ICMAI
THE INSTITUTE OF
COST ACCOUNTANTS OF INDIA
भारतीय लागत लेखाकार संस्थान
Statutory Body under an Act of Parliament
(Under the jurisdiction of Ministry of Corporate Affairs)

॥ सुखिनोभवंतु ॥

A MONTHLY NEWSLETTER OF
SUSTAINABILITY STANDARDS BOARD

www.icmai.in

Volume XXIX
December, 2025

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Message

from the Chairman

"Every new year is a new beginning, a chance to start fresh and write a beautiful story with your life."- Elsie Green

Dear Professional Colleagues,

At the outset, let me wish everyone a Happy Christmas and New Year 2026. New year is wrapped with enormous opportunities in the arena of Sustainability and we at SSB are all gearing up to explore the new opportunities.

As we bid *adieu* to the waning days of 2025, the Sustainability Standards Board, ICMAI, is aflame with anticipation, poised to usher in a new era of eco-conscious excellence. The Sustainability Standards Board, ICMAI, in collaboration with the ICMAI Cochin Chapter, recently hosted a highly successful two-day residential programme on December 13th and 14th at the picturesque hill station of Vagamon, Kerala. The event brought together over 80 participants, including industry experts, professionals, and enthusiasts, to deliberate on the critical theme of sustainability. The programme featured insightful technical sessions, with Shri APM Mohammed Hanish, IAS, Principal Secretary (Industries), Government of Kerala, gracing the occasion as the Chief Guest. His presence underscored the government's commitment to sustainability initiatives, particularly in light of Kerala's pioneering adoption of the ESG (Environmental, Social, and Governance) policy – a first for any Indian state. The event wasn't just about discussions; it was a holistic experience. Participants engaged in a refreshing nature walk, symbolizing their commitment to environmental stewardship, and actively participated in planting saplings, embodying the spirit of sustainability. The evenings were filled with fun and frolic, fostering camaraderie and networking among attendees. A big thank you to the Office bearers of the Cochin Chapter for their exceptional efforts in making this event a grand success. Your dedication to advancing sustainability is truly commendable!

The forthcoming Sustainability Month 2.0 celebration promises to be a veritable cornucopia of enlightenment, with a cavalcade of illustrious speakers and thought-provoking sessions that will leave you inspired and invigorated. The air is electric with excitement as we gear up to host the Sustainability Summit and Green Awards, slated for January 29, 2026, at Noida. This flagship event is poised to be the pièce de résistance, with the crème de la crème of industry leaders, visionaries, and luminaries converging to share their expertise and insights on the most pressing issues of our time. The presence of Mr. Jean Bouquot, President, IFAC, and Mr. Lee White, CEO, IFAC, is a testament to the event's significance, and we are honoredto have them join us on this momentous occasion. Their presence will undoubtedly add a touch of excellence to our deliberations and provide a unique opportunity for delegates to engage with the who's who of the global sustainability landscape.

As the curtains rise on this spectacular event, we invite you to partake in this grand celebration of sustainability, and join hands to forge a brighter, greener future. This is an opportunity to be a part of a transformative journey, to contribute to the creation of a more sustainable world, and to be counted among the pioneers who are shaping the future of our planet. Do seize this opportunity to be a part of this transformative journey and register now at ssb@icmai.in. Don't miss this chance to be inspired, to be informed, and to be a part of the sustainability revolution. Join us as we embark on this voyage of discovery, armed with optimism, fervour, and an unwavering commitment to sustainability. Together, let us script a new chapter in the annals of eco-friendly excellence.

We look forward to welcoming you to the Sustainability Month 2.0 celebration and the National Sustainability Summit and Green Awards. Register now and be a part of this unforgettable experience!

See you again in the New Year 2026.

Professionally Yours,

CMA (Dr.) Ashish P. Thatte
Chairman, Sustainability Standards Board, ICMAI
December 25, 2025

Episode 5

Central Africa ESG Integration and SDG Pathways in the Congo Basin

A Region Anchored in Natural Wealth and Sustainability Challenges

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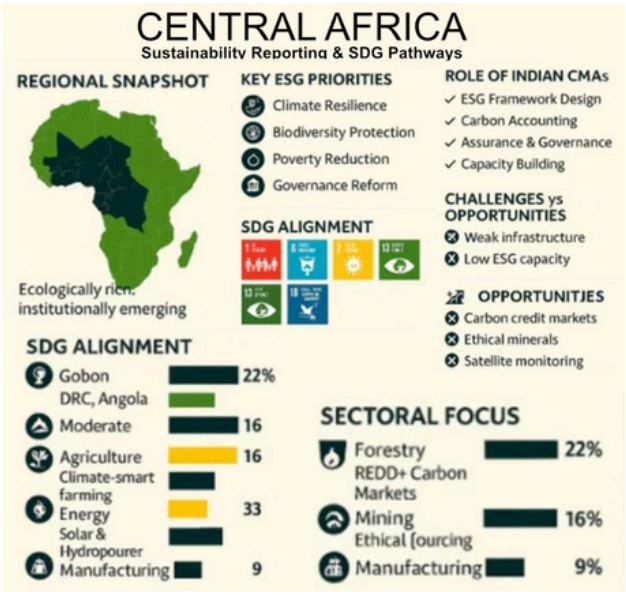
Abstract

Central Africa—comprising Angola, Cameroon, Central African Republic, Chad, Republic of the Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, and São Tomé & Príncipe—occupies a strategically vital position in the global sustainability landscape due to its vast forests, mineral wealth, and biodiversity concentration in the Congo Basin. Despite its immense ecological significance, the region remains in the early to intermediate stages of corporate sustainability reporting maturity. Most existing disclosures are driven by multinational corporations, donor-funded projects, and extractive industries, with limited integration into national regulatory frameworks. This article examines the region's sustainability reporting status through the lens of sectoral impact, dominant SDG priorities, and institutional readiness, highlighting the growing influence of global frameworks such as GRI, ISSB, EITI, and UN SDG indicators. The study further explores the emerging role of Indian Cost and Management Accountants (CMAs) as key contributors to building sustainable reporting capacity, strengthening ESG disclosures, and supporting carbon accounting and green governance structures in the region. By mapping reporting maturity and SDG alignment across Central African nations, the article positions the region as a paradox of immense environmental importance and limited reporting infrastructure, underscoring both the challenges and transformative opportunities that lie ahead in its transition towards a resilient, accountability-driven sustainability ecosystem.

Key Takeaways

Central Africa is environmentally indispensable but institutionally underdeveloped in sustainability reporting. Its ESG priorities are defined by climate resilience, biodiversity protection, poverty reduction and governance reform. The path forward depends on professional expertise, structured frameworks, and regional–global collaboration. Indian CMAs, in particular, can play a catalytic role in transforming the region from resource exploitation to sustainable stewardship.

Central Africa, anchored by the Congo Basin—the world's second-largest tropical rainforest—holds unparalleled importance in global climate regulation, biodiversity conservation, and carbon sequestration. Countries including Cameroon, Democratic Republic of the Congo (DRC), Gabon, Republic of Congo, Chad, Central African Republic (CAR), Angola, Equatorial Guinea, and São Tomé & Príncipe possess immense natural capital in forests, minerals, water resources, and hydrocarbons. Yet, this ecological richness coexists with persistent challenges of deforestation, extractive pressure, weak governance, poverty, and fragile institutional capacity. Within this context, corporate sustainability reporting is emerging but uneven.



Most disclosures are driven by multinational corporations, donor-funded projects, extractive industries, and export-linked sectors rather than strong domestic regulation. The influence of international frameworks such as ISSB (IFRS S1 & S2), GRI, EITI, UNCTAD SDG indicators, and ARP initiatives is shaping reporting practices, although adoption remains fragmented and capacity-dependent.

Central Africa, therefore, represents a paradox: globally critical yet structurally under-reported — a region moving gradually from an extraction-based identity toward an accountability-driven sustainability framework.

Reporting Maturity in Central Africa (Snapshot)

Country	Primary Sector	Reporting Maturity	Dominant Reporting Driver
Gabon	Forestry, Eco-tourism	Moderate–High	Structured ESG & SEZs
DRC	Cobalt, Copper	Moderate	Mining-led ESG
Angola	Oil & Minerals	Moderate	MNC-led disclosure
Rep. of Congo	Oil, Forestry	Emerging	EITI-aligned
Cameroon	Agriculture, Timber	Emerging	NGO & export focus
São Tomé & Príncipe	Cocoa, Tourism	Emerging	NGO-supported
Chad	Energy, Water	Low	Government & aid
Equatorial Guinea	Oil & Gas	Low	Limited transparency
CAR	Mining	Very Low	Donor/project-based

The region is clearly in the "foundation-building phase" — characterised by voluntary disclosure, partial transparency, weak assurance mechanisms, and dependence on international intervention. Gabon and the DRC show higher maturity due to forest governance reforms, green SEZs, REDD+ initiatives, and pressure from global mineral supply chains

Sector	Core SDGs	Sustainability Direction
Forestry & Timber	SDG 13, 15, 12	Community forestry, REDD+, carbon markets
Mining & Minerals	SDG 8, 12, 16	Ethical sourcing, governance
Agriculture	SDG 2, 6, 12	Climate-smart agriculture, agroforestry
Energy	SDG 7, 9, 13	Solar, hydropower, mini-grids
Manufacturing / SEZs	SDG 9, 11, 17	Green parks, circular economy

The most dominant regional SDG priorities remain:

- SDG 1 – No Poverty
- SDG 6 – Clean Water & Sanitation
- SDG 7 – Clean Energy
- SDG 13 – Climate Action
- SDG 15 – Life on Land
- SDG 16 – Strong Institutions

These reflect Central Africa's reality: sustainability is driven not by brand differentiation, but by survival, resilience and preservation.

Illustrative Country Pathways

- Cameroon is advancing community forestry and climate-smart agriculture to balance livelihoods with forest protection.
- DRC—the heart of the Basin—is scaling REDD+ and forest carbon initiatives, linking conservation to green finance.
- Gabon is emerging as a leader through green SEZs, sustainable timber certification and biodiversity offsets.
- Republic of Congo is strengthening forest governance and carbon stock monitoring.
- Chad is focusing on solar energy and water security.
- CAR is integrating green energy and agricultural development into its SDG roadmap despite fiscal constraints.

These efforts demonstrate an emerging link between natural capital and financial capital — the very foundation of sustainability reporting.

Illustrative Country Pathways

Indian Cost and Management Accountants can act as strategic enablers of sustainability reporting in Central Africa by offering expertise in structured frameworks, cost analytics, governance support and assurance credibility.

Their contribution can include:

- Designing ESG-compliant financial and environmental models
- Supporting ISSB, GRI, BRSR and Integrated Reporting adoption
- Developing carbon accounting and green cost frameworks
- Assuring data quality for carbon credit and SDG-linked investments
- Advising on sustainability-linked budgeting in the public sector
- Building capacity in mining, forestry, and energy reporting systems

Their involvement strengthens South–South cooperation and reflects India's growing leadership in sustainable governance and capacity building.

Key Challenges

- Weak infrastructure and digital systems
- Political and institutional instability
- Low ESG professional capacity
- Inconsistent enforcement
- Donor-driven (not self-sustained) reporting models

Without intervention, reporting will remain patchy and externally dependent.

Emerging Opportunities

- Expansion of carbon credit markets
- Demand for ethically sourced minerals
- Use of satellite monitoring in deforestation control
- Increased global rainforest funding
- Growing youth and community involvement

These trends signal a future shift towards more structured, standardised and accountable reporting systems by 2030.

Looking Ahead to Episode on Southern Africa

As the series moves from Central to Southern Africa, the next episode will spotlight a region known for its advanced sustainability and governance landscape. With South Africa's renowned King IV integrated reporting framework, strong ESG listing norms, and emerging climate finance mechanisms, Southern Africa reflects a higher level of reporting maturity and alignment with the UN SDGs.

The episode will explore how countries such as South Africa, Namibia, Botswana, Zambia, Zimbabwe, Mozambique, and Malawi are integrating sustainability into corporate governance, capital markets, mining operations, and energy transition efforts. It will also highlight growing opportunities for Indian CMAs in areas like integrated reporting, sustainability assurance, carbon accounting, and policy advisory--strengthening India–Africa collaboration on global sustainability goals.

This continuity reinforces the series' mission to map diverse reporting ecosystems across Africa while highlighting pathways for inclusive, accountable, and future-ready corporate sustainability practices worldwide. SB

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Article 5

Spirituality–Governance–Sustainability Cycle:

An Integrated Conceptual Model for Ethical and Enduring Organisational Success

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Abstract

This article presents a unified conceptual model that synthesises insights from the interrelated domains of spirituality, governance, and sustainability. Building upon the earlier discussions on values-driven leadership (Article 1), governance architecture as an enabling framework (Article 2), and sustainability as an ethical imperative (Article 4), the model introduces a cyclical and self-reinforcing perspective for organisational excellence. The Spirituality–Governance–Sustainability Cycle integrates philosophical underpinnings with practical corporate and policy applications, serving as a strategic compass for decision-makers in business, government, and civil society to achieve ethical, resilient, and enduring success.

Introduction

The defining challenges of the 21st century—climate instability, widening inequality, governance breakdowns, and recurrent corporate misconduct—demand a shift from fragmented thinking to integrated and holistic approaches. Traditionally, spirituality, governance, and sustainability have been treated as distinct or peripheral considerations. However, organisations that aspire for long-term legitimacy, resilience, and social trust must view these elements as interconnected dimensions of a unified system.

This article introduces a holistic model in which:

- Spirituality serves as the moral and ethical compass,
- Governance functions as the structural and institutional enabler, and
- Sustainability represents the tangible long-term impact.

Together, they form a dynamic, circular, and self-reinforcing continuum — the Spirituality–Governance–Sustainability Cycle.

The Model Overview

At the core of the model lies a continuous feedback loop consisting of three interdependent linkages:

- Values guide structures — Ethical and spiritual principles such as integrity, compassion, and stewardship shape leadership behaviour and governance mechanisms.
- Structures drive impact — Effective governance translates those values into decisions, policies, and actions aligned with sustainable outcomes.
- Impact reinforces values — Meaningful environmental, social, and economic achievements strengthen organisational culture, ethical conviction, and collective consciousness.

This cycle does not follow a linear progression but functions as a dynamic, evolving system, continuously refining leadership, policy, and practice.

Figure 1: The Spirituality–Governance–Sustainability Cycle
(Spirituality → Governance → Sustainability → Spirituality)

The Three Core Pillars

1. Spirituality: The Moral Compass

In this model, spirituality transcends religion or doctrine. It represents an inner ethical orientation grounded in universal human values such as:

- Integrity
- Compassion
- Humility
- Mindfulness
- Interconnectedness
- Stewardship

Leaders anchored in spiritual awareness are more likely to prioritise fairness, inclusivity, and long-term collective well-being over short-term profit maximisation. This inner compass inspires ethical decision-making and humane organisational cultures.

Examples of such value-driven frameworks include:

- Unilever's Sustainable Living Plan, rooted in purpose-driven business transformation.
- Mahindra Group's "Rise for Good" philosophy, which emphasises responsibility towards society and the environment.

These examples demonstrate how spirituality at the leadership level can shape strategy and organisational identity.

2. Spirituality: The Moral Compass

Governance is the mechanism through which ethical intent is institutionalised and operationalised. It includes:

- Board oversight and leadership accountability.
- Transparent decision-making processes.
- Ethical policies and compliance frameworks.
- Risk management and internal control systems.
- Stakeholder engagement and reporting mechanisms.

Governance ensures that spirituality is not limited to personal belief but is embedded into organisational structures and behaviour patterns.

International frameworks such as the OECD Principles of Corporate Governance provide globally recognised guidance in aligning governance structures with stakeholder interests, transparency, fairness, and responsibility.

Thus, governance acts as the vital bridge between values and action.

3. Sustainability: The Long-Term Impact

Sustainability is the outcome dimension of the model. It represents the long-term environmental, social, and economic value created by ethically governed organisations. Key aspects include:

- Reducing carbon emissions and ecological footprints.
- Promoting social equity and community development.
- Strengthening ethical supply chains.
- Building long-term economic resilience.
- Supporting intergenerational justice.

When sustainability is driven by values and enabled by governance, it transcends compliance and becomes a deeply embedded organisational commitment, reflecting stewardship for present and future generations.

Feedback Dynamics: Closing the Loop

The defining strength of the Cycle lies in its self-reinforcing nature:

- Sustainable results generate trust and legitimacy, strengthening stakeholder confidence.
- Increased legitimacy enhances governance effectiveness and organisational authority.
- Strengthened governance encourages further alignment with spiritual and ethical principles.
- Renewed values further deepen sustainability efforts.

This process creates an upward spiral of ethical maturity, organisational credibility, and regenerative leadership.

Practical Applications

The model has wide-ranging applicability across sectors:

Corporate Strategy

- Integration of ESG and SDG indicators into the Balanced Scorecard.

- Values-based strategy formulation.
- Ethical investment and reporting frameworks.

Public Policy

- Inclusion of ethical governance principles in regulatory reforms.
- Sustainability-focused fiscal and environmental policies.
- Transparent public accountability systems.

Non-Profit and Social Sector Management

- Mission-oriented governance structures.
- Transparent use of funds and impact reporting.
- Community-centred sustainability initiatives.

In all cases, the model shifts leadership thinking from compliance-based management to purpose-driven stewardship.

Case Insight: Tata Group

The Tata Group exemplifies the integrated cycle in action:

- Spirituality: Founder Jamsetji Tata's vision of nation-building, service, and ethical trust.
- Governance: Strong codes of conduct, transparent leadership, stakeholder accountability.
- Sustainability: Investments in renewable energy, healthcare, education, rural upliftment through Tata Trusts.

This integration has ensured Tata's enduring reputation for integrity, trustworthiness, resilience, and future-readiness.

Case Insight: Ananda Valley Ecovillage (Portugal)

Ananda Valley, an Ananda Marga Master Unit in Portugal, demonstrates the spiritual–sustainability connection in a community context:

- Spirituality: Daily meditation, collective values, interconnectedness with nature.
- Governance: Community-enforced ethical codes, low-impact policies, vegetarianism, permaculture mandates.
- Sustainability: Organic farming, biodiversity preservation, waste reduction, eco-tourism.

The experience reinforces spiritual connection to Earth while delivering measurable sustainability and community well-being.

This reflects the embedded cycle:
Spirituality → Ethical Policies → Sustainable Practices → Renewed Values

Conclusion

The Spirituality–Governance–Sustainability Cycle offers both a philosophical framework and a practical roadmap for organisations seeking to thrive ethically in an increasingly volatile and complex world. It moves leadership from:

- Compliance → Conviction
- Fragmentation → Integration
- Short-termism → Stewardship
- Self-interest → Collective well-being

Modern leadership is no longer about isolated decision-making but about nurturing a living system of values, structures, and impact. By embracing this cycle, organisations can ensure that ethical leadership becomes not episodic, but systemic, embedded, and enduring.

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Sustainability - Global Context

Monthly News

1. ISSB Eases Financed Emissions Rules Under IFRS S2, Giving Banks and Asset Managers Reporting Relief

The International Sustainability Standards Board has moved to ease one of the most contentious elements of climate reporting for financial institutions, rolling out targeted amendments to its IFRS S2 standard that narrow and clarify how financed emissions must be disclosed. The changes focus squarely on greenhouse gas reporting challenges that emerged as banks, insurers, and asset managers began applying the standard in practice. While IFRS S2 remains intact as a global framework for climate risk disclosure, the ISSB has acknowledged that some requirements, particularly around Scope 3 financed emissions, were proving difficult to operationalise at scale.

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2. Abu Dhabi Sustainable Finance Forum Reinforces Abu Dhabi's Role in Global Climate Finance

Abu Dhabi moved to consolidate its role in global sustainable finance on the final day of Abu Dhabi Finance Week, as the Abu Dhabi Global Market convened the eighth Abu Dhabi Sustainable Finance Forum. Hosted by ADGM in partnership with the Global Climate Finance Centre, Hanwha, and the EU-GCC Cooperation on Green Transition project, the forum gathered senior policymakers, institutional investors, and climate finance leaders at a moment when capital deployment is increasingly shaping the pace of the net-zero transition.

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3. EU Sets Binding 90 Percent Emissions Cut Target for 2040

EU negotiators reached a provisional agreement to rewrite the European Climate Law and introduce a binding 90 percent cut in net greenhouse gas emissions by 2040 compared with 1990 levels. The accord, struck late Tuesday between the European Parliament and Council, sets the course for the bloc's next two decades of decarbonization and lays out new tools, flexibilities and safeguards aimed at balancing climate ambition with industrial competitiveness.

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4. Uzbekistan Launches First Utility Scale Solar And Battery Project

Uzbekistan advanced its national energy transition with the inauguration of the Nur Bukhara solar and battery storage project, the first utility scale facility of its kind in the country. Nur Bukhara pairs 250 megawatts of solar photovoltaic capacity with a 63 megawatt, 126 megawatt hour battery system designed to support grid stability as Uzbekistan increases the share of variable renewables in its energy mix. Developed by Masdar, the project forms part of the country's effort to reach at least 25 gigawatts of renewable capacity and generate more than half of its electricity from renewables by 2030.

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5. Uzbekistan Launches First Utility Scale Solar And Battery Project

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6. EU Considers to Relax Industrial Pollution and Waste Reporting Requirements

Brussels is preparing to scale back several long-standing environmental reporting rules that govern pollution, waste and resource use across European industry. A draft proposal seen by Reuters outlines measures that would reduce documentation obligations for thousands of sites across the bloc, including livestock farms, fish operations and heavy industrial facilities. The move will form part of the EU's wider deregulation package aimed at simplifying compliance and lowering operational costs for businesses facing competitive pressure from China and the United States.

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7. ASEAN Moves to Strengthen Adaptation Finance with New White Paper

Southeast Asia faces climate pressures that are reshaping economic decision-making, from rising seas to intensifying heat and drought. Against this backdrop, a new white paper from the ASEAN Capital Markets Forum (ACMF), Sustainable Finance Institute Asia (SFIA), and UNEP Finance Initiative (UNEP FI) lays critical groundwork for a regional guide meant to channel more finance toward resilience. The effort is supported by the EU Sustainable Finance Advisory Hub (EUSFAH), whose mandate is to strengthen credible, interoperable sustainable finance frameworks globally.

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8. 95% of Business Leaders View Climate Transition as Source of Growth and Opportunity: HSBC Survey

The survey found that companies' views on sustainability have shifted from risk mitigation to growth and value creation, with 95% of business leaders indicating that they believe that the climate transition offers a commercial opportunity for their company, including 37% who describe it as "a key strategic area of focus."According to HSBC, the survey suggests that corporate views on sustainability initiatives may be shifting from towards recognizing sustainability as a strategic factor, rather than primarily an environmental obligation, with 99% of business leaders agreeing that climate transition will be "extremely" or "very" important in supporting supporting companies' competitive advantage over the next three years, and 72% ranking business resilience as a leading benefit of their climate transition strategies.

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9. SBTi Issues Detailed Decarbonization Pathways for Global Chemicals Industry

The Science Based Targets initiative has released a comprehensive suite of net-zero pathways for the global chemicals industry, offering manufacturers a clear set of trajectories for some of the sector's most emission-intensive processes. The publication, which includes supporting criteria for implementation, is designed to give one of the world's highest-emitting industrial sectors a defined route to transition in line with science-based climate goals.

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10. EU Watchdog Criticizes Commission for Fast Tracking Cuts to Sustainability Rules Without Transparency

The EU Ombudsman found the Commission committed "maladministration" by rushing its Omnibus sustainability reforms without following its own Better Regulation rules.The inquiry revealed a sub-24-hour internal consultation, unclear climate-consistency checks, and no public consultation prior to proposing regulatory cuts.The investigation comes as Parliament and Council negotiate sweeping reductions to CSRD and CSDDD scope, shaping the future of EU corporate sustainability governance.

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11. Japan to back clean-energy users with $1.3 billion in investment subsidies

Japan plans to provide 210 billion yen ($1.34 billion) to help companies that are using clean power to fund investments, in a push to boost demand for renewable energy and spur growth in regional areas. The subsidies are designed to help the country, the world's fifth-largest emitter of carbon dioxide, reach its clean energy targets and reduce its reliance on imported fossil fuels after facing setbacks on wind and solar projects.

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Sustainability - Indian context

Monthly News

1. Nagar Van Yojana Powers India's Push for Green Cities and Urban Greening

Under the Nagar Van Yojana, the government has established 620 urban and peri-urban forests across 28 states and three union territories. The scheme strengthens urban greening by converting vacant land into dense green spaces inside fast-growing cities. The government has released about ₹50,784.64 crore ($5.64 billion) under the Nagar Van Yojana since 2020-21. The funds support plantation, fencing, soil improvement and long-term maintenance.

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2. India Flags 310 Districts as Climate Vulnerable, Scales Up Resilient Farming Push

India's top agricultural research body said that district-level assessments under the Indian Council of Agricultural Research's National Innovations in Climate Resilient Agriculture project have identified widespread vulnerability to climate change across the country. ICAR said NICRA assessed climate risk and vulnerability in 651 predominantly agricultural districts, following protocols set by the Intergovernmental Panel on Climate Change. Out of these, 310 districts were judged vulnerable — 109 ranked "very high" and 201 "high." NICRA is now promoting a suite of climate-resilient farming practices.

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3. Sujalam Bharat App Launch Marks Major Step in Digital Rural Water Governance

The Sujalam Bharat App integrates water sources, asset inventories, scheme designs, operational records, water quality reports, supply metrics and community feedback into a single digital platform. Each rural habitation will receive a unique Sujal Gaon ID that digitally links households to the drinking water scheme serving them. This structure enables village-level tracking of supply reliability and infrastructure condition.

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4. India Adds Two Doppler Radars, Solar System as IMD Expands Weather Network

India installed two new Doppler Weather Radars in Raipur and Mangaluru as the government accelerated a national plan to strengthen weather forecasting and disaster readiness. Science and Technology Minister inaugurated the systems along with a solar power array and a new meteorological museum in New Delhi. He said the steps align with Prime Minister Mission Mausam program, which seeks sharper weather forecasting across the country.

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5. India Launches '*Nayi Chetna 4.0*' to Push Gender Equality, Women's Empowerment

India launched a nationwide campaign to boost gender equality and expand economic opportunities for women, as two union ministers said the country must change social attitudes that devalue daughters. Union Agriculture and Rural Development Minister and Women and Child Development Minister unveiled the fourth edition of the "*Nayi Chetna*" initiative in New Delhi. The event drew senior officials, self-help group leaders, Anganwadi workers and civil society partners. A large banner at the venue showed women from rural communities standing in front of a colorful stage backdrop, symbolizing rising participation in local governance and economic activity.

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6. Haryana Steps Up Clean Energy Drive With New Biomass Pellet Plant

India's renewable energy minister opened a biomass pellet plant in Haryana's Rewari district, saying the facility will cut emissions and expand income opportunities for farmers as the state accelerates its shift to clean energy. India now requires all coal-fired power plants to co-fire biomass pellets or torrefied waste-based charcoal. Plants must blend 5 percent biomass by weight, while units in the Delhi National Capital Region must reach 7 percent.

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7. Parliamentary panel recommends easing clearances for underground coal mining projects

A parliamentary panel wants simpler rules for underground coal mining. This method has low environmental impact. Current complex processes cause project delays. The government aims for 100 million tonnes of coal from underground mines by 2030. Simplifying procedures will help achieve this target. This will also preserve land and forests. The panel also recommended a single-window clearance for open-cast mining.

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8. From pledges to practice: How India's universities are powering the sustainability transition

With the conclusion of the 30th Conference of the Parties (COP30) to the United Nations Framework Convention on Climate Change (UNFCCC) in Brazil last month, there is a marked shift in global focus, from pledges to implementation. Meanwhile, India's higher education ecosystem is transforming not only the next generation of climate-aware citizens but also preparing the workforce needed for a low-carbon economy. Over the past three years, a convergence of policy pressure, global benchmarking, industry demand and campus innovation has quietly transformed sustainability education across the country. Sustainability education is moving from a niche concern to a central academic and institutional priority.

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9. The Indian Ocean as cradle of a new blue economy

In an editorial (citing a recent Supreme Court ruling), there is concern over post-facto environmental clearances being declared illegal. This has implications for environmental justice, regulatory compliance, and ESG risk — particularly for industries that may have sought after-the-fact clearances.

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10. India's Labor Reform Amends Workplace Rules, Widens Social Security Net

India's labor reform expands worker protections, boosts social security and reshapes compliance rules across key sectors nationwide. The Code on Wages guarantees a statutory minimum wage for all workers. It also mandates timely wage payments. These steps aim to cut uncertainty, improve financial security and support the government's wider labor reform push.

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11. India's Textile Industry Hits 74% ZLD Adoption as Water Stewardship Strengthens

Nearly three-fourths of India's top textile companies have adopted zero liquid discharge systems, marking a significant shift in water stewardship as the industry faces rising scrutiny over resource use, according to a new ICRA ESG assessment. ZLD is a wastewater treatment process that minimizes the environmental impact by recovering and reusing nearly all the water, leaving behind only solid waste.

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BEST ARTICLES AWARD

PUBLISHED IN *SUKHINOBHAVANTHU* MONTHLY NEWSLETTER

The Sustainability Standards Board (SSB) is pleased to announce the results of "Best Articles Award" for the articles published in *Sukhinobhavanthu* newsletter between October 2024 to September 2025. The panel of experts after diligent screening process has adjudged the article titled **"Eco-Insurance: The Future of Risk Management"** published in **April 2025** issue of *Sukhinobhavanthu* newsletter as the "BEST ARTICLE" and the article titled **"Circular Economy: Case Studies from Indian Households to Industry"** published in **March 2025** issue of *Sukhinobhavanthu* newsletter as the **"SECOND BEST ARTICLE"**.

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BROCHURE OF THE CERTIFICATE COURSE ON ESG

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Impact of Stock Market Listing of RRBs on SDGs, Rural Development and Economic Sustainability

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Abstract

The proposed stock market listing of Regional Rural Banks (RRBs) marks a transformative moment in India's rural financial architecture. While listing promises enhanced capital strength, improved governance, and accelerated technological adoption, it also raises concerns about the dilution of the banks' long-standing developmental mandate. The transition has significant implications for the Sustainable Development Goals (SDGs), rural development, and economic sustainability. Increased access to market capital can expand credit flows to agriculture, MSMEs, women-led enterprises, and green projects, thereby strengthening financial inclusion and rural resilience. However, shareholder-driven priorities may shift lending towards safer, higher-margin segments, reducing support for small and marginal farmers, vulnerable households, SHGs, and remote rural regions. This duality highlights the need for robust regulatory safeguards to preserve the social ethos of RRBs. In this context, Cost and Management Accountants (CMAs) play a vital role in guiding ESG-aligned reporting, risk management, cost optimisation, and integrated performance measurement. The overall impact of listing will depend on how effectively India harmonises commercial viability with inclusive and sustainable rural development.

Key Takeaways

The stock market listing of RRBs can strengthen rural banking and advance SDG-linked development, but only if commercial expansion is balanced with strong regulatory protection of their social mandate. The success of this transition will be measured not by profitability alone, but by the banks' continued ability to serve small farmers, vulnerable rural communities, and the broader agenda of inclusive and sustainable rural transformation.

Introduction

The proposed stock market listing of Regional Rural Banks (RRBs) represents a structural shift in India's rural banking landscape. While the initiative promises stronger financial capacity, better governance, and enhanced institutional credibility, it also raises legitimate concerns regarding the preservation of the banks' social mandate. The implications for Sustainable Development Goals (SDGs) therefore remain mixed—and contingent on how effectively India balances commercial discipline with developmental priorities.

Consolidation and Government Push for Listing

RRBs—jointly owned by the Central Government (50%), State Governments (15%), and sponsor banks (35%)—were established under the RRB Act, 1976 to serve small and marginal farmers, rural labourers, artisans, SHGs, MSMEs, and underserved communities.

The government's recent reforms include:

- The "One State, One RRB" consolidation reducing RRBs to 28 banks serving 700 districts through 22,000+ branches.

- Directive to sponsor banks to prepare financially strong RRBs for listing by FY27.
- Technology integration across consolidated entities to improve operational efficiency.
- A projection that 5–7 RRBs will meet listing norms by FY27.

Eligibility criteria (as per 2002 guidelines and current assessments) include:

- Minimum net worth: ₹300 crore in each of the last 3 years
- Capital Adequacy Ratio: > 9% for 3 consecutive years
- Return on Equity: 10% in 3 of the last 5 years
- Pre-tax profit of ₹15 crore in at least 3 of the previous 5 years
- Not under any corrective action of RBI

RRBs collectively achieved ₹6,825 crore profit in FY25, despite pension-related liabilities impacting performance—signalling increasing financial stability.

Positive Impacts on SDGs and Sustainable Rural Development

a| Increased Capital Base and Credit Expansion

Listing allows RRBs to mobilize equity from capital markets, reducing dependence on budgetary support and enabling expanded rural credit. This strengthens financing for:

- Agriculture & allied activities
- MSMEs, rural industries
- Women-led enterprises and SHGs
- Rural housing and infrastructure
- Climate-resilient agriculture & renewable energy

SDGs advanced:

- SDG 1 (No Poverty) – expanded income-generating credit
- SDG 2 (Zero Hunger) – stronger agricultural financing
- SDG 8 (Decent Work & Economic Growth) – rural entrepreneurship, jobs
- SDG 12 & 13 – financing sustainable farming, green energy

b| Improved Governance, Transparency, and Efficiency

Market listing brings SEBI governance norms, independent boards, stricter disclosures, and transparency—leading to:

- Lower operating inefficiencies
- Better risk management
- Improved asset quality
- Reduction in NPAs

This strengthens rural financial stability and enhances trust, which in turn improves service delivery.

c| Technological Upgradation and Financial Inclusion

Market resources accelerate adoption of:

- Digital banking infrastructure
- Centralized loan processing
- Mobile & micro-ATMs
- Fintech partnerships
- Better penetration in remote regions

This supports:

- SDG 9 (Industry, Innovation & Infrastructure)
- SDG 10 (Reduced Inequalities) through access to formal finance
- Digital financial inclusion for women (SDG 5)

d| Expansion of Green and Sustainable Finance

Listed RRBs can issue:

- Green bonds
- ESG-linked debt
- Climate finance instruments

Funding can support solar pumps, biogas plants, water conservation, organic farming, and electric agri-equipment—directly contributing to India's low-carbon rural transition.

Although priority sector lending norms legally mandate that RRBs continue to allocate 75 percent of their adjusted net bank credit to priority sectors—including 18 percent to agriculture—the practical interpretation of these requirements may evolve under private shareholder influence.

Potential Negative Impacts and Risks

a| Drift from Social Mandate to Profit Motive

Employee unions and rural advocates warn that shareholder pressure could reorient lending priorities towards safer, higher-margin borrowers. This risks weakening support for:

- Small & marginal farmers
- BPL households
- Women's SHGs
- High-risk rural MSMEs
- Remote or low-profit rural branches

SDGs negatively impacted:

- SDG 1 (No Poverty)
- SDG 5 (Gender Equality)
- SDG 10 (Reduced Inequalities)

b| Dilution of Government Schemes and Welfare Transfers

RRBs are crucial for delivering:

- DBT payments
- PMJDY accounts
- MGNREGA wage credits
- PM-KISAN benefits
- Interest subvention schemes

A commercial focus may reduce prioritization of these non-revenue-generating services.

c| Drift from Social Mandate to Profit Motive

Although RRBs are mandated to maintain 75% PSL, with 18% for agriculture, listed banks may lobby for relaxation over time, or shift lending towards:

- High-yield retail loans
- Less risky MSMEs
- Shorter-term credit products

This could undermine the agricultural economy and rural resilience.

d| Expansion of Green and Sustainable Finance

Equity market pressures—especially during economic downturns—may affect decision-making, risk appetite, and long-term developmental strategies.

Impact on Lending to Agriculture and MSMEs

In agriculture, the listing of RRBs could generate several positive shifts. With access to more capital, banks would be better equipped to extend crop loans and support agricultural mechanisation, horticulture, and allied activities. The availability of additional funds could also strengthen financing for climate-resilient farming practices. However, concerns about rising NPAs may make banks more cautious, potentially leading to risk-averse lending. This might result in a gradual preference for collateral-backed or corporate agricultural loans over small and marginal farmers.

For MSMEs, listing can create opportunities to finance new clusters in sectors such as textiles, handicrafts, and food processing. It may also promote co-lending arrangements with SIDBI and sponsor banks, expanding credit access and product diversification. At the same time, the pressure to improve profitability could encourage banks to focus more on medium-sized, lower-risk enterprises, which may inadvertently reduce the flow of credit to micro-enterprises that need it the most.

Implications for Economic Sustainability

Implications for economic sustainability are twofold. On the strengthening side, listing can boost rural capital formation, enhance long-term financial stability, energise the rural entrepreneurial ecosystem, and accelerate investments in digital and green infrastructure. However, if not guided by strong regulatory safeguards, the move also poses risks. It may compromise the inclusiveness of credit, weaken the social banking ethos that RRBs were created to uphold, and potentially hinder equitable rural development.

The pathway to listing is guided strictly by financial criteria rather than SDG performance. As per the guidelines, an RRB must maintain a net worth of at least ₹300 crore for three consecutive years, a capital adequacy ratio above 9 percent, and a return on equity of at least 10 percent in three of the previous five years. While these norms ensure financial robustness, they also reinforce the shift towards commercial sustainability as a precondition for public listing.

What Does This Mean for Cost and Management Accountants (CMAs)?

In this evolving landscape, Cost and Management Accountants (CMAs) will play an increasingly critical role. They can support RRBs in developing ESG and SDG-aligned reporting frameworks, optimizing compliance and operational costs, strengthening risk management systems, and designing integrated reporting that captures both financial performance and social impact. CMAs are also uniquely positioned to create performance indicators that balance commercial viability with developmental responsibility.

Ultimately, the stock market listing of RRBs has the potential to strengthen rural banking, mobilize sustainable capital, and advance SDG-linked outcomes—provided the transition is carefully regulated and the developmental mandate remains protected. The true measure of success will lie not only in improved balance sheets but in whether RRBs can continue to serve as agents of inclusive, resilient, and sustainable rural transformation even as they enter the capital markets. SB

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Localizing Sustainable Development Goals (SDGs) - Kerala shows the way

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Abstract

The Sustainable Development Goals (SDGs), adopted by the United Nations with a target year of 2030, require strong localization strategies to ensure meaningful implementation. In India, NITI Aayog monitors state-level progress, revealing that decentralized governance structures tend to achieve better outcomes than highly centralized ones. Kerala stands out as a pioneer in localizing the SDGs, with a score of 79 in 2023–24, owing largely to its early and deep commitment to devolution following the 73rd and 74th Constitutional Amendments. The historic People's Planning Campaign of 1996 laid a foundation for participatory, community-led development that closely aligns with SDG priorities. Kerala's thematic, indicator-based and convergence-driven approach integrates state and central schemes with locally initiated programmes across sectors such as poverty alleviation, health, education, gender equality, water and sanitation, energy, infrastructure, environmental protection, and social justice. With strong coordination between local self-governments and line departments, the state has achieved notable progress in goals related to poverty reduction, health, education, reduced inequalities, and ecosystem conservation, while recognizing ongoing challenges in areas such as gender equity, water management, clean energy, sustainable cities, and climate action. The study concludes that Kerala's decentralized, participatory, and evidence-based governance model provides a replicable framework for other Indian states and developing countries seeking to effectively localize and achieve the SDGs.

The Sustainable Development Goals (SDGs) which was initiated by the UN are expected to be achieved by 2030. In India Niti Aayog has prepared state wise data to show the performance of each and every state and UTs in this regard. It is beyond question that in the states whenever devolution has taken place many of the targets have been partially, if not fully achieved. The places where centralization is high the progress has been a slow and tardy. Kerala, a state far ahead in decentralization could perform well in many of the targets (score 79 in 2023-2024, Niti Aayog). This is mainly because of the commitment that the state has shown in devolution, soon after the accession of the new elected body in the local self govt. institutions.Interestingly on the very day or oath taking itself i.e. on October 2, 1995, the Govt. issued detailed order of devolving finance, functions and functionaries to the local bodies. In 1996 when the state govt. initiated the people's campaign for 9th plan people centric plans were formulated by each and every local govt. It was a massive movement engaging everybody in local development. The people's plan is the base on which SDG had its roots. In other words, many of the themes Identified in SDG has already been focused in the people's plan campaign. Thus the SDG initiatives in Kerala has a strong well-built foundation.

Kerala has adopted thematic approach for attaining SDGs. Side by side indicators that can be monitored also has been developed. The themes identified included poverty free and enhanced livelihood villages, totality in health, child friendly villages, water sufficiency, clean and green village, self-sufficient infrastructure, socially secured village, village of good governance, engendered development and enhanced quality education.

The SDG actually provided opportunity to rework on the focus of development intervention. The outcome based assessment turned an important criterion for gaining the status of development. Convergence of schemes and integrated approach towards difference layers of plans also was accepted. The development index (PDI) prepared by each and every local body provided baseline for planning. It helped to identify disparities and is used to trace progress and evident based development at the local level.

For attaining Goal No. i.e. 1 no poverty, Kerala focused on the implementation of related center and state schemes which included MGNREGs and its counterpart in urban area Ayyankali employment scheme, State schemes such as rebuild Kerala initiative, life Mission mid-day meal scheme, Kudumbasree programs. There are some specific initiatives on poverty reduction coming under the plans of local self-governments. All these contributed to score 83% (Niti Aayog) and the rest 17 could be achieved on or before 2030.

In order to end hunger, achieve food security and improved nutrition and sustainable agriculture, Kerala followed an integrated approach. All the local self-governments have prepared their own specific schemes to attain the target. The focused areas included programs for fisheries, varied agriculture development programs, projects relating to animal husbandry dairying and poultry. In this local Kerala received 74 which come under front runner category. The notable activity of the local government is community kitchen, public distribution system, mid-day meal and employment guarantee schemes of urban and rural areas.

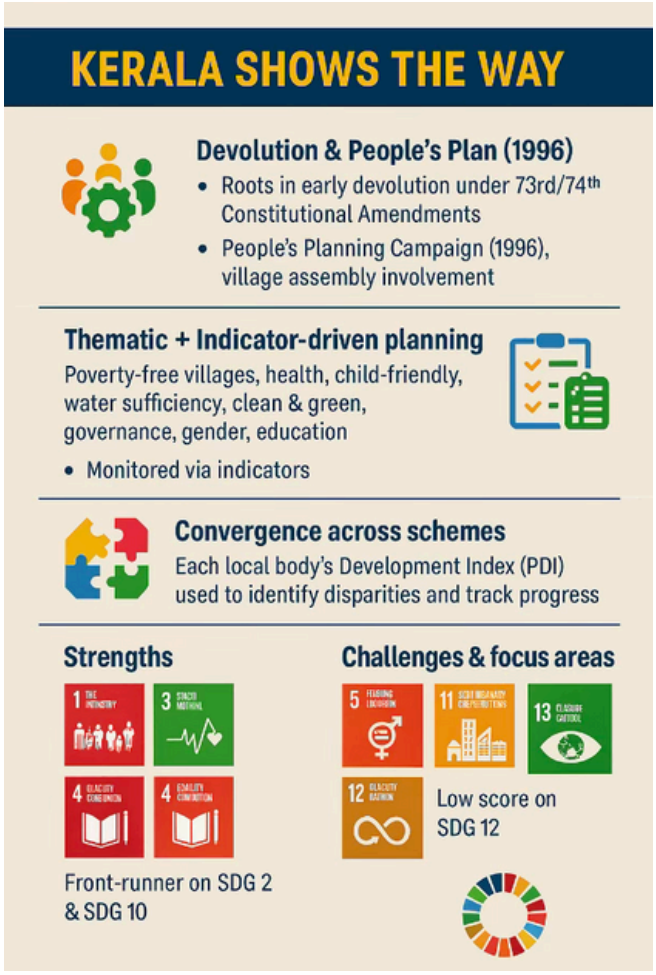
Under Good health and wellbeing category the departments supported include Health and family welfare, Woman and child development. The specific projects undertaken by the local government included 100% immunization. Adram scheme, Cancer suraksha, Thalolam, Aswakiranam, Karunya etc. There is direct intervention such as massive health awareness program organized under the leadership of Accredited Social Health Activists (ASHAS). Kerala scored 82 in this category securing the first position pushing other states.

Goal 4, i.e. quality education focused on inclusive and equitable quality education. The departments incorporated included Primary and Secondary schools, Technical and Vocational schools, Adult and Conformed School Social welfare, Scheduled Casts and Tribe departments.

The action plan undertaken by the local self-governments comprises of Laptop free scheme, Lump sum grant, Vidyakrianam, Education loan repayment scheme etc. In this category Kerala bagged 74. The notable factor is Kerala is considered as cent percent literary state and this helped to build an all-inclusive and qualitative education system.

Coming to gender equality the index the score is 51 which means there is a lot to do reach 100% Still there are violence against woman and girls, sexual abuse is also high. The Local action plan included Kudumbasree, bhoomika, Uggawale, Nirbhaya scheme, she toilet, Jagratha Samithi etc. Here Sikkim is the state which stands top scoring 54 gender equality is a basic requirement which need long term development vision.

Goal 6, stands for clean water and sanitation for issuing sustainable management of water and sanitation for all. The sectors joined hands together here are Minor Irrigation, Watershed development, and Department of Agriculture. Here Kerala stands in the 24th category and more needs to be done to attain the stipulated score of 100 by 2030. The state has constituted missions to activate. Suchitwa missions, Harithakarma Sena are working hard. In the regard there is collaborative program with Jalanidhi of central government.



Affordable clean energy which is the goal 7 aims to achieve energy security and efficiency by boosting sustainable energy consumption while also achieving global and national target for emissions and pollution education. The Departments of Energy Management Centre. Kerala State Electricity Board, ANERT joined hands with the local government for implementing schemes and programs. In this Kerala secured 22 positions. The state has already taken steps improve the position by adopting programs such as widening solar energy projects, bio-energy, wind energy and solar thermal program.

Goal 8 gives prominence to decent work and economic growth by focusing on productive employment and decent work for all. Ministry of Micro Small and Medium Enterprises, Kerala start up missions, MGNREGS State mission are all involved for implementing schemes. Through diversification and technology up gradation development orient programs were undertaken. The state has substantially low rank and scores in the goal falls under performance category. Local government have undertaken their own strategic plans to active this goal.

With regard to goal 9 i.e. industry, innovation and infrastructure development Kerala's rank 88 position. Small scale industries, Khadi village and cottage industries, network of roads, and bridges waterways and other means of communication are the activities undertaken Encouragement and support was given to entrepreneurship programs assistance to handicrafts and cashew processing.

Goal 10 is for reducing inequalities by ensuring opportunities. It also promotes social, economic and political inclusion of all regardless of age, sex, disability, religious or any other differences. Kerala has 9th rank in this goal and falls under front runner category. The action plan for improving the present condition included entrepreneur support schemes self-employment programs etc. SC department social justice department, Economic and Statistical department support for attaining the goal.

Sustainable cities and communities, which comes under goal 11 mainly focus in making cities and human settlements inclusive, safe resilient and sustainable. The key department such as urban attain, housing, water, authority, land use board, irrigation, and missions LIFE and Suchitwa have been involved. Programs such as smart city, various housing schemes including life, and local specific programs or local self-government were implementing these in a time bond manner. Kerala falls under performer category and more to be done for achieving the target from the 13th place it stands at present.

For attaining responsible consumption and production the key departments took the lead are Kerala state consumer attain department and Tourism and Transport. The action plan mainly focused on entrepreneurship support scheme public distribution system, business incubation centers etc. Kerala at present scored 23 and move initiative have to be carried out to reach the target.

On climate action which is goal 13 focused an increasing climate related resiliency and adoptability Departments such as Energy Environment and Climate Change Environment and Science, Pollution control board joined hands with local government and Kerala got 23 rank and It falls in the performer category. To achieve the target more efforts should be made through the ongoing schemes such as solar subsidy scheme, green protocol, carbon neutral, rain harvest, etc.

Life below water, the 14th goal mainly gave thrust on sea, marine resources ocean health and coastal ecosystem. The Department of Fisheries and Agriculture and Cooperative sector supported the local government to carry out various activities such as matsya samridhi, parivarthanam group insurance

Life on land the 15th goal aims to protect, restore and promote ecosystems, combat desertification halt degradation of land and soil biodiversity loss. Many department including forest management, Tourism, Power, Planning, Bio diversity board, Wet land authority, etc. were involved. The local self-government also had its own plans integrated will the department scheme which are giving good results. Kerala attained 8th rank and is taking new ventures.

Peace, justice and strong institutions, the 16th goal is mainly to promote peaceful inclusive societies Home department, Excise department, revenue department IT, etc. were coordinated in a big way by local self-government institutions. Here Kerala achieved 13th rank and got the status of good performing state. Various activities one on going – Aswakiranam Vayomitram Talolam and Snehabhavanam are a few of them.

The scores that Kerala has gained for past few years have been consolidated and this shows that the state is far ahead in localizing SDG. But still there are few areas where more focus has to be done. The local self-government institution in Kerala with their integrated approach are coordinating various departments and also they themselves mold new schemes for the speedy achievement of the target already laid down. All three levels of government are responsible for ensuring that the SDGs are implemented locally starting from

National to subnational and to grass roots level, workable strategy has been developed by Niti Aayog, In Kerala with the decentralized structure a lot of head ways were made in respect of local development. The Kerala model of action plan for attaining SDG is a replicable one for other states and third world counties.

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ESG in Vedic India – A Deep, Authentic Perspective

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Abstract

The concept of Environmental, Social, and Governance (ESG), though modern in terminology, is deeply rooted in Vedic Indian thought. Vedic texts emphasize harmony with nature (ṛta), social welfare (lokasaṅgraha), and ethical governance (dharma). Environmental responsibility was reflected in the reverence for natural elements and sustainable resource use. Social equity and welfare were promoted through charity (dāna), education, and community-oriented institutions. Governance was guided by moral leadership and accountability (rājadharma), prioritizing public welfare. Thus, Vedic India presents an early, value-based model of sustainable development aligned with contemporary ESG principles.

Introduction

Modern ESG frameworks emphasize Environmental care, social responsibility, and Ethical governance.

Surprisingly, these values were deeply rooted in Vedic civilisation thousands of years ago. The modern concept of Environmental, Social, and Governance (ESG) has emerged as a framework for promoting responsible business, ethical leadership, and sustainable development. While ESG appears to be a contemporary construct shaped by global economic and environmental challenges, its fundamental principles resonate strongly with ancient Indian thought. In Vedic India, sustainability, social welfare, and moral governance were not optional ideals but embedded in the very structure of society through the doctrines of dharma, ṛta (cosmic order), and ahimsa (non-violence).

The Vedic scriptures—comprising the four Vedas, the Upanishads, Smritis, Aranyakas, and Dharmaśāstra texts—present a comprehensive worldview where humans, nature, society, and the state are interconnected. Environmental responsibility was expressed through the sanctity of natural elements, regulated resource utilization, and rituals aimed at ecological balance. Social well-being was sustained through communal harmony, ethical responsibilities, equitable behaviour, and respect for all living beings. Governance principles in texts such as the Arthashastra and Manusmriti emphasized accountability, justice, transparency, and the ruler's duty to protect both people and the environment.

Thus, although the ESG framework is modern in terminology, its essence has deep roots in Vedic India. The Vedic worldview offers timeless insights into sustainability and ethical conduct, demonstrating that responsible stewardship was integral to ancient Indian civilization. Understanding these foundations helps bridge historical wisdom with contemporary ESG practices, offering a culturally grounded and holistic approach to modern sustainability challenges.

1. Environmental (E) – ப்ரக்ருதி பாதுகாப்பு / Protecting Nature.Vedic India treated nature as sacred and interdependent also the Vedas treat rivers, mountains ,trees ,air and earth as deities.

Key Vedic Principles:"ॐ पृथिव्यै नमः" –

Reverence for Earth.Earth (Prithvi) was worshipped as

Mother, teaching responsibility to protect soil, water, air."Mata bhumih putro aham prithivyah" Earth is mother, we are her children(Atharva veda)

Pancha Mahābhūtas Concept: Earth , Water, Fire, Air, Space. Humans were instructed to live in harmony with these elements use of these resources sustainably.

Rig Veda forbids over exploitation:"Do not disturb the water, trees, and herbs."

Examples of Environmental Practices:Sacred groves (Kaavu) maintained as biodiversity zones.Cow protection and sustainable agriculture.Use of natural materials such as cotton, ghee lamps, clay, copper for ensuring minimal pollution.Rainwater conservation through temple tanks (Teppakulam).

Yajnas were meant to balance ecological forces, not "fire worship" alone.

Protection of biodiversity: Trees(vriksha), Cows(Gomata), Rivers(ganga, Yamuna), Wind(Vayu), Sun(Surya) were given spiritual significance to prevent abuse.

Conclusion: Vedic society practiced what we today call "environmental sustainability," naturally and spiritually.

2. Social (S) – சமூக தர்மம் / Social Responsibility.Social well-being was governed by Dharma.

Key Concepts: "Vasudhaiva Kutumbakam" – The world is one family.Encourages empathy, unity, fairness.Dana (Charity) and Seva (Service).Mandatory virtues for all.Ahimsa (Non-violence).Respect for all beings.
Social Welfare Practices includes Annadhanam in temples,Gurukula system – free education for all students,Community care for elders, widows, travellers, village assemblies (Sabhas) for social harmony.

Conclusion: Social responsibility was not optional; it was a moral duty.

3. Governance (G) – நல்லாட்சி / Good Governance. Vedic governance was based on Rajadharma (duty of a king/ruler).

Key Principles: King as servant of the people "Praja sukhe sukham rajyah"

The ruler's happiness is in the happiness of the people.

Transparency & Accountability: Ministers were expected to be honest and follow dharma in consultative Decision making with all irrespective of hierarchy by utilising Sabha (council) and Samiti (assembly) for ensuring rule of Law without any lacuna.

Manusmriti and Arthashastra outlined: Fair taxation, anti-corruption rules, ethical business practices, punishment for misuse of authority.

Governance Structures: Village councils (Gram Sabha),ethical commerce guidelines in Arthashastra, strict environmental and animal-welfare laws.

Conclusion: Governance was built on ethics, duties, justice, and welfare.

Summary: ESG roots in Vedic India

ESG	Vedic Equivalent	Key Concepts
Environmental	Rta, Panchabhutas	Sustainability,nature worship,ecological balance
Social	Dhrama,Seva, Dana	Welfare,education equality,community harmony
Governance	Raja Dharma, Arthashastra	Transparency,audits,anti-corruption,ethical leadership

Why ESG Resonates with Vedic Wisdom
The modern world is rediscovering what Vedic India already knew:
Sustainability is not a policy – it is a lifestyle.
Social welfare is not charity – it is duty (Dharma).
Governance is not power – it is responsibility.

Global Relevance

Environmental	The world adopts:Community -oritented welfare systems,Ethical leadership,Humanistic education. All of which are rooted in vedic values.
Social	The world adopts:Community -oritented welfare systems,Ethical leadership,Humanistic education. All of which are rooted in vedic values.
Governance	Modern governance models-CSR,audting ,compliance, duty to stakeholders-strongly reflect vedic administrative wisdom.

ESG in Ancient Indian Kingdoms
Environmental, Social & Governance principles in classical Bharatiya Rajyas.

ARTICLE II

Long before ESG became a global corporate framework,ancient Indian kingdoms practised these principles as a part of "Dharma-based governance."Kings ruled with responsibility towards nature,people and ethics,guided by the Vedas,Arthashastra,Dharmashastras, and local traditions.

ESG Pillar	Ancient Indian Principle	Royal Practices
Environmental	Bhumi Dharma, Vana Raksha	Forest laws, Water tanks, wildlife protection
Social	Loka Sangraha, Sarvodaya	Free education,health care,dana,justice
Governance	Raja Dharma, Arthashastra	Anti-corruption, audits, ethical leadership

ESG and the Universal Human Order

Here is a clear, structured explanation of the relationship between ESG (Environmental–Social–Governance) and the concept of the Universal Human Order (also known as Samagra Vyavastha, Vasudhaiva Kutumbakam, or a holistic human-centric living system).

The modern ESG framework and the ancient Indian concept of the Universal Human Order share deep philosophical alignment. Both emphasize sustainable living, ethical behavior, social harmony, and responsible governance. While ESG is applied mainly to businesses and institutions, the Universal Human Order offers a broader, civilization-wide vision of how humans should live in harmony with nature, society, and themselves.

Below is a structured comparison:

1. Environmental (E) & Universal Human Order

Environmental Care in ESG includes Sustainable resource use, pollution control, climate responsibility, conservation of biodiversity.

Environmental Harmony in Universal Human Order explains Nature is seen as a coexistence partner — not a commodity, all entities (soil, water, plants, animals, humans) exist in mutual fulfilment, overuse and greed perturbs the normal leads to violate natural balance.

2. Social (S) & Universal Human Order

Social Responsibility in ESG includes Human rights, diversity & inclusion, community development, worker well-being.

Human Conduct in the Universal Human Order emphasises every human is responsible for śānti, samṛddhi, and sukh (peace, prosperity, happiness) for self and society by adhering principles which aligns with COSMIC LAW AND ORDER such as Mutual respect, mutual trust, mutual happiness, non-violence & cooperation, society functions on relationships and duties, not competition, education, health, and justice are universal human rights.

3.Governance (G) & Universal Human Order

Governance in ESG includes Ethical leadership, transparency, accountability, anti-corruption practices.

Governance in the Universal Human Order must follow the Governance aligned with dharma, truth, and justice, Leaders (rulers, managers, institutions) must ensure: (Security, harmony, and prosperity for all, transparent decision-making),no exploitation by any means allowed, governance is service-oriented, not power-oriented, economy functions to fulfil human needs ethically, not focus only on maximize profit.

Universal Human order is holistic, and the ESC is sector-focussed.

ESG-Indian Temples & Dams

Indian civilization, especially in its Vedic and post-Vedic evolution, embedded sustainability, social responsibility, and ethical governance into its architecture, institutions, and public infrastructure. Two major examples that reflect these values are:

- Temples (social, environmental & spiritual institutions)
- Dams and water-management structures (environmental engineering with governance oversight)

1. Environmental (E)

A. Temples and Environmental Sustainability

Indian temples were not just places of worship—they served as ecological hubs.

1. Temple architecture aligned with natural ecosystems

Temples were built near rivers, forests, or water bodies to preserve natural energy flow. Traditional temple towns like Madurai, Ujjain, and Kanchipuram followed Vastu (environmental design principles).

2. Temple tanks (Kund, Pushkarini)

Managed rainwater harvesting.
Recharged groundwater.
Helped local climate regulation.
Supported biodiversity

3. Sacred groves (Devrai / Devarakadu)

Forest patches protected by temples.
Biodiversity hotspots preserved for centuries.
Community-driven conservation system.

B. Dams and Environmental Sustainability

India has a long tradition of indigenous water systems even before modern dams.

1. Ancient water structures includes Stepwells (Baolis),Reservoirs (Talabs), Johads, Kattas, Bunds, Eris, Ahars-Pynes
These acted as sustainable dams.

2. Multi-functional environmental benefits includes Flood control, groundwater recharge, sustainable irrigation, reduced soil erosion.
Ancient Indian hydrology prioritized eco-sensitive engineering.

2. Social (S)

A. Temples and Social Welfare

Temples were social institutions supporting community life.

1. Annadana (free food) systems provides Daily meals for pilgrims, poor, travellers, preserved food security & community welfare.

2. Education & arts center by having Gurukuls attached to temples, dance, music, sculpture, medicine flourished around temple complexes

3. Employment generators by providing suitable works to Priests, artisans, sculptors, musicians in turn temple economies supported entire towns surrounded by that temple.

4. Social equity through access to public goods where Temple tanks, wells, and festivals were community assets that ensured social integration.

B. Dams and Social Development

1. Irrigation & agriculture: Where ancient water structures improved agricultural productivity and enhanced livelihoods for farmers.

2. Community participation: In many regions, Villagers cooperatively maintained reservoirs, Governance was decentralized (E.g., Kudimaramath in Tamil Nadu).

3. Disaster resilience: Community-managed water systems reduced drought and famine impact.

3. Governance (G)

A. Governance in Temple Institutions

Historically, temples operated under transparent, community-guided governance.

1. Land & resource management: Temple lands were managed through Dharmic principles, Funds used for education, festivals, charity, structural upkeep.

2. Accountability: Kings appointed committees to manage temple finances, Inscriptions recorded donations and expenditures (public audit)

3. Temple as a community administrative center: where dispute any between the individuals or groups can be resolved amicably, temples also act as a cultural code setting place for preserving the culture which are all treasures, it also acts as a centre for ethical guidance.
Temples served as early models of decentralized governance.

B. Governance in Dam Systems

India's ancient and medieval water systems involved structured governance.

1. The king as custodian of water

Dharma texts (like Arthashastra):Ensured maintenance of water structures, penalized negligence in utilising the same, incentivized community participation.

2. Shared responsibility

Village councils (panchayats) monitored: Water-sharing so that equals share must be utilised by all without any partiality, seasonal usage without any delay and maintenance schedules appropriately.

3. Transparent rules

Water distribution based on: Crop type, land area, seasonal availability. This minimized conflict and increased efficiency.

Conclusion

ESG principles—environmental care, social responsibility, and ethical governance are deeply rooted in the Vedic worldview. The Vedas present a sustainable, holistic model of life where human prosperity is inseparable from ecological balance, ethical behaviour and just leadershi. Thus, modern ESG frameworks can draw valuable guidance from ancient Vedic wisdom, which promoted sustainability long before the concept entered contemporary discourse. Indian temples and traditional water-management systems are living embodiments of ESG principles. Long before ESG became a corporate framework, Indian civilization integrated sustainability, social welfare, and ethical governance into its architecture, institutions, and public infrastructure. Temples preserved ecology and culture. Dams preserved water, agriculture, and livelihoods. Both practiced ethical governances, making them timeless ESG models.

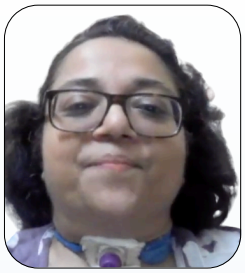
Vasudhaiva Kutumbakam

VK Webinar Series of the Sustainability Standards Board

45th Webinar

Solar Energy as the cornerstone of a Sustainable future

Friday, 28th November 2025 4pm- 5:15pm



CMA (Dr.) Aditi Dasgupta

CMA Dibbendu Roy

Dr. Paritosh Nandy

The 45th Vasudhaiva Kutumbakam Series, a resplendent celebration of knowledge and sustainability, unfolded on the day of November 28th, 2025, with the theme "Solar Energy as the cornerstone of renewable energy". The opening remarks was by CMA (Dr.) Aditi Dasgupta, Joint Director (SSB), who introduced the necessity of solar power as a renewable energy.

The esteemed speaker, Dr. Paritosh Nandi, Director-EnVERT Group, delivered the pivotal role of solar energy in shaping a sustainable future. He elucidated the manifold benefits of solar energy, including its capacity to mitigate greenhouse gas emissions, alleviate air and water pollution, and liberate us from the shackles of finite fossil fuels. Dr. Nandi's presentation also traversed the challenges and considerations inherent in the realm of solar energy, as well as the ground-breaking technological advancements that are propelling us towards a brighter, greener tomorrow.

The webinar was attended by an audience who participated in a lively and thought-provoking question and answer session. As the event drew to a close, CMA Dibbendu Roy, Additional Director and Secretary, SSB, delivered a warm and sincere Vote of Thanks, bringing the enriching session to a fitting conclusion.

Vasudhaiva Kutumbakam

VK Webinar Series of the Sustainability Standards Board

46th Webinar

Purpose of Business, SDGs, NGRBCs, ESG, BRSR framework and valuations

Friday, 12th December 2025 4pm- 5:15pm

CMA (Dr.) Aditi Dasgupta

CMA Pramod Jain

It was the 46th *Vasudhaiva Kutumbakam* Series on 12th December 2025 on the theme "Purpose of Business, SDGs, NGRBCs, ESG, BRSR framework and valuations", introduced briefly by CMA (Dr.) Aditi Dasgupta, Joint Director (SSB), who set the intellectual foundation for the discussion.

CMA Pramod Jain, the esteemed speaker, shed light on the United Nations' seventeen sustainability development goals, examining whether corporates are genuinely adhering to good governance and sustainability reporting practices. He elaborated on the nine principles of responsible business conduct, driving the ESG Ecosystem, and discussed SEBI's BRSR Reporting Framework, including its format. He also explored the intricate link between valuation and sustainability, explaining global good governance frameworks. He outlined the purpose, philosophy, action packages, and framework, concluding with insights on the interplay of BRSR, ESG, SDG, and valuation in today's context.

The seminar saw a fantastic turnout, with participants actively engaging the speaker with thoughtful questions and reflections, making the session truly interactive. The webinar wrapped up on a high note, with CMA (Dr.) Aditi Dasgupta, Joint Director, SSB, delivering a warm and sincere Vote of Thanks, bringing the enriching session to a close.

Parinayati Series

4th Webinar

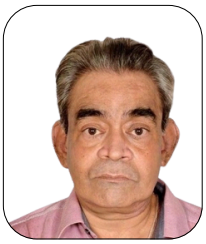
23rd December 2025 4pm- 5:30 pm

ESG and Sustainability Reporting in a Small Island-Jamaica-Framework, Comparison and Role of CMA


CMA (Dr.) Aditi Dasgupta


Dr. Ranjith Krishnan


CMA Dibbendu Roy


CMA A. Sekar

The Sustainability Standards Board (SSB), in association with the International Affairs Committee, successfully organised the 4th Parinayati Series on 23rd December 2025, focusing on the theme "ESG and Sustainability Reporting in a Small Island Economy – Jamaica: Framework, Comparative Analysis, and the Role of CMAs."

The Sustainability Standards Board (SSB), in association with the International Affairs Committee, successfully organised the 4th Parinayati Series on 23rd December 2025, focusing on the theme "ESG and Sustainability Reporting in a Small Island Economy – Jamaica: Framework, Comparative Analysis, and the Role of CMAs."

CMA (Dr.) Aditi Dasgupta, Joint Director, ICMAI, presented a comprehensive analysis of ESG and sustainability reporting in small island economies, using Jamaica as a strategic case study. She emphasized that, unlike compliance-driven models, sustainability in Jamaica is a survival imperative shaped by climate vulnerability, economic concentration, and fiscal constraints. The presentation compared Jamaica's voluntary, climate-centric ESG framework with India's mandatory BRSR regime, highlighting key lessons for emerging economies. Dr. Dasgupta underscored the alignment of ESG, SDGs, and financial resilience, positioning sustainability as a core economic strategy rather than a reporting exercise. She further articulated the expanding global role of Indian Cost and Management Accountants in ESG measurement, climate risk integration, and sustainability-driven decision-making.

The session was addressed by CMA A. Sekar, who provided a comprehensive overview of ESG reporting and presented an analytical discussion on various sustainability reporting frameworks, including BRSR and IFRS-based standards such as ISSB 1 and ISSB 2. The presentation also examined their alignment with Indian standards and relevant global benchmarks.

The programme concluded with remarks by Dr. Ranjith Krishnan, who underscored the critical importance of sustainability initiatives for small island economies, particularly in the Caribbean region, and highlighted the long-term environmental, social, and economic benefits of adopting robust sustainability frameworks.
The webinar saw active participation from attendees, with a structured question-and-answer session reflecting keen engagement with the subject. The programme concluded with a formal Vote of Thanks delivered by CMA Dibbendu Roy, Additional Director and Secretary, SSB, bringing the session to an effective close.

FORTHCOMING
VASUDHAIVA KUTUMBAKAM SERIES

CPE Credit: 1 Hour	Web Link: https://eicmai.in/Webinar_Portal/Members/Memberlogin.aspx

FORTHCOMING WEBINARS

FORTHCOMING *PARINAYATI* SERIES

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SUSTAINABILITY MONTH 2026

CMA TCA Srinivasa Prasad
President, ICMAI

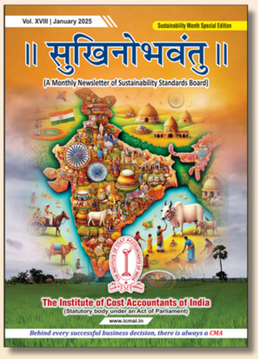
CMA Neeraj D. Joshi
Vice President, ICMAI

CMA (Dr.) Ashish P. Thatte
Chairman, SSB, ICMAI

Activities include

1. Sustainability Summit 2.0
2. National wide Sustainability Programmes
3. Green walks
4. Plantation Drives
5. Special webinars
6. Environmental Cleaning Drives
7. Awareness Sessions on ISS 1 and ISS 2
8. Green Awards
9. Best Article Awards
10. Revival of Sustainability Labs

SUKHINOBHAVANTU 2025 ISSUE



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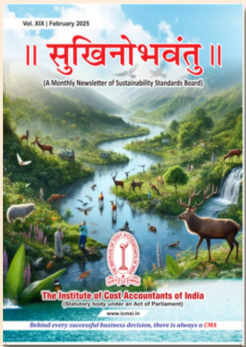

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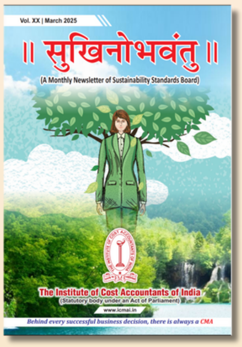

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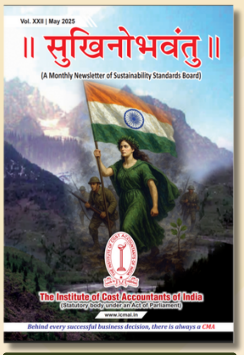

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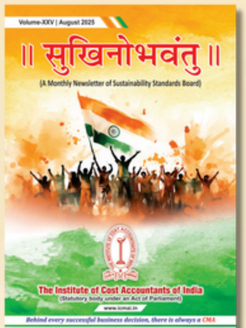

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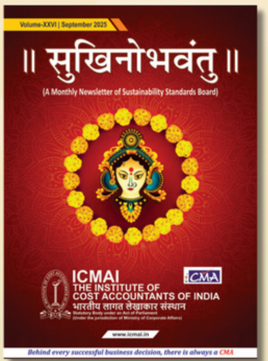

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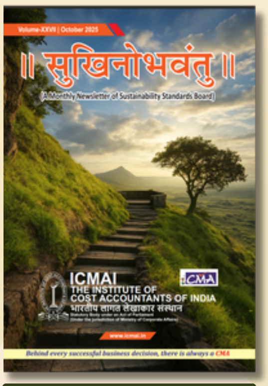

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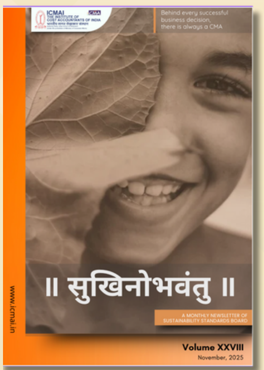

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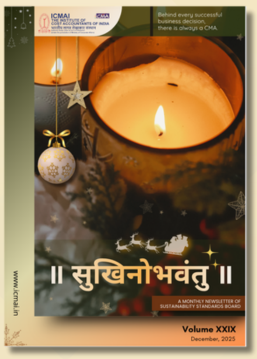

Read more

RESIDENTIAL PROGRAMME ON THE TOPIC OF ESG: EMPOWERING ENTERPRISES FOR A SUSTAINABLE FUTURE

13th and 14th December, 2025 Palette Hotel & Resort , Vagamon

Organized by

Sustainability Standards Board, ICMAI
in association with the Cochin Chapter, ICMAI

The seminar on Sustainability and ESG (Environmental, Social, and Governance) was a resounding success, with enthusiastic participation from attendees and engaging discussions throughout the two-day event. The seminar was organized by the SSB, ICMAI in association with the Cochin Chapter of the Institute of Cost Accountants of India (ICMAI) and featured esteemed speakers from various industries and regulatory bodies.

The event kicked off with CMA Renjini R, Chairperson, Cochin Chapter, introducing the theme and setting the tone for the seminar. She welcomed the guests and participants, highlighting the importance of sustainability and ESG in today's business landscape. This was followed by speeches from CMA Praveen Kumar, PD Committee Chairperson, SIRC of ICMAI, and CMA Vijay Kiran Agastya, Chairperson, SIRC of ICMAI, who shared their insights on the significance of sustainability and ESG. CMA (Dr.) K Ch A V S N Murthy, Council Member, ICMAI, and former Chairman of SSB, ICMAI, delivered a captivating presentation, sharing anecdotes and setting the tone for the event. He emphasized the need for businesses to adopt sustainable practices and adhere to ESG principles, highlighting the benefits of responsible business conduct. The Chief Guest, Shri APM Mohammed Hanish, IAS, Principal Secretary (Industries), Government of Kerala, inaugurated the session, highlighting Kerala's Sustainable Development Vision and global ESG drivers. He shared India's ESG regulations and Kerala's initiatives, showcasing opportunities in the field. He also emphasized the importance of collaboration between government, industry, and regulatory bodies to achieve sustainable development.ESG regulations and Kerala's initiatives, showcasing opportunities in the field. He also emphasized the importance of collaboration between government, industry, and regulatory bodies to achieve sustainable development.

The first technical session featured Shri Jathesh Chandra, General Manager (Design), Cochin Shipyard Ltd., sharing practical examples of sustainable activities and case studies. He highlighted the organization's efforts in reducing carbon footprint, promoting renewable energy, and implementing sustainable practices in their operations.

The day concluded with a Music Night & Camp Fire, providing an opportunity for participants to network and relax.

Day 2 began with a Green Walk and tree plantation, emphasizing sustainability. Participants wore green t-shirts and carried banners promoting sustainability, setting the tone for the day's discussions. The technical session 2 focused on ESG Reporting, Assurance, and Data Integrity, with Shri Munji Rama Mohan Rao, Head Climate & Carbon, Sustainability Services South Asia Region, Bureau Veritas India Pvt Ltd., sharing insights on the various rules and regulations governing ESG reporting. He highlighted the importance of data integrity and transparency in ESG

reporting, sharing case studies and best practices. The technical session 3, Sustainable Finance & Responsible Investment, featured CMA Venkateswaran Ramakrishnan, General Manager – SEBI, and member SSB, ICMAI, who shared insights on sustainable finance and responsible investment. He highlighted the role of SEBI in promoting sustainable finance and the initiatives undertaken by Indian companies in this space.

A panel discussion on ESG in Action: Key Takeaways and the Road Ahead featured industry experts, including CMA Venkateswaran Ramakrishnan, Shri Sachidanandan T P, Director- Business Service, SYNE, Smt Aparna Vijayakumar, Senior Program Manager, WRI INDIA, and Shri Gokul T.G, Addl General Manager (Urban Transport), Kochi Metro Rail Ltd. The panelists shared their insights and experiences, highlighting best practices and challenges in implementing ESG principles.CMA Arunkumar, Secretary, Cochin Chapter, delivered the vote of thanks, appreciating all contributors to the event's success. He thanked the speakers, panelists, and participants for their active engagement and valuable insights, making the seminar a grand success. The seminar highlighted the importance of sustainability and ESG in today's business landscape, emphasizing the need for businesses to adopt responsible practices and adhere to ESG principles. The event provided a platform for industry experts, regulatory bodies, and participants to share insights and best practices, promoting collaboration and knowledge sharing. The Cochin Chapter of ICMAI plans to continue organizing such events, promoting sustainability and ESG awareness, and contributing to the nation's development.

Some key takeaways from the seminar include:

- The importance of sustainability and ESG in today's business landscape
- The need for businesses to adopt responsible practices and adhere to ESG principles
- The role of regulatory bodies in promoting sustainable finance and ESG awareness
- The importance of data integrity and transparency in ESG reporting
- The opportunities and challenges in implementing ESG principles
- The need for collaboration and knowledge sharing to achieve sustainable development

Overall, the seminar was a resounding success, providing a platform for industry experts, regulatory bodies, and participants to share insights and best practices, promoting sustainability and ESG awareness.

Part XIV

Professional Etiquettes in Multigenerational Workplaces

Usha Ganapathy Subramanian
Practicing Company Secretary
Chennai

Introduction

In many of today's workplaces, especially in startups, it is not uncommon to see employees belonging to different generations work side by side. The generations in the context of this article refers to the various demographic cohorts: baby boomers (generally born between 1946 and 1964), gen X (born between 1965 and 1980), millennials (born between 1981 and 1996), and gen Z (born between 1997 and 2010). Each generation brings in its unique strengths, styles of working and aspirations. While this diversity adds different perspectives and wholistic thinking, it can also give rise to misunderstanding and stereotyping. However, keeping in mind professional etiquettes can prevent any misunderstanding and act as the common thread that binds the differences and weaves them into a beautiful tapestry of ideas and ideologies.

Understanding Generational Contexts Without Labelling

Understanding the historical context of each generations helps understand their apprehensions, aspirations and preferences. However, it should not become a convenient label or stereotyping. Not all baby boomers dislike change. Not all Gen Z are social media experts. One must consciously avoid stereotyping, while at the same time must endeavour to understand each generation's unique context. One must acknowledge experiences and must not frame sentences in a way that puts them in a box. For example, when talking to an experienced professional, one may say something like "You have seen this evolve over time and now it has evolved into this form"; not "you will not get this." Empathy forms the best etiquette in any context. Understanding each other's perspective and context without judgment is what is needed here.

Bridging Communication Preferences

Each generation has different preferred modes of communication. While baby boomers and Gen X may favour formal emails and meetings, millennials and Gen Z might prefer instant messaging platforms and collaborative tools. Instead of imposing our preferences, it is considered courteous to ask how the other person would like to communicate. Whatever be the mode of communication, adhering to formal language, courteous communication, and clear responses is necessary. E-mails have the added benefit of record retention and hence, for formal matters, sticking to email would be a safer bet. In meetings, a mix of structured presentations along with open discussion may be adhered to.

Expectations around Meetings

When it comes to team discussions, some professionals would expect clear agendas, punctuality and follow-up notes and minutes. Others may prefer informal check-ins and adhoc clarifications and dynamic communication. Both verbal and written invites, agenda and follow-ups may be done when working in multi-generational teams. One must avoid avoid overly casual slang or acronyms.

When giving feedback, one must respect different sensitivities. While Gen X may be comfortable with directness, Gen Z may also give importance to how the message is delivered. The feedback must be tailored and delivered with tact and unmistakable courtesy.

Technology usage

Different generations have grown up with different technology. However, being "tech-savvy" need not always be associated with the youth. As organisations adopt newer technology for communication and operations, etiquette in tech adoption matters. When offering help to someone with technology, it must be offered without judgment or condescension; something like: "Would you like me to give a walk-through? I too recently figured this out." If receiving help, one may express their genuine concerns or difficulties instead of defensiveness: "Oh! I hadn't come across that feature before.Thanks!"

Work-Life Balance and Boundaries

Expectations around availability outside the working hours vary across generations. Some may expect others to reply after hours and some feel obligated to do so; while the younger generation may feel protective of their personal time. It is necessary to respect boundaries and avoid judging a person's commitment to the organisation merely by their availability outside of office hours. Timelines for task completion, working hours and response time to calls must be clarified with utmost transparency beforehand. Flexible working styles must be normalised as long as results are delivered. To sound more empathetic and respectful of boundaries, one may say: "No rush, respond during working hours"

Two-Way Mentorship

Mentorship need not always be thought of as passing on of skills or wisdom from the more experienced to the uniors. These days, the term experience has itself become multi-dimensional and each individual, aged or young or somewhere in between, can be thought of as having unique strengths. This way there could be mutual mentoring with gen Z offering fresh market insights and baby boomers bringing in their knowledge, operational expertise and organisational experience. Cross-generational buddy systems may be encouraged. "Ask Me Anything" sessions could be arranged across departments to build team spirit and inter-departmental camaraderie. In mixed generation teams, tone matters a lot. Instead of assuming one's own approach is better, one may open up new possibilities by asking "How do you usually approach this?" and offering advice without judgment by saying: "Would it be helpful if I showed you a trick I use for this?"

Conclusion

Building good multi-generational teams is not about erasing differences or merging them to an acceptable average. It is about blending perspectives, appreciating and cherishing the differences, and leveraging the varied expertise that comes with having team members from various generations. One may become open to both nostalgic story-telling and to excited conversations on new trends. It is not just about becoming inclusive; it is about becoming truly collaborative. Differences need not feed discord; they may rather become the seeds of strength for the organisation, when professional etiquettes and empathy are always kept in mind.

Reproduced with suitable modifications from the personal writings and posts of Ms. Usha Ganapathy Subramanian.

Kochi Water Metro: A Sustainable Transportation Revolution

CMA Dibbendu Roy
Additional Director
The Institute of Cost Accountants of India
Kolkata

What is Water Metro?

Water Metro Project intends to introduce modern, energy efficient, environment friendly and safe boats with low wake and draft characteristics at a high frequency to increase ridership. The project is expected to reduce pollution and traffic congestions in the city and also ease access to business areas on the mainland for urban households.

How the SDG goals are catered with Water Metro?

a. SDG 11: Sustainable Cities and Communities

-Reduces traffic congestion and promotes eco-friendly transportation.

-Integrates with existing public transport systems for efficient mobility.

b. SDG 13: Climate Action

-Electric hybrid boats reduce greenhouse gas emissions by 16,500 tonnes/year.

-Promotes sustainable urban development and climate resilience.

c. SDG 9: Industry, Innovation, and Infrastructure

-Innovative water transport system showcases sustainable infrastructure.

-Boosts local economy and tourism through improved connectivity.

d. SDG 10: Reduced Inequalities

-Accessible terminals and boats for passengers with disabilities.

-Affordable transportation for island communities.

Why the Kochi Water Metro is A Game-Changer for India?

Kochi, often referred as the commercial capital of Kerala, is one of the most densely populated district in the state of Kerala. The Kochi Water Metro connects 10 islands to the mainland through 78 battery-operated electric hybrid boats, 15 strategic routes, and 38 modern terminals. This integrated water transport system serves 100,000 passengers daily, reducing travel time, congestion, and carbon emissions. The Kochi Water Metro is a state of the art environment friendly modern urban water transport project of Government of Kerala, being implemented by Kochi Metro Rail Ltd. The Kochi Water Metro connects the island people from 10 islands to the main land, thus enabling them to improve their socio economic status immensely with better jobs, trade, accessibility and better livelihood. It boosts the tourism sector as well and result in an overall development of the areas. It integrates water transport system with other modes of transport including the metro system. The Water Metro at Kochi consists of 78 boats, 38 jetties (called water metro terminals), located on 10 islands over 76 route kilometres in the back waters of Kochi. The project has a total value of INR 1136 crores and major part of which is financed KfW development bank under Indo-German financial cooperation with a long-term loan agreement. The State of the art air conditioned boats provides safety, comfort, reliability, punctuality, and it is affordable to a large section of people just like other metro rail system in the country. The modern boat jetties (Water Metro Terminals) are specially designed and are disabled friendly with concrete floating pontoons, bringing the differently abled people into mainstream ensuring their transportation rights. The passenger counting system (PCS) installed in the terminals ensures that at any given time the boat will not cross the maximum allowed number of passengers and prevent overcrowding.

What are the Key Features of Kochi Water Metro?

The project was inaugurated by the Honorable Prime Minister of India, Shri Narendra Modi, on April 25, 2023. Currently, two routes are operational, providing a metro- like experience to the public and has been enthusiastically embraced by the public. The operation and management of the Water Metro is handled by Kochi Water Metro Limited

(KWML), a joint venture with a 74% share from the Government of Kerala (GoK) and a 26% share from Kochi Metro Rail Limited (KMRL). The Kerala backwaters are a network of brackish lagoons and lakes lying parallel to the Arabian Sea coast (known as the Malabar Coast) of Kerala state in southern India, as well as interconnected canals, rivers, and inlets, a labyrinthine system formed by more than 900 kilometres (560 mi) of waterways. Kochi is the largest city in the south Indian state of Kerala and the second largest along India's western coastline, after Mumbai. In Kochi's case, thanks to its location on the lower west coast of the Indian peninsula, it is less vulnerable to storm surges or cyclones compared to cities on the eastern coast of the country. The city sits within a complex estuarine system comprising Lake Vembanad and the many rivers flowing into the lake, including the Periyar and Muvattupuzha rivers.

What are the ecological benefits?

Eco-Friendly: Electric hybrid boats reduces greenhouse gas emissions by 16,500 tonnes per year.
Accessibility: Floating pontoons and ramps ensures easy access for passengers with disabilities.
Integration: Terminals are strategically located near bus stands, metro stations, and feeder networks.
Safety: State-of-the-art navigation systems, CCTV cameras, and emergency response systems.

What are the Impact and Future Plans?

The Kochi Water Metro has served over 4 million passengers in two years, attracting interest from Indian states and countries like Malaysia for replication. The project is expected to become fully operational in 2035, with plans to expand to 18 locations nationwide.

What are the emission that has reduced through water metro?

Kochi Metro has reduced greenhouse gas emissions by 16,500 tonnes per year
Electric Hybrid Propulsion: Reduces greenhouse gas emissions and noise pollution.
Renewable Energy: Sources 100% of its energy from solar power, with plans to expand capacity.
Renewable Energy: Sources 100% of its energy from solar power, with plans to expand capacity.
Eco-Friendly Design: Boats are made from lightweight, recyclable materials with low draft and wake design.
Reduced Congestion: Expected to carry 34,000 passengers daily, easing road traffic.
Improved Connectivity: Connects 10 islands to mainland, enhancing mobility and access.
Economic Boost: Boosts tourism and local economy, improving islanders' socio-economic status.
Safety and Comfort: Air-conditioned, disability-friendly boats with modern amenities.

What is Impact on Carbon Trading?

The Kochi Water Metro's sustainability features contribute to India's carbon neutrality goals by reducing emissions and promoting eco-friendly transportation. This project sets a benchmark for other cities to adopt similar sustainable transportation solutions, potentially reducing carbon trading needs.
The Kochi Water Metro is a game-changer for sustainable urban transportation in India, offering numerous benefits:
- Environmental Sustainability: Electric hybrid propulsion system reduces greenhouse gas emissions by 44,000 tonnes annually.

What are the states which are envisaged to have potential Water Metro ?

North India: Srinagar (Dal Lake and Jhelum River), Varanasi, Ayodhya, and Prayagraj
East India: Kolkata, Patna, Guwahati (Brahmaputra River), Tezpur, and Dibrugarh
West India: Ahmedabad (Sabarmati River), Surat, Mumbai, and Vasai
South India: Mangaluru (Gurupura River), Kollam, and Alappuzha
Union Territories: Andaman and Nicobar Islands and Lakshadweep

What are the Global Examples of Sustainable Water Transport?

Venice, Italy: Famous for its canals, Venice has been using water buses and taxis as a primary mode of transportation for centuries.
Amsterdam, Netherlands: The city's extensive canal network is served by electric boats and water taxis, reducing carbon emissions.
Singapore: The Marina Bay Water Taxi offers a convenient and environmentally friendly way to explore the city-state.
London - UK The Thames Clipper provides a fast and efficient commuter service along the River Thames.

Conclusion

At last, innovative transportation like the Kochi Water Metro could be the panacea for congestion pluing urban cities. Cities blessed with waterways must seize this opportunity—reducing carbon footprints, embracing eco-friendly travel, and ditching fossil fuels. SB

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Ayodhya is transforming into a Smart City under a major integrated urban development drive

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Introduction

Ayodhya, one of the most ancient and spiritually significant cities in the world, is undergoing one of the most dramatic urban transformations in recent history. Once known primarily as a quiet temple town and the revered birthplace of Lord Ram, Ayodhya is now emerging as a modern, future-ready, smart and sustainable city. This transformation represents a rare and powerful fusion of ancient heritage and contemporary technology. As the city prepares for major cultural and religious milestones, including large-scale events at the Ram Temple, the Uttar Pradesh government has intensified its efforts to turn Ayodhya into a model smart spiritual city that blends faith, tradition, environmental consciousness and technological innovation.

Vision of "Navya Ayodhya" and Smart Urban Planning

Ayodhya's redevelopment is guided by the ambitious "Navya Ayodhya" (New Ayodhya) vision and the Ayodhya Master Plan 2031, which lays out a long-term strategy for sustainable urban growth. The city is being positioned as a benchmark for heritage-based smart urban development in India. Major improvements have been undertaken in connectivity and infrastructure, including:

- Widened roads and highways
- A modernised railway station
- Development of an international-standard airport
- Riverfront rejuvenation along the Sarayu River
- Greenfield township development
- Improved public spaces and urban amenities

These developments are designed to accommodate rising tourism while improving the everyday quality of life for residents.

Ayodhya as a Model Solar City

A defining element of Ayodhya's transformation is its commitment to clean and renewable energy. The city has been officially recognised as a Model Solar City

under the Uttar Pradesh Solar Energy Policy 2022. A key milestone in this journey is the establishment of a 40 MW solar power plant by NTPC Green Energy Limited, spread across 165 hectares near the Sarayu River. This plant alone now supplies approximately 25–30% of Ayodhya's total electricity demand, which currently stands at around 198 MW. This initiative significantly reduces the city's carbon footprint and moves it toward energy self-reliance. In addition, EV (Electric Vehicle) charging stations have been installed at multiple key locations with the support of Tata Power, Reliance, and the Adani Group, promoting green mobility across the city.

Green Development and Environmental Sustainability

Urban transformation in Ayodhya is being carried out with strong environmental sensitivity. The Ayodhya Development Authority, through its Green Fund Initiative, has begun widespread afforestation programmes. More than 15,000 trees are being planted across 75 locations using the Miyawaki method, which enables rapid growth of dense urban forests. New green corridors, public parks, a 200-acre green belt in the Greenfield township, riverfront beautification projects and eco-friendly construction techniques are helping Ayodhya build resilience against pollution and climate change, making sustainability a core pillar of its development strategy.

Smart Security and Digital Governance

With the expected inflow of millions of pilgrims and tourists, safety and crowd management are crucial components of Ayodhya's transformation. A comprehensive surveillance framework called "Chakravyuh for Security" is being implemented, supported by a vast network of CCTV cameras and real-time monitoring systems.

In addition to physical security, digital governance platforms and intelligent traffic management systems are being deployed to enhance efficiency, reduce congestion, and ensure seamless city operations — especially during festivals and large religious gatherings.

AI, Technology and the Rise of a "Vedic Smart City"

One of the most unique aspects of Ayodhya's transformation is its integration of Artificial Intelligence with ancient spiritual principles, paving the way for what is being described as the world's first "AI-powered Vedic sustainable city."

In collaboration with Arahas Technologies Pvt Ltd, the Uttar Pradesh government introduced a pioneering Sustainable Development Index powered by AI and geospatial technology. This intelligent platform:

- Monitors environmental conditions
- Predicts visitor inflow and infrastructure demand
- Supports data-driven urban planning
- Assesses sustainability performance across environmental, social, economic and governance parameters

The AI system plays a vital role in managing the massive number of devotees visiting the Ram Temple, helping prevent strain on resources while preserving the city's spiritual and cultural integrity.

Preserving Heritage Alongside Modernisation

Ayodhya's redevelopment strategy does not seek to replace the old with the new. Instead, it follows heritage-sensitive urban planning, ensuring that the city's ancient temples, ghats, sacred pathways and historical structures are preserved and restored.

Projects such as:

- Heritage walkways
- Cultural museums
- Ghat rejuvenation programmes
- Designated spiritual zones
- Architecture aligned with traditional styles

ensure that Ayodhya retains its sacred identity even as it moves forward technologically.

Economic and Social Impact

Ayodhya's transformation is also catalysing strong economic growth. The city is fast emerging as a global spiritual tourism hub, encouraging development in:

- Hospitality and hotel industries
- Handicrafts and cultural enterprises
- Local small and medium businesses
- Employment for youth and skilled workers

This development not only strengthens the regional economy but also improves the standard of living for the local population.

A Model for the World

Ayodhya's journey from an ancient sacred land to a digitally connected, environmentally sustainable and intelligently managed urban centre offers a powerful global lesson. It proves that modernisation and tradition do not need to stand in opposition to each other. Instead, when guided by vision, technology, spirituality and sustainability, they can work together to create a city that is prepared for the future while remaining deeply rooted in the past. In doing so, Ayodhya is not just transforming physically — it is redefining what a modern heritage city can look like in the 21st century.

The Art of Repair and Circular Living

Part XX

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Abstract

Today in a world where shopping has become a past time so much that "retail therapy" is a thing, where e-commerce and quick commerce businesses are flourishing not by selling the essentials but anything and everything under the sun, and where the urge the replace older items with newer ones has become normalized, accepted and facilitated, the art of repairs has almost been lost. In the world obsessed with speed and convenience, many consumer goods have taken a disposable format. Against this background, the traditional wisdom of repair and reuse offers a stark counter-narrative. Long before "circular economy" and its components "reduce, reuse, recycle" became buzz words, our Indian way of living had long been embracing them. From reusing old clothes as cleaning cloths to repairing anything broken as a normal way of life, circular economy principles had long been in action in our households. Today's millennial generation can reminisce this as a part of their cherished childhood, whereas the later generations might have had little chance to see these principles in action in their households. One may term the practice of repairing and reusing as mere frugality or a habit caused by lack of access or opportunities; however, it was not uncommon to see one taking pride in being able to restore things back to a functioning state. Repairing was a useful and essential skill that every household had to have and took pride in having it. This has profound implications for sustainable development.

Repairs – The norm in homes

In our homes, every item used to have a life beyond its primary use. For example, torn sarees would be repurposed as curtains, pillow covers, baby blankets, kitchen wipes or pochas. Broken furniture would be dismantled and reimagined as an entirely new article. For example, a broken piece of cupboard could become a floor seat, or a chopping board, etc.

- Kitchen utensils were regularly recast or tinned to extend their usable lives. Worn-out shoes would be mended with the local cobbler.
- Torn parts of pants, shirts, kids' uniforms used to be mended at home using the home sewing machine or given to the local tailor.
- Ball-point pens used to have refills that could be replaced in contrast to pens these days that have to be discarded in their entirety if the ink runs out.
- The radio (transistor), the television and kitchen appliances used to be repaired and continued with their use.

These were not just about saving money or lack of access. It reflected the deep ethic of honouring natural resources and preserving the utility of the things made of human enterprise and labour.

Now as mindless consumption has led to overflowing landfills and plastic pollution, these practices hold more significance. Repair culture reduces the demand for virgin materials, lesser emissions from manufacturing and supporting local labour and skills.

Jugaad: Grassroots Innovation

Jugaad, which simply means to have a work around with the limited resources available, despite its negative connotations, has come to be identified as the

unique Indian way of making things work under constraints and restrictions. but in households, agriculture and small businesses, the ingenious improvisations have cut costs, saved precious natural resources and possibly, improved processes. These days it is even equated with a management philosophy, especially after the 2012 book Jugaad Innovation: A Frugal And Flexible: A Frugal and Flexible Approach to Innovation for the 21st Century by Navi Radjou, Jaideep Prabhu and Simone Ahuja.[1]

Textile traditions of households and art heritage

The principle of repair and reuse in the textile sector has been there from time immemorial. Patchwork textile arts like ralli quilts in Punjab[2] and Sindh, Kantha[3] embrodiary in West Bengal and other eastern States and Kowdhi quilts[4] are functional, artistic and intricate. Today these art forms are being revived not just as heritage but also as high-value products for the sustainability-conscious consumers. NGOs are training rural women to turn textile waste into traditional art forms and marketable consumer products and these are then sold through trade fairs and e-commerce platforms.

Repair Economy

We still do have repair shops in our neighbourhood, thankfully; cobblers, tailors, appliance repair shops are still around. However, these are fragmented small businesses that are seeing their customer base dwindle as more choose to replace things than repair them. This repair economy offers affordable alternative to replacing household appliances, skill-based employment to youth, and eventually leads to lower emissions and reduced wastage.

However, they face threats from planned obsolescence in consumer goods in the name of new[8] trends and features, and lack of regulatory recognition and protection. Since the operations are localized, their brand recall and brand value is low compared to mass-producers of consumer products. Further, repurposing textiles requires learning traditional skills and is labour-intensive. Since this involves time and manpower cost, the art form is losing out to mainstream consumerism, which is fast, convenient and budget-friendly. But the cost to the environment and the long-term impact on the society go unnoticed. Integrating the repair economy into mainstream consumer goods industry and enhancing credit support to them can support inclusive and sustainable development.

Policy Implications

Professionals may advocate for policies that support the repair economy like, tax concessions for the spares and materials used in repairs. They can also advocate for product-as-a-service and pay-per-use models that can reduce wastage and incentivise good maintenance. In CSR initiatives too, promoting repair skills can also align with SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth).

Conclusion

The repair and reuse culture may have become part of nostalgia in today's world but it is the ticket to a more sustainable future. As the world innovates and reaches for advanced technology to come to the Earth's rescue, going back to the roots makes more sense economically and ecologically. The quiet, contented and simple days of the past are indeed what the future must also look like: if we want the posterity to enjoy what we had. SB

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Environmental Consciousness and Christianity

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Abstract

Across world religions, there is a shared conviction that nature is an act of divinity and must be treated with reverence. Although traditions differ in how they describe the creation of the universe, they converge on the belief that creation originates from God and carries inherent sacredness. Christianity, in particular, strongly affirms this principle. The Bible contains numerous passages that speak directly about the protection of the environment, underscoring the Christian responsibility to safeguard the natural world. The biblical command, "Do not pollute the land where you are. Bloodshed pollutes the land...," from Numbers 35:33, vividly connects environmental harm with moral transgression, linking the integrity of the land to divine justice.

Christian environmental reflection rests deeply on the foundational narrative of Genesis. Here, humanity is entrusted with a unique but accountable role. Genesis 2:15 states that "The Lord God took the man and put him in the Garden of Eden to work it and take care of it," establishing stewardship—not domination—as the orientation of human activity. Christian theology recognizes that all created things ultimately belong to God, and humans, as stewards, are accountable to Him for how they manage the earth. As Geneva College emphasizes, God has clearly placed humans in a position of responsibility over creation, commissioning humanity to rule in a manner that sustains, protects, and enhances His works so that creation may fulfill its God-given purpose. Environmental care, therefore, is not merely utilitarian but an expression of reverence for God's ownership and glory.

On this foundation, Christian environmental consciousness affirms that the natural world is God's good and intentional creation, and every dimension of it—light, land, water, plants, and animals—reflects divine wisdom. Scripture repeatedly portrays creation as a testimony to God's glory, as seen in the poetic hymns of Psalms and the nature-filled discourses of Job. Environmental degradation, in this theological Christianity's environmental ethic aligns meaningfully with contemporary sustainability imperatives such as the UN Sustainable Development Goals, especially those concerning climate action, biodiversity conservation, and responsible resource use. Through its teachings on compassion, stewardship, and justice, Christianity provides a moral grounding for sustainable development and promotes choices that honor future generations. Though debates persist—about dominion, political divides, or development priorities—the broader trajectory of Christian thought emphasizes that caring for the environment is integral to living out one's faith.

Within this broader biblical foundation stand the teachings of Jesus, which—though not articulated in modern ecological language—offer a profound moral vision for sustainability. His teachings on stewardship, simplicity, justice, and reverence for life create a theological framework that speaks powerfully to contemporary environmental challenges. The Parable of the Talents (Matthew 25:14–30) depicts a master entrusting resources to servants with the expectation of faithful management, presupposing accountability. When applied to creation, the message is clear: The Earth belongs to God, and humanity is responsible for its wise care and preservation. Jesus also teaches simplicity and r estraint. In the Sermon on the Mount, he urges his followers not to be anxious about material

accumulation, declaring, "Look at the birds of the air… Consider the lilies of the field" (Matthew 6:26–30). These teachings call believers away from consumerist excess and toward trust in divine provision, encouraging lives that reduce wastefulness and prevent the exploitation of natural resources. Simplicity becomes an ecological virtue that protects creation by resisting unnecessary consumption.

Jesus' ethic of neighbour-love provides another anchor for ecological responsibility. "You shall love your neighbour as yourself" (Matthew 22:39) gains environmental relevance because ecological harm disproportionately affects the poor through pollution, climate disasters, food insecurity, and water scarcity. Caring for the vulnerable—central to Jesus's ministry and explicit in "the least of these" discourse in Matthew 25—requires environmental justice. Protecting air, water, and land thus becomes a moral act rooted in Jesus's call to love and uplift the marginalized.

Jesus also affirms the intrinsic value of non-human creation. His statement that "not one [sparrow] will fall to the ground apart from your Father" (Matthew 10:29) reveals divine concern for even the smallest creatures. Combined with his vivid imagery of seeds, soil, vineyards, and trees, Jesus positions creation as both teacher and beloved subject of God's care. This invites believers to honor biodiversity, protect habitats, andsafeguard the integrity of ecosystems. The Beatitudes offer ecological humility. "Blessed are the meek" and "Blessed are the peacemakers" (Matthew 5:5, 9) resist domination and violence, affirming instead a posture of gentleness toward both people and the Earth. Ecological humility acknowledges limits, interdependence, and the necessity of peaceful coexistence with creation.

Jesus's parables further serve as ecological pedagogy. The Parable of the Sower (Matthew 13:1–23) reveals how flourishing depends on the right conditions—healthy soil, good seed, and environmental integrity—mirroring ecological principles of fertility and resilience. The Parable of the Barren Fig Tree (Luke 13:6–9) emphasizes patient cultivation and the ethical obligation to restore fruitfulness rather than prematurely destroy what seems unproductive. These teachings translate into modern responsibilities: simplicity in daily living, reduction of waste, renewable energy use, conservation of biodiversity, and ecclesial initiatives such as green churches and community gardens. Jesus's concern for justice calls Christian communities to advocate for policies that reduce emissions, protect resources, and prioritize the vulnerable, embodying the Kingdom vision in public life. Even objections rooted in dominion theology or eschatology dissolve under Jesus's ethic of servant leadership and faithful readiness. Dominion is reframed through the lens of meekness and service, and eschatology heightens—not diminishes—the urgency of responsible action.

Ultimately, the teachings of Jesus create a deeply rooted environmental ethic grounded in stewardship, simplicity, justice, and reverence for life. To harm creation is to disregard what God has entrusted; to protect it is to participate in God's ongoing work of renewal. As ecological crises intensify, Christianity's vision—shaped by Scripture and exemplified in Jesus's teachings—offers a transformative moral framework that affirms creation as sacred, humanity as accountable, and environmental care as an expression of love for God, neighbour, and all living things. SB

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Insight VII

Renewable Plastics from Forest Emissions: A New Era in Green Chemistry

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Abstract

Forest Emission: Carbon dioxide (CO_2) released from forests due to natural decay, land-use changes, or disturbances. When this released carbon becomes more than what forests absorb, it is called forest emissions. Climate change and plastic pollution are two global challenges we can no longer ignore. A breakthrough idea from Finland—Forest CUMP (Carbon Utilisation by Methanation and Polymerisation)—offers a surprising solution: turning CO_2 from forests into renewable plastics. This article explains how this works, why it matters, and how countries like India (and professionals like CMAs) can play a role in this green revolution.

Why We Need Renewable Plastics

"Plastic is not the enemy; it is how we make and dispose of it that needs to change." – *Dr. Jane Muncke*

Plastic is everywhere—our food packaging, cars, electronics, clothes, and hospitals depend on it.
But the problem is:

- Most plastics come from fossil fuels.
- Making plastics emits a huge amount of CO_2, which warms the planet.
- Global plastic demand continues to rise.

The question is: Can we keep using plastic without harming the planet?

Finland says YES.

Through the Forest CUMP project, they are showing the world how CO_2 released from forests can be turned into useful plastics, creating a circular and clean economy.

The Problem: Plastics Depend on Fossil Fuels Today, most plastics start from a fossil fuel product called naphtha.

Why this is bad?

- Requires huge energy
- Emits greenhouse gases
- Keeps industries dependent on petroleum

By 2040, plastic production may cross 600 million tonnes per year, worsening the climate crisis unless we adopt sustainable methods.

Biogenic CO_2 – A Cleaner Carbon Source

Biogenic CO_2 (Meaning): Carbon dioxide that comes from living or recently living plant material—like burning wood or plant waste.

This CO_2 is part of nature's carbon cycle, unlike fossil CO_2 which comes from millions-year-old deposits.

Finland's massive forests and paper mills release 30 million tonnes of biogenic CO_2 every year.

Instead of wasting it, Forest CUMP decided to capture it and convert it into plastics.

The Forest CUMP Project – Turning CO_2 into Plastic

Developed by VTT Technical Research Centre of Finland and LUT University, the project aims to:

- Make plastics without fossil fuels
- Use existing petrochemical plants (no big change needed)
- Create renewable naphtha from CO_2
- As Research Professor Juha Lehtonen said:

"We wanted a solution that industries can adopt quickly."

How CO_2 Becomes Plastic: The Four-Step Process

Step 1: Capturing CO_2

Forest industry gases contain 10–15% CO_2.

Technologies used:

- Amine scrubbing: A chemical solution absorbs CO_2.
- Membrane separation: Filters separate CO_2 from other gases.

Result: 95% pure CO_2.

Step 2: Adding Green Hydrogen

Green Hydrogen (Meaning): Hydrogen made using renewable electricity like wind or solar power.

Two key reactions take place:

a) Reverse Water Gas Shift (RWGS)

Converts CO_2 → CO (carbon monoxide).

b) Fischer–Tropsch (FT) Synthesis

CO + Hydrogen → hydrocarbons (similar to crude oil/naphtha)

Step 3: Using Existing Petrochemical Plants

The hydrocarbons match fossil naphtha.

So industries can use existing steam crackers with no major upgrades.

This saves cost and speeds up adoption.

Step 4: Making Plastics

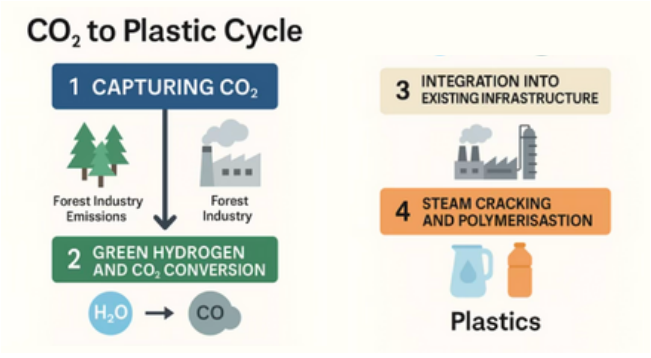
Steam cracking breaks renewable naphtha into:

- Ethylene (C_2H_4)
- Propylene (C_3H_6)

These become:

- Polyethylene (PE) → Plastic bags, films, bottles
- Polypropylene (PP) → Auto parts, household containers, textiles

This entire sequence has been successfully tested at the Bioruukki Pilot Centre in Finland.



Why Finland Is the Perfect Place for This Innovation

1. Forest-rich country

75% of Finland is covered in forests → abundant biogenic CO_2.

2. Green energy leader Wind, hydro, biomass, and nuclear → supports large-scale green hydrogen.

3. Strong government support

Finland funds clean-tech, carbon capture, and circular economy projects.

Environmental & Economic Benefits

Climate Benefits

- Cuts millions of tonnes of CO_2.
- Makes plastic production carbon-neutral.
- Reduces fossil fuel dependency.

Economic Benefits

- New green jobs
- New revenue streams for forest industries
- Reduced fossil fuel imports
- Boost to clean manufacturing

Dr. Ville Tulkki of LUT University says:

"Carbon is not waste. It is a raw material for the future."

Challenges

Challenges ahead even with promise, the project faces:

Challenge	Explanation
High energy needs	Electrolysis & FT require large electricity
Green hydrogen costly	Prices expected to drop soon
Need for policy support	Incentives & carbon credits needed
Industry coordination	Petrochemical & forest sectors must work together

Role of Cost and Management Accountants (CMAs)

Projects like Forest CUMP are not just science—they are business decisions.

CMAs play a crucial role in:

1. Feasibility Studies
   - Cost comparison: fossil vs. renewable plastics
   - ROI, NPV, IRR, and payback analysis
2. Cost Control
   - Identify cost drivers
   - Optimise hydrogen and energy use
3. Environmental Management Accounting (EMA)
   - Track environmental costs & benefits
   - Conduct Life Cycle Costing
4. ESG & Sustainability Reporting
   - Help companies access carbon credits
   - Prepare ESG-aligned reports
5. Policy Guidance
   - Suggest green tax incentives
   - Help industries comply with climate laws
6. Supply Chain Mapping
   - From CO_2 capture → renewable naphtha → plastics
   - Identify risks, opportunities, and pricing strategies

CMAs strengthen both Make in India and Green India missions.

Conclusion: Plastics with Green Roots

The Forest CUMP project is more than a scientific innovation—it is a new way of thinking.

It teaches us that:

- CO_2 can be a resource, not just pollution.
- Plastics can be made from renewable sources.
- Circular economy is not a dream—it is already happening.

As Juha Lehtonen of VTT wisely said:

"In a forest-driven circular economy, even waste becomes wealth."

With the right vision, policies, and financial planning, renewable plastics could reshape our world—cleaner, greener, and truly sustainable.

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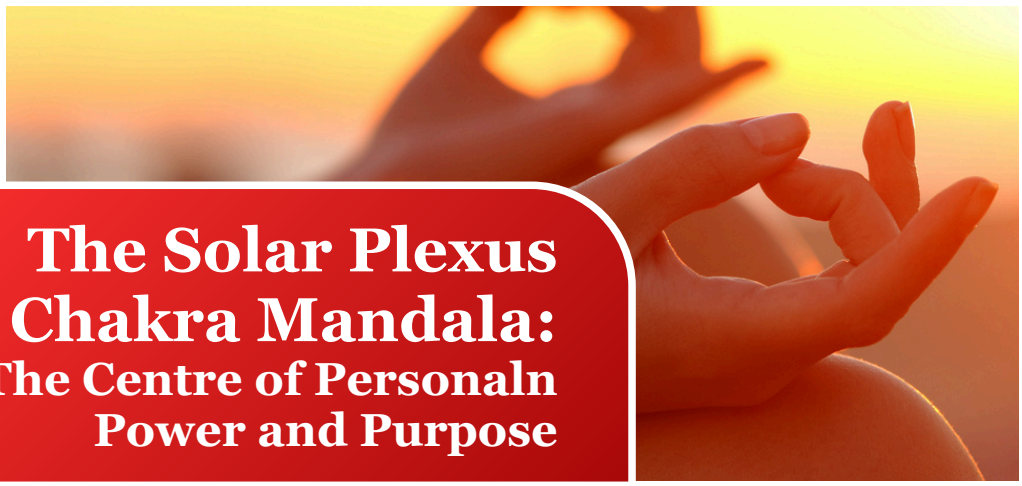

The Solar Plexus Chakra Mandala: The Centre of Personaln Power and Purpose

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Abstract

The Solar Plexus Chakra, known as Manipura Chakra in Sanskrit, is the third energy centre in our subtle body system. "Manipura" means "city of jewels", which beautifully reminds us that every human being carries a shining inner power. Located in the upper abdomen, just above the navel, this chakra is responsible for our confidence, clarity, motivation, and willpower. It is the fire that helps us move forward in life with purpose.

Solar Plexus Chakra as a Mandala

In Mandala Therapy, every chakra can be seen as a geometric map of our inner universe. The Solar Plexus Chakra is traditionally represented by a ten-petaled yellow lotus, holding within it a perfect triangle pointing upwards. This upward triangle is a symbol of Agni (fire) — the energy that transforms, digests, purifies, and fuels growth.

When we draw or meditate upon this mandala, we activate the qualities of inner strength, discipline, determination, and self-respect.

Functions of the Solar Plexus Chakra in the Human Body

The Manipura Chakra governs:

1. Digestive Fire (Agni): It plays a major role in digestion and metabolism. It helps our body convert food into energy and our mind convert experiences into wisdom.

Solar Plexus Chakra as a Mandala

2. Personal Power: This chakra gives us the courage to make decisions, set boundaries, and take action. It is the seat of one's self-esteem and sense of identity.
3. Mental Clarity: A balanced Solar Plexus Chakra supports confidence, focus, and clear thinking.
4. Emotional Balance: It helps us process emotions, reduce overthinking, and stay grounded in our sense of self.

What happens when the Solar Plexus Chakra Is Under-Activated

When this chakra is low in energy or blocked, people may feel:

Physical Signs like

- Weak digestion
- Low appetite or slow metabolism
- Fatigue or constant low energy
- Gastric discomfort or bloating

Emotional Signs like

- Low self-confidence
- Fear of rejection
- Difficulty making decisions
- Feeling powerless, dependent, or easily influenced by others
- Procrastination and lack of motivation

An under-activated Solar Plexus Chakra feels like a dim flame inside — present, but not alive.

What happens when the Solar Plexus Chakra Is Over-Activated

When this chakra becomes hyperactive:

Physical Signs like

- Excess acidity
- Burning sensations in stomach
- Ulcers or high digestive heat

Emotional Signs like

- Aggression, anger, impatience
- Dominating behaviour
- Ego-driven decisions
- Feeling restless or "always on the go"
- Perfectionism and over-control

Here, the inner fire becomes too strong, burning instead of illuminating.

General Imbalance in the Solar Plexus Chakra

A general imbalance — whether excess or deficiency — affects us both physically and emotionally:

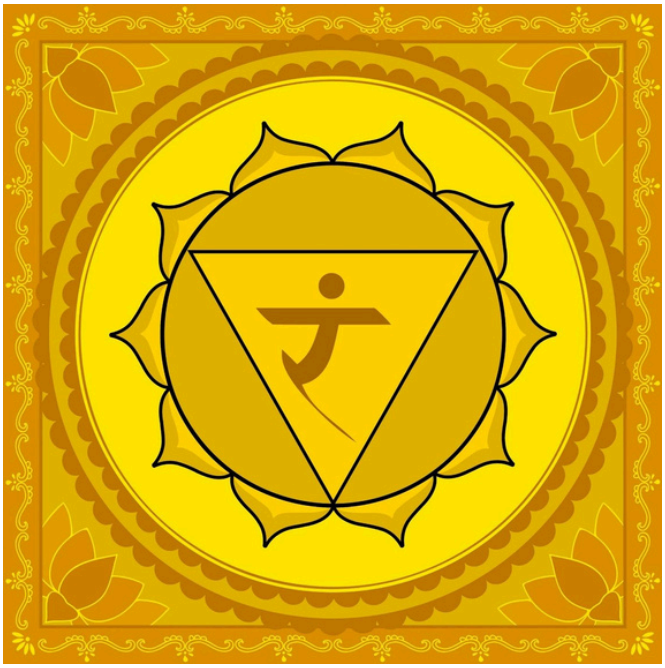
Physical Effects like

- Irregular digestion
- Hormonal imbalances related to pancreas and liver
- Chronic fatigue
- Weak immunity

Emotional Effects like

- Low self-worth or exaggerated ego
- Unclear goals
- Emotional instability
- Difficulty trusting oneself
- Feeling disconnected from personal purpose

In simple words, when the Solar Plexus Chakra is imbalanced, we either stop believing in ourselves or we push ourselves too much.



Healing and Balancing the Solar Plexus Chakra with Mandala Therapy

Balancing the Manipura Chakra is about bringing harmony to our fire element. Mandala Therapy offers a beautiful way to do this:

1. **Yellow Mandalas:** Drawing yellow mandalas with upward triangles can energize this chakra. Yellow represents clarity, joy, and mental illumination.
2. **Repetitive Patterns:** Using symmetrical fire-inspired patterns — like flames, rays, or sunbursts — activates inner strength and courage.
3. **Intention Setting:** Before drawing the mandala, place your hand on your navel and state your intention softly:
"I awaken my inner power with love and balance."
4. **Working with the Breath:** Slow breathing while colouring the mandala helps regulate the fire element, bringing both discipline and calmness.
5. **Using Natural Elements:** You can keep a small piece of citrus fruit, sunflower, or yellow marigold near you while drawing. These enhance the energy of Manipura.

A 5-Minute Balancing Activity for the reader

Here is a simple practice anyone can do daily:
The 5-Minute "Inner Fire Breath" + Core Activation
1. Sit comfortably with your spine straight.
2. Place your right hand on your Solar Plexus (above the navel).
3. Inhale slowly for 4 counts, feeling your abdomen expand.
4. Exhale forcefully through the nose in short bursts — like a soft version of Kapalabhati
(only 10–15 strokes).
5. Then take one deep breath in, hold for 5 seconds, and visualize a warm yellow light
glowing at your navel.
6. Whisper the affirmation:
"My inner fire is balanced and bright."
This activates, regulates, and harmonizes the Manipura Chakra gently.

Alternative Option:
If someone prefers movement, they can do Ardha Matsyendrasana (Half Spinal Twist)
to stimulate digestion and release stuck emotional energy.

Ancient Vedic Wisdom on Manipura Chakra

Our ancient Vedic texts have many references to the fire element as a purifier and guide.

- In the Bhagavad Gita (Chapter 15, Verse 14), Lord Krishna says:
"I am the fire in the stomach which digests all food."
This is a direct reference to the Manipura Chakra's digestive and transformative power.
- In the Rig Veda, Agni — the fire deity — is described as the one who brings clarity,
wisdom, and direction. When we balance the fire within, we align with this divine clarity.
- In yogic tradition, sages practiced Surya Kriya at sunrise to balance their inner sun,
which is the Solar Plexus Chakra.

These ancient practices remind us that working with our inner fire is not new — it is
timeless wisdom.

Solar Plexus Chakra Mandala and Sustainable Thinking

When our Solar Plexus Chakra is balanced, we develop clarity, discipline, responsibility, and conscious action. A person with a healthy Manipura Chakra naturally practices sustainable thinking because:

- They are mindful of their choices
- They do not overconsume
- They treat nature with respect
- They act with awareness rather than impulse

Drawing Solar Plexus Chakra mandalas helps calm the ego, centre the mind, and bring wisdom into action. When we operate from this balanced inner fire, we become more grounded, respectful, and harmonious in how we treat the earth.

Series I

Earth's Hidden Connections: The Hidden Bond Between the Sahara and the Amazon

CMA Arunabha Saha
Practicing Cost Acountant
Thane

Abstract

This article reveals the surprising relationship between the Sahara Desert and the Amazon Rainforest. Fine dust from the Sahara travels across continents to nourish the Amazon, demonstrating how Earth's ecosystems support each other across great distances. This natural exchange shows the power of circular sustainability — where even the most barren regions can give life to the most vibrant. The phenomenon highlights the importance of ecological interdependence in maintaining the global climate system.

Introduction

Nature often hides its most extraordinary wonders in the least expected places. While we admire sunlight, rainfall, and fertile soil as the primary drivers of life, sometimes the most vital forces are invisible.

One of Earth's most astonishing connections links two giants: the vast Sahara Desert and the lush Amazon Rainforest. It seems impossible that the driest desert could help sustain the richest forest. Yet science reveals a beautiful truth: Saharan dust plays a crucial role in nourishing the Amazon.

The Great Journey: From Desert to Jungle

Wind as Nature's Messenger

Every year, strong winds lift millions of tons of dust from the Bodélé Depression in Chad. NASA estimates:

- 182 million tons of dust rise from the Sahara annually.
- 27 million tons reach the Amazon Basin.

This dust travels approximately 6,000 km before settling over the rainforest.

Why This Dust Matters

Amazon soil is surprisingly poor in nutrients because heavy rainfall continuously washes minerals away. The Sahara's dust carries:

- phosphorus
- calcium
- magnesium
- iron

— essential nutrients that act as natural fertilizer, keeping the forest alive.

3. The Science Behind This Connection

Phosphorus is vital for:

- photosynthesis
- energy storage
- root development

Though Saharan dust contains only 0.08% phosphorus, the enormous volume that reaches the Amazon brings around 22,000 tons per year — enough to replace what is lost from the soil.

NASA's CALIPSO satellite visually confirms this dust plume traveling across the Atlantic, showing Earth's systems working together in perfect harmony.

Nature's Symbiotic Cycle

The Sahara and the Amazon demonstrate a powerful ecological truth:

Where one region appears lifeless, another thrives because of it.

The Desert's Gift

The Sahara supplies nutrients the Amazon cannot produce on its own.

The Forest's Gift

The Amazon absorbs carbon dioxide, stabilizes global temperatures, and influences rainfall patterns — helping to reduce desert expansion worldwide.

Nature works through exchange, balance, and regeneration.

5. Regional Sustainability: A Shared Responsibility

5.1 The Sahara's Sustainable Role

The Sahara:

- recycles nutrients globally
- influences weather patterns across continents

But unsustainable practices in the Sahel (overgrazing, poor land use) can increase harmful dust emissions. Sustainable desert management is essential.

5.2 The Amazon's Sustainable Role

The Amazon:

- produces 20% of Earth's oxygen
- stores over 100 billion tons of carbon
- regulates global temperatures

Threats such as deforestation and mining disrupt this balance. Sustainable forest protection and indigenous stewardship are crucial.

5.3 A Connected Cycle

The Sahara affects the Amazon.
The Amazon affects the global climate.
The global climate affects deserts.
Sustainability is global — not local.

Lessons for Humanity

The Sahara–Amazon connection teaches us:

- Nature works in cycles — not straight lines
- Waste in one system becomes fuel for another
- Human economies must shift from use-and-discard to recycle-and-regenerate

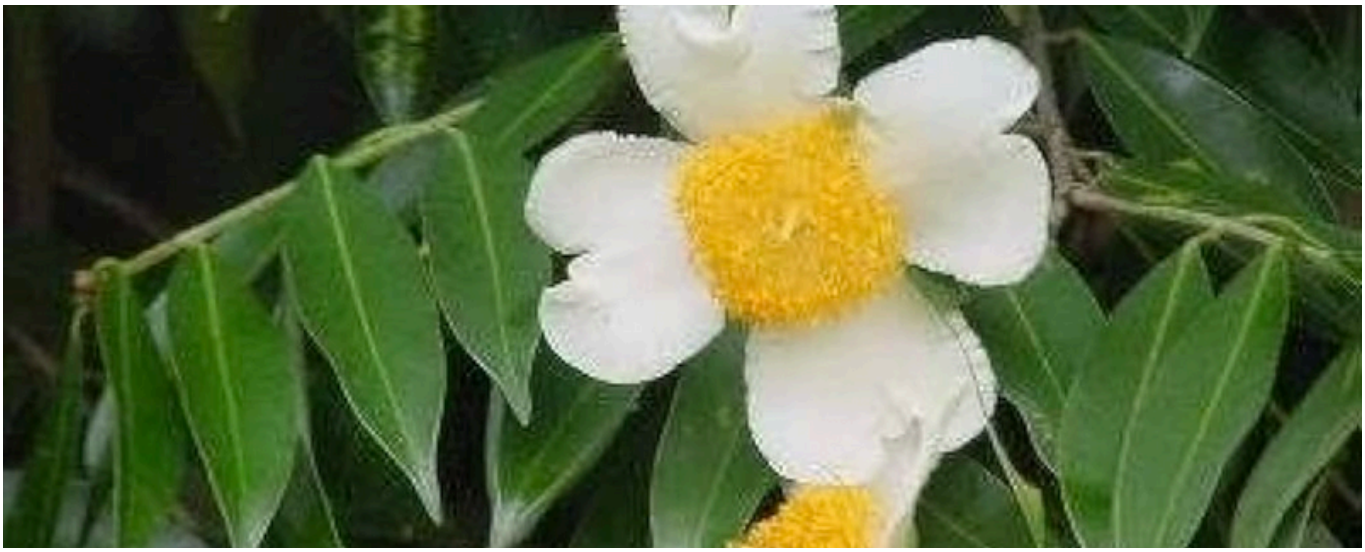
By designing systems that mimic nature's circular logic, we can build resilient, eco-friendly societies.

Conclusion

The journey of a single grain of sand from the Sahara to the Amazon is a powerful reminder:
Even the emptiest places on Earth can give life.
Sustainability is not just conservation — it is cooperation, balance, and renewal. If the Sahara can sustain the Amazon, humanity too can learn to sustain our planet.
Sustainability is the art of giving life back to life — just as the desert gives life to the forest.

Article on Sacred Trees

Purvi Dalal
Industrial Designer



This month's Nakshatra is Aslesha and the lord of this nakshatra is Mercury.
Anyone born in this nakshatra will have Gandmool in their Horoscope, each nakshatra has 4 charans and each charan will give different results.
People belonging to this nakshatra may have attitudinal issues or relationship issues with parents and siblings.
Such people may find it difficult to retain new things or lessons. They may have past life issues or serious life threatening problems for self or family members. Such people may have major communication related blindspots.
Gandmool in your horoscope means that you will be uprooted from your surroundings of comfort and you have to learn the lesson to strive on your own.

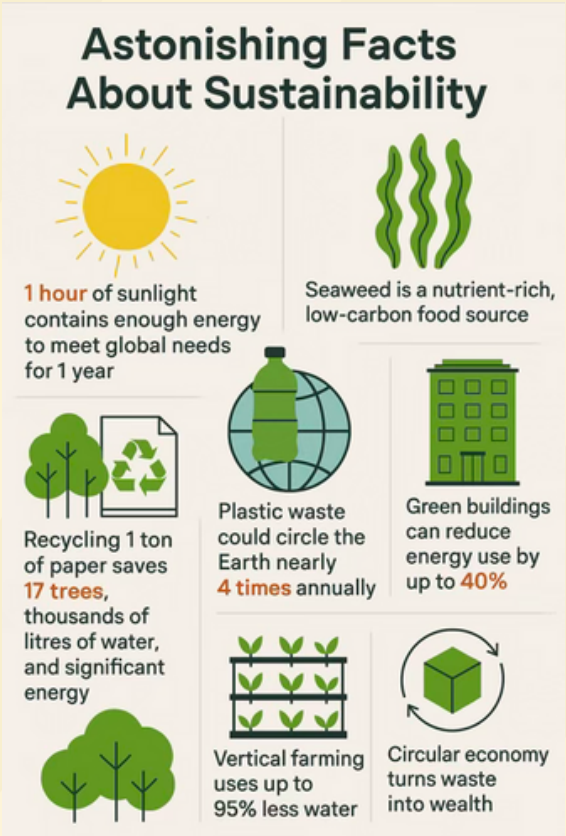
Ashlesha - Pada 1 - Loss of wealth for yourself or your parents
Ashlesha - Pada 2 - Problems connected to siblings, you may tend to go against your siblings in the later years if you are not aware or careful.
Ashlesha - Pada 3 - Problems for your parents
Ashlesha - Pada 4 - Monetary loss and health issues indicated for the father of the native. Let's understand the remedies for the above issues.

1. Donate green vegetables such as spinach, coriander, Amla, Emerald, brown utensils of Wednesdays
2. Shanti pooja to be performed on the 37th day after birth of a child This can also be done on the 10th or the 19th day or on the day when the moon returns to your birth nakshatra.

At the same time planting a tree of this nakshatra can keep providing you with a lot of energy. It may not be considered as a remedy but rather an assistance to the remedies mentioned above.
The tree associated with Ashlesha Nakshatra is the Nagkesar tree (also known as Indian Rose Chestnut). This tree is connected to the serpent deity and is believed to offer protection against snake bites and negative energy, while also being a source of spiritual growth. Another common association for Ashlesha Nag Champa, which is also linked to the serpent theme. Symbolic Significance: The tree is believed to provide protection and promote spiritual growth, aligning with the serpent symbolism of the Nakshatra.

Astonishing Facts about Sustainability

Sustainability is filled with astonishing realities that reveal both the scale of our challenges and the power of our solutions. Did you know that just one hour of sunlight reaching the Earth contains enough energy to meet the world's energy needs for an entire year—yet much of it goes untapped? Recycling is equally powerful: recycling one ton of paper can save 17 mature trees, thousands of litres of water, and significant energy. Meanwhile, the oceans may hold answers to future food security, with seaweed emerging as a nutrient-rich, low-carbon food source that requires no freshwater or fertilizers. On the flip side, waste presents a sobering picture—the plastic discarded globally every year could circle the Earth nearly four times, choking ecosystems and threatening livelihoods. Yet hope lies in innovation: green buildings can cut energy use by up to 40%, vertical farming can produce food using up to 95% less water, and circular economy models turn waste into wealth by keeping resources in use for longer. Every sustainable choice made today—whether in energy, food, or design—creates daily savings of resources and builds a healthier, more resilient future for generations to come.



We are in pursuit of improvement and are keen to know your views.
Please write to us at ssb.newsletters@icmai.in

5 Questions on Sustainability

1. **Value Chain Reporting in BRSR is _____ for FY 2025-26.**
2. **ndia's resolution on "Strengthening the Global Management of _____" was adopted at the UNEA-7 held at Nairobi.**
3. **From Jan. 1, 2026, CBAM will expand to cover selected _____ downstream products.**
4. **In EU, Less than ___ percent of electronic waste is currently recycled**
5. **Electric vehicles produce almost no emissions while driving because they have no tailpipe and do not burn fuel. Most of their _____impact comes from Aluminium.**

The names of first 5 participants giving correct responses will be declared in the ensuing newsletter. The responses may be sent to ssb.newsletters@icmai.in

CORRECT ANSWERS OF QUIZ NOVEMBER

1	76 GW
2	Local industries
3	Certified Environment Auditor (CEA)
4	ESG ratings providers
5	21

LAST MONTH WINNERS

CMA K.N Thakur

CMA Leelendra Adusumilli

Call for articles

Sukhinobhavantu is inviting articles on the theme ESG/ Sustainability or related themes for publishing in January 2026 edition. The articles should be relevant and original. The article should clearly cover/depict the scope, opportunity and potential for cost accountants. It should not exceed 2200 words and references/ sources are to be given wherever required. It should reach us latest by January 14, 2026, by email to ssb. newsletters@icmai.in The right for selection of articles vests with SSB. Decision of SSB will be final and binding.

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THE INSTITUTE OF
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DATE OF PUBLICATION:
DECEMBER 25, 2025

www.icmai.in