impact must go hand in hand. In rural contexts, one cannot talk about climate ethics without addressing income stability and human dignity. More importantly, he calls for a shift in the financial sector's approach to impact ventures.

Start-ups in tech and fintech may attract venture capital promising quick returns. But solutions like Sunbird require patient capital—funding that is willing to wait, to nurture, and to believe in long-term change. These innovations won't deliver 100x returns overnight, but they can deliver generational transformation.

Sunbird Straws is not just about replacing plastic straws—it is about redefining what sustainable development looks like in India. It proves that climate solutions don't have to come from laboratories or billion-dollar investments. They can come from coconut leaves, quiet villages, and women who roll straws with purpose and pride.

The environmental crisis and rural poverty are not separate problems—they are deeply connected. In tackling both, Sunbird presents a blueprint for how meaningful impact can be local, inclusive, and transformative.

For bankers, policymakers, and business leaders looking to make a difference: the future isn't just in scalable technology—it's in scalable humanity. And that, perhaps, is Sunbird's greatest innovation.

Meet Dr Saji Varghese:

Dr Saji Varghese is Associate Professor in the Dept of English, Christ University, Bangalore and heads the centre for Design and Innovation for Social Entrepreneurship at the University.

He is the inventor of biodegradable straws made from naturally dried and fallen coconut leaves and is the founder of the start-up Sunbird Straws which provides employment to women in rural areas. He got the fastest patent granted in India in 2018 for his invention of straws from coconut leaves.

Dr Saji Varghese was invited to be part of the Hon'ble President of India's Business Delegation to Philippines in October 2019. He recently won the Global Hone Bee Network Creativity and Inclusivity Innovation Appreciation Award organized through UNDP.

THE "S" FACTOR: MAKING SUSTAINABILITY SEXY AGAIN

Eva Au, Managing Director, Sabio World, Sustainability Transformation

For over two decades, I've guided leaders through the tough topics: digital upheaval, career reinvention, shifting industries. Over 20 years of coaching, I've worked with over 1,000 senior and mid-level leaders across ASEAN, logging more than 5,000 hours in transformation work. And today, I see ESG as the next great transformation challenge.

But ESG isn't just a sustainability issue. It's a survival issue. The recent announcement of U.S. tariffs on ASEAN economies has shaken the region. It exposed a hard truth: when nations or companies act alone, they're more vulnerable. These tariffs disrupted livelihoods, highlighted our overdependence on single markets, and reminded us that unity isn't a luxury. It's a necessity.

The same lesson applies to ESG. One company, or even one country, working in isolation won't get very far. But regional policies alone won't make it real. What I'm seeing on the ground, from Penang to Jakarta to Manila, is that cooperation happens through relationships, not just frameworks.

Real impact, real resilience, comes from relationships. It starts with listening, with partnership, and with the humility to admit we don't build great things alone.

And the strongest version of both is rooted in shared goals, respect, and trust. Collaboration is what moves us forward.

The biggest challenge right now? Managing under waves of uncertainty.

Countries like Singapore, Malaysia, and Thailand are setting stricter disclosure and climate targets, while global levers like the EU Carbon Border Adjustment and U.S. tariff regimes put pressure on exporters.

But again, the real issue isn't regulation. It's fragmentation. The biggest barrier to ESG adoption is the siloed way most organisations approach it. Everyone's reinventing the wheel. Without a shared playbook, we waste time, miss opportunities, and risk being outpaced by global expectations.

If ASEAN leaders and businesses align - on taxonomy, reporting, and financing tools - we can lower the cost of compliance and raise our regional competitiveness. The alternative? Slow, expensive, and uneven progress.

Malaysia's ASEAN chairmanship comes at a time when solidarity is being tested. The U.S. tariffs have sent a clear signal: ASEAN's strength lies in negotiating, innovating, and progressing together.

We're seeing promising movement. Malaysia is encouraging the region to align on ESG disclosures, carbon pricing dialogues, and joint investment in green infrastructure. But the bigger shift is cultural. Governments are realising that regional coordination can no longer be reactive. It must be strategic and continuous. ESG needs to be ASEAN's shared language, not a scattered chorus.

It Starts with Leadership

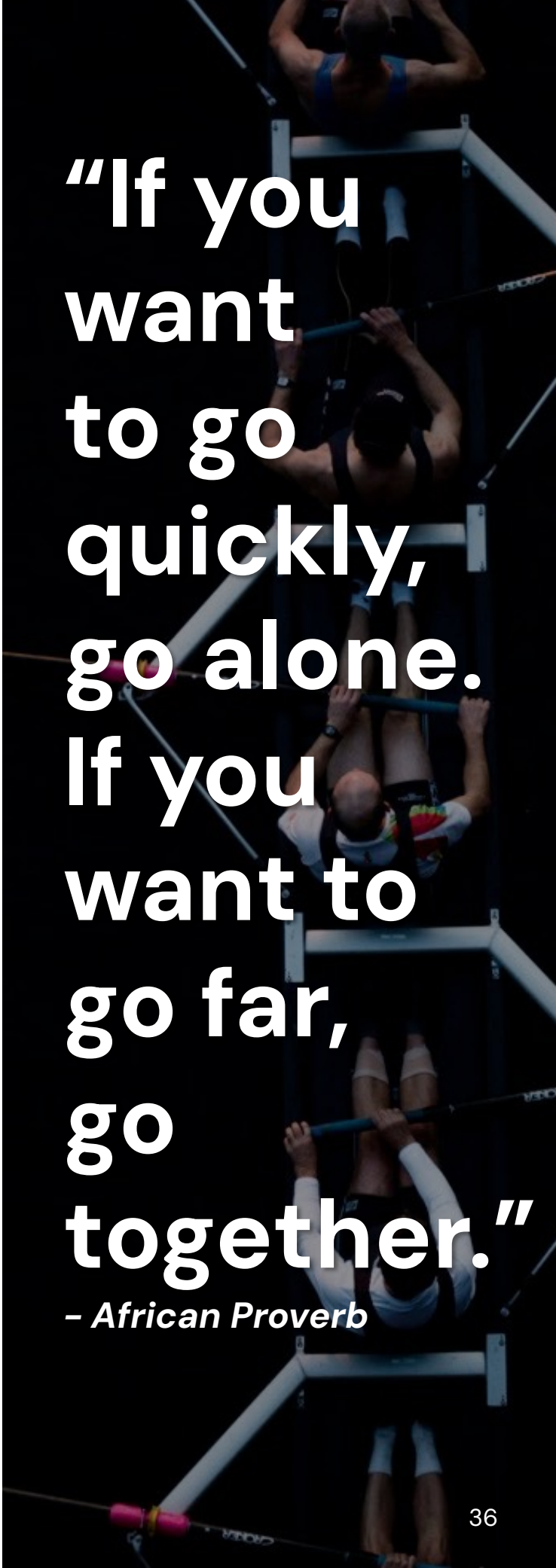
Authentic influence doesn't come from titles. It comes from values in action. The strongest leaders I've worked with don't try to lead change alone. They build ecosystems around them. From Jakarta to Singapore, from public to private sector, there's a growing awareness that ESG transformation accelerates when leaders share knowledge, data, policies, and practical frameworks.

I've seen clients open their playbooks to peers, even competitors, because they understand the stakes. One company's emissions are everyone's problem. One industry lagging slows us all down. The most forward-thinking leaders now see ESG not as a competitive edge but a collective mandate.

Integrity and courage are still non-negotiable. But in this next phase of transformation, ***egoless collaboration*** is the real superpower. Great leaders don't assume they have all the answers. They create space for shared learning. They don't hoard solutions. They scale them. They don't wait for regulations. They move early and bring others with them.

They also recognize the importance of speaking the same language. ESG progress stalls when each organisation uses different metrics, different definitions, and different timelines. Leaders who adopt common terminology and shared benchmarks make it easier to measure, compare, and improve. Across teams, sectors, and borders.

Most importantly, they don't operate in silos. They partner. They convene. They co-create.



We're in a defining moment. The tariffs reminded us how fragile isolation is. ESG will remind us how powerful collaboration can be. Leaders who invest in trust and insist on clarity and consistency will go further, faster.

Now is the time to invest in the softer levers: platforms for sharing, regional training programs, and innovation hubs that allow countries and companies to move together, not in silos. Tools that help us measure progress using consistent taxonomy will quietly strengthen everything from negotiations to training, communication, and cross-border alignment.

Real change doesn't happen alone. It happens when we connect, share, and move forward, together.

About the author
Eva Au is a transformation advisor who helps leaders reset strategy, embrace change, and move forward with confidence.
She works with founders, boards, and bold decision-makers navigating ESG, digital shifts, and reinvention. Her frameworks—RISE, FLAP, and V Formation—turn complexity into action.

Previously, she led growth across 14 countries as APAC MD at IDC and LexisNexis, coaching over 1,000 leaders along the way.

She builds with vision, scales with purpose, and leads with heart.

Editors Final Thoughts

Let's address the elephant in the room – recently, there were reportedly growing concerns about the carbon footprint of AI tools like ChatGPT.

As adoption scales, so does the responsibility to ensure innovation doesn't come at the planet's expense. But rather than dismissing AI, we should redirect the conversation: how can we make AI ***part of*** the sustainability solution?

From optimising resource use and accelerating decarbonisation efforts to helping governments and businesses model climate risks in real time, AI, when used thoughtfully, can be a powerful force for good. It's not about using less intelligence but using it ***wisely.***

In ASEAN, where sustainability reporting is fast becoming a mandate, not just a recommendation, leaders play a vital role in shaping cultures of ESG adherence. It's no longer enough to tick compliance boxes; forward-looking leadership must embed sustainability into the heart of every strategy, decision, and technology deployment.

If there's one thing I hope that you, as the reader, can take away from this, is that: **now is the time for collective action.**

We need bold partnerships across tech, finance, and policy to ensure AI evolves in lockstep with our climate and social commitments. Let's co-create a future where innovation uplifts, empowers, and safeguards, not just for our balance sheets, but for the young people inheriting our decisions.

Lisa R, Editorial and Content Manager, ASEAN Fintech Forum