|| सुखिनोभवंतु ||

(A Monthly Newsletter of Sustainability Standards Board)

The Institute of Cost Accountants of India
(Statutory body under an Act of Parliament)

www.icmai.in

Behind every successful business decision, there is always a CMA

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THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

Message From Chairman, SSB

Dear Professional Colleagues,

I extend my warm greetings and best wishes to all on the occasion of our 79th Independence Day.

At the outset, I wish to express my heartfelt gratitude to the Council and to the newly elected President and Vice President of the Institute for reposing their trust in me once again to lead the Sustainability Standards Board (SSB). It is indeed a proud moment, yet a humbling responsibility, to work alongside many veterans and experts in the field of sustainability. With a newly constituted team of distinguished members, I am confident that the Board will act as a vanguard in advancing sustainability initiatives and in elevating the stature of the SSB to greater heights. I earnestly seek the continued guidance and encouragement of President and Vice President in all our endeavours.

I warmly welcome all the members of the reconstituted Board and urge them to undertake a comprehensive analysis, assessment, and handholding of the various activities entrusted to the SSB. The rich and diverse experience that each member brings will undoubtedly strengthen our collective mission and help us achieve newer milestones.

It was indeed inspiring to listen to the address of our Hon'ble Prime Minister Shri Narendra Modi on the occasion of the 79th Independence Day. The Prime Minister in his Red Fort address spoke on the *Viksit Bharat 2047*—a roadmap to transform India into a $10 trillion economy that is globally competitive, socially inclusive, and strategically autonomous. His address highlighted the pillars of self-reliance, innovation, and citizen empowerment, covering a wide spectrum from strategic defence to semiconductors, clean energy to agriculture, digital sovereignty to youth empowerment. This vision serves as a guiding light for all of us in aligning our efforts toward sustainable and inclusive growth.

I trust that our members and readers are deriving significant value from the *Sukhinobhavantu* newsletter and the *Vasudhaiva Kutumbakam* webinar series. The SSB remains committed to providing timely updates and insights in the domain of sustainability. Your feedback and suggestions are invaluable in shaping our initiatives. I encourage you to share your views with us at *ssb.newsletters@icmai.in* so that we may continue to refine and expand our efforts.

Sustainability, I firmly believe, must become a habit—deeply rooted so that it stands the test of time.

I look forward to your continued support, constructive feedback, and active engagement as we collectively work to advance the cause of sustainability, a domain of paramount significance for the future of our nation and the world.

Jai Hind!

Professionally Yours,
CMA (Dr.) Ashish P. Thatte

August 25, 2025

SUSTAIN THE SUSTAINABILITY

Continent-wise Corporate Sustainability Reporting Frameworks – Mapping of SDGs and Evaluation of Diversities

CMA (Dr.) Aditi Dasgupta
Joint Director
The Institute of Cost Accountants of India
Kolkata

> We are excited to announce our upcoming **13-episode series on "Continent-wise Corporate Sustainability Reporting Frameworks – Mapping of SDGs and Evaluation of Diversities."**
>
> From Africa to Asia, Europe to the Americas, and Oceania – each episode will explore how countries are shaping sustainability reporting in line with the UN SDGs.
>
> Together, we'll uncover regional practices, challenges, and opportunities, while highlighting the role of Indian CMAs in driving global impact.
>
> Stay tuned as we take you on this journey across continents!

> **Key Takeaway:** *Corporate Sustainability Reporting is not just a compliance document — it is a narrative of how profit, people, and planet can coexist in strategy, operations, and impact.*
>
> *The integration of SDGs, backed by robust frameworks, positions Indian CMAs as critical enablers of globally credible corporate reporting.*

CSR and Sustainability Reporting in a Global Context

Corporate Social Responsibility (CSR) and Sustainability Reporting have shifted from voluntary initiatives to essential strategic practices. Around the world, they signal a company's commitment to ethical conduct, environmental stewardship, and social equity. CSR traditionally focuses on actions that benefit society—such as philanthropy, fair labor practices, and community engagement—while Sustainability Reporting examines how a business manages its economic, environmental, and social impacts, embedding transparency and accountability into long-term value creation.

The approach to sustainability reporting varies across regions. Europe has taken a regulatory lead, with measures such as the EU's Corporate Sustainability Reporting Directive (CSRD). In North America, reporting is primarily driven by market forces and investor expectations. Asia and Africa are building momentum with emerging frameworks shaped by global standards and local socio-economic priorities.

Over the past two decades, sustainability reporting has evolved from narrow environmental disclosures to a globally recognised accountability framework encompassing environmental, social, governance, and financial performance. In 2025, profits alone are no longer a sufficient measure of success; stakeholders expect evidence of how companies create, sustain, and share value without jeopardising the needs of future generations.

At its core, Corporate Sustainability Reporting is the systematic disclosure of a company's performance on issues such as carbon emissions, resource efficiency, workforce diversity, human rights, anti-corruption practices, and community engagement, presented alongside financial results. It is not merely about compliance, but about revealing how business decisions shape climate outcomes, societal wellbeing, and the resilience of the global economy.

Introduction to the UN SDGs and Their Link to Reporting Frameworks

Adopted in 2015, the United Nations Sustainable Development Goals (SDGs) comprise 17 global goals and 169 targets designed to end poverty, protect the planet, and ensure prosperity for all by 2030. These goals are interconnected, with progress in one area often reinforcing progress in others. For example, action on climate change (SDG 13) is closely linked to responsible consumption and production (SDG 12) as well as affordable and clean energy (SDG 7).

Evolution of Sustainability Reporting
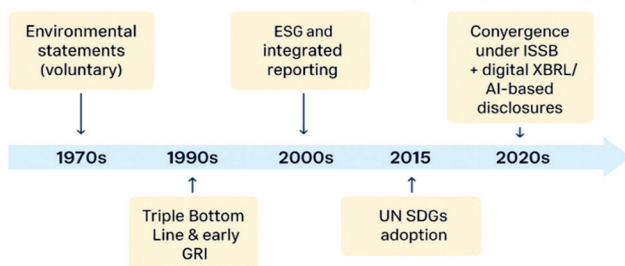
Within the realm of corporate sustainability, the SDGs have moved from aspirational ideals to strategic imperatives. Companies are now expected to align their operations, strategies, and disclosures with these goals to demonstrate a genuine commitment to sustainable development and responsible business practices. Such alignment enhances strategic positioning by showcasing a company's role in addressing global challenges, strengthens stakeholder trust, and elevates brand reputation. It also helps businesses identify material issues that resonate with investors, regulators, and civil society, facilitates cross-sector and cross-geography comparisons for greater transparency, and addresses risks related to climate change, social inequality, and other critical issues—thereby supporting long-term resilience.

To operationalise this alignment, organisations often turn to established sustainability reporting frameworks. The Global Reporting Initiative (GRI) provides SDG mapping tools and indicators directly linked to its standards. The Sustainability Accounting Standards Board (SASB) focuses on financially material issues, many of which intersect with the SDGs. The Task Force on Climate-related Financial Disclosures (TCFD) supports alignment with SDG 13 on climate action, while the Integrated Reporting Framework promotes connectivity between financial and non-financial performance, including SDG impacts. The International Sustainability Standards Board (ISSB) is also emerging as a global baseline for sustainability disclosures, with strong potential for SDG integration.

Integrating SDGs into corporate reporting typically begins with a materiality assessment to identify the goals most relevant to the company's core business and stakeholder expectations. From there, organisations set measurable targets and key performance indicators that reflect their contributions, such as reducing greenhouse gas emissions in support of SDG 13. These targets are then mapped to recognised disclosure standards using tools provided by frameworks such as GRI or SASB. Finally, companies report and communicate their progress transparently, sharing both achievements and challenges in sustainability or integrated reports, while engaging stakeholders—including investors, regulators, and communities—to validate priorities and maximise impact.

Integration of SDGs into corporate reporting is far more than a compliance exercise. It is a strategic opportunity to align business success with societal progress. By embedding SDG priorities into their disclosures, companies strengthen accountability, deepen stakeholder engagement, and contribute meaningfully to the global sustainability agenda.

Role of Global Reporting Standards

Frameworks provide the "grammar" for sustainability reporting, ensuring that disclosures are consistent, comparable, and verifiable. Each has a unique focus. Key ones include:

Framework	Focus Area	Strength
GRI (Global Reporting Initiative)	Broad ESG disclosures	Stakeholder-centric
ISSB (International Sustainability Standards Board)	Investor-focused sustainability disclosures	Financial materiality
TCFD (Task Force on Climate-related Financial Disclosures)	Climate risk and opportunity	Scenario analysis
SASB (Sustainability Accounting Standards Board)	Industry-specific ESG metrics	Financial relevance
(Integrated Reporting)	Value creation over time	Holistic view of capital

SUSTAIN THE SUSTAINABILITY

These These frameworks are increasingly converging, **promoting interoperability** and **comparability** across borders.

Cross-Continental Perspective

- **Developed economies** (e.g., EU, UK, Japan, Australia) tend to mandate high-quality, assured sustainability reports.

- **Emerging economies** (e.g., India, Brazil, South AfriDeveloped economies (e.g., EU, UK, Japan, Australia) tend to mandate high-quality, assured sustainability reports.

- Emerging economies (e.g., India, Brazil, South Africa) are building hybrid frameworks — part mandatory, part voluntary — to balance compliance with economic capacity.

- Least-developed economies may focus on sector-specific disclosures (e.g., mining, forestry, fisheries) linked to trade and aid requirements.

- This diversity is both a strength (innovation, cultural adaptation) and a challenge (comparability).daptation) and a **challenge** (comparability).

Role of Indian CMAs in This Context

Indian Cost and Management Accountants (CMAs) are uniquely positioned to bridge the gap between financial performance and sustainability metrics. Their expertise enables them to integrate financial and non-financial data, linking environmental, social, and governance (ESG) indicators with cost structures and profitability analysis, and demonstrating the return on investment for sustainability initiatives.

CMAs also can play a pivotal role in SDG alignment, advising organisations on priority goals based on their sector, geography, and stakeholder expectations. They design key performance indicators that directly map to SDG targets, ensuring that corporate sustainability efforts are both measurable and strategically relevant. By providing independent assurance, CMAs enhance stakeholder trust, safeguard data integrity, and ensure compliance with global reporting frameworks.

Their contribution extends to capacity building and training, where they conduct workshops for corporate teams on SDG-linked reporting and develop sector-specific sustainability cost models. In the international arena, CMAs assist Indian multinationals in aligning with foreign regulations such as the EU Corporate Sustainability Reporting Directive (CSRD) and the US SEC's emerging climate disclosures, while also advising overseas partners—particularly in Asia and Africa—on adopting cost-effective sustainability practices.

In fulfilling these roles, CMAs can act as strategic integrators, advising boards on embedding SDGs into corporate strategy; as data architects, designing systems to capture, verify, and report non-financial data with the same rigour as financials; and as global harmonisers, bridging India's Business Responsibility and Sustainability Report (BRSR) requirements with international standards such as GRI and ISSB to ensure cross-border comparability and compliance.

Mini Case Study: Infosys Ltd.

Infosys, a global IT services leader headquartered in India, publishes an Integrated Annual Report with a dedicated sustainability section.

Infosys's SDG-linked reporting practices

Infosys, an Indian multinational IT services company, integrates SDGs into its sustainability reports

- Aligns with GRI Standards
- Maps disclosures to relevant SDGs
- Utilizes SASB standards for industry-specific disclosures

This approach ensures a comprehensive and transparent sustainability report

- **GRI-Referenced:** Metrics aligned to GRI Standards (core option).

- **SDG Mapping:** Each key program mapped to one or more SDGs — e.g.,
  - SDG 4 (Quality Education) → Digital literacy programs & SDG 13 (Climate Action) → Carbon neutrality achieved ahead of schedule

- **Innovative Practice:** Linking financial performance with SDG impact indicators for integrated investor communication.

Learning Point: Infosys demonstrates that SDG mapping can be a differentiator for corporate credibility in global markets.

Learning Point: Infosys demonstrates that SDG mapping can be a differentiator for corporate credibility in global markets.

(to be continued...)

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

The Moral Foundations of Sustainable Governance

Part-1

CMA (Dr.) Aditi Dasgupta
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In an era marked by corporate scandals, environmental crises, and governance failures, there is a growing recognition that effective governance must rest on a strong ethical base. This article, the first in a seven-part series, examines the moral foundations of sustainable governance through the lens of spirituality. Spirituality, understood as a values-driven and purpose-oriented world-view, provides the moral compass for governance systems to create lasting social and environmental impact. Drawing on global and Indian examples, the discussion highlights the importance of integrating ethics into institutional structures so that sustainability becomes a lived reality rather than a policy aspiration.

The Convergence of Spirituality, Governance and Sustainability

Over the past two decades, governance frameworks worldwide have undergone significant reform, with increased emphasis on transparency, accountability, and stakeholder engagement. Yet, despite robust structures, failures persist—from corporate fraud to policy mismanagement. The underlying cause often lies not in the absence of rules but in the erosion of moral intent.

Sustainable governance requires an inner ethical foundation that transcends procedural compliance—an anchor rooted in spirituality. This integration of spirituality, governance, and sustainability offers a transformative framework for leadership: one that is efficient, inclusive, and future-oriented.

Defining Spirituality in Leadership and Governance

In corporate and policy contexts, spirituality is not synonymous with religion. It refers to an awareness of interconnectedness, a commitment to ethical conduct, and a pursuit of purpose that extends beyond self-interest.

Core Spiritual Values for Governance:

- **Integrity** – unwavering adherence to moral principles
- **Compassion** – empathy for people and communities affected by decisions
- **Stewardship** – responsible use of resources and protection of the environment
- **Humility** – openness to learning, listening, and collaboration

Practical Implication: Decision-making becomes guided by the belief that institutions are accountable not only to shareholders but also to society and the planet.

Why Governance Needs Ethical Foundations

Governance without ethics risks becoming mechanistic, exploitative, or corrupt. Ethical

SPIRITUALITY, GOVERNANCE AND SUSTAINABILITY – AN INTEGRATED PATHWAY FOR ETHICAL LEADERSHIP

foundations ensure that governance systems:

- Protect human dignity and rights
- Promote transparency and accountability
- Balance economic growth with environmental stewardship
- Foster trust between institutions and citizens

Ethical governance moves **from rules to responsibility**—doing what is right even when no one is watching. Codes of conduct, ethics training, and leadership role-modelling embed these values into organisational culture.

Spirituality as a Catalyst for Ethical Leadership

Leadership today is not just about achieving targets—it is about inspiring trust, nurturing values, and creating long-term impact. Spirituality equips leaders to:

1. **Anchor Ethics** – resist short-term gains that compromise values
2. **Build Trust** – engage stakeholders through integrity and empathy
3. **Navigate Crisis with Resilience** – remain grounded in uncertainty
4. **Make Holistic Decisions** – integrate strategic, emotional, and ethical considerations

The Dharma Perspective: Rooted in Indian philosophical tradition, Dharma (righteous action) offers a leadership lens that balances individual goals with collective welfare, upholds fairness, and aligns with global principles of servant leadership and conscious capitalism.

Sustainability as the Outcome of Ethical Governance

Sustainability—balancing economic growth, social equity, and environmental protection—cannot be achieved without governance that is both effective and morally grounded.

Key principles:

- **Triple Bottom Line (TBL):** People, Planet, Profit integrated into governance priorities
- **Intergenerational Responsibility:** Safeguarding resources, stability, and well-being for future generations
- **Authenticity over Tokenism:** Avoiding superficial sustainability claims through deep value alignment

Global and Indian Illustrations

Bhutan's Gross National Happiness Model:

Bhutan offers a compelling example of integrating spirituality into governance through its Gross National Happiness (GNH) framework. Unlike

GDP, GNH measures progress based on:

- Psychological well-being

- Cultural preservation
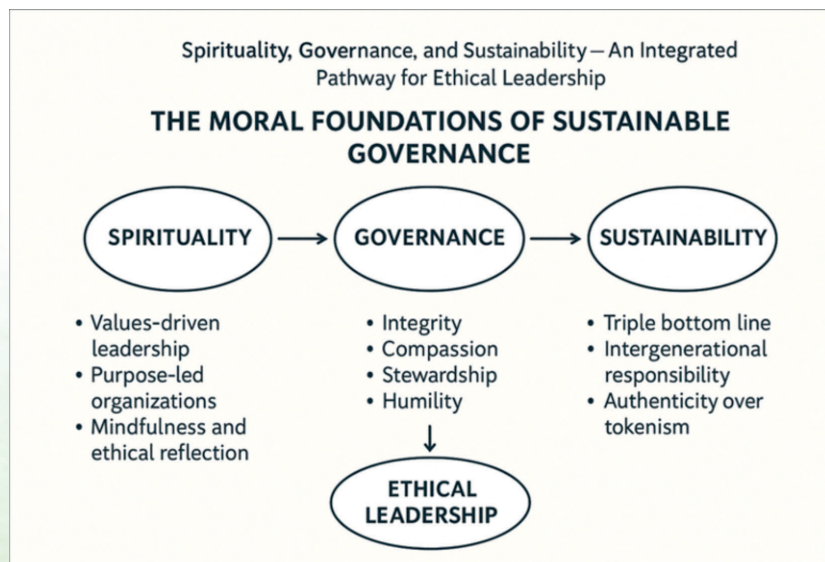
- Environmental conservation

- Good governance

Rooted in Buddhist philosophy, GNH reflects a spiritual approach to public policy, where happiness is not a private pursuit but a collective responsibility. Bhutan's model demonstrates that ethical governance can be both aspirational and practical, balancing tradition with innovation. Measures progress by psychological well-being, cultural preservation, environmental conservation, and good governance—demonstrating a spiritual approach to public policy.

- **Tata Group (India):** Integrates ethics and community service into strategy, reinforced by governance systems that ensure consistent application.

- **European Union ESG Mandates:** Require transparent sustainability reporting, linking governance to measurable sustainability outcomes.

Challenges in Embedding Spirituality into Governance

- **Cultural Diversity:** Values are interpreted differently across societies, requiring inclusive frameworks.

- **Measurement Difficulties:** Quantifying the impact of ethical intent remains complex.

- **Risk of Tokenism:** Superficial adoption of spiritual language without behavioural change undermines trust.

Towards an Integrated Pathway

Spirituality, Governance, and Sustainability — An Integrated Pathway for Ethical Leadership

THE MORAL FOUNDATIONS OF SUSTAINABLE GOVERNANCE

Sustainable governance is not merely about efficient administration—it is a moral enterprise. Spirituality, when understood as a commitment to values and purpose, provides the ethical foundation for systems that are authentic, resilient, and just. By integrating spiritual principles into governance, leaders can move from transactional outcomes to transformational impact—building a pathway where governance and sustainability serve both people and planet.

(to be continued...)

MONTHLY NEWS

Sustainability – A Global Outlook

1. Plastic Treaty Talks Stall in Geneva, But Countries Commit to Continue Negotiations

The resumed fifth session of the Intergovernmental Negotiating Committee (INC-5.2) brought together more than 2,600 participants at the UN Palais des Nations, including 1,400 country delegates from 183 nations and nearly 1,000 observers from over 400 organizations. The talks followed an earlier session in Busan (INC-5.1) and sought to finalize treaty text covering the entire lifecycle of plastics, from production and design to waste management.

Read More.....

2. FCA Highlights Progress and Challenges in Sustainability-Linked Loan Market

The UK's Financial Conduct Authority (FCA) says the sustainability-linked loan (SLL) market has taken "important steps in the development of a credible transition finance ecosystem" since its 2023 review, with better practices, more robust product structures, and stronger alignment between sustainability targets and borrowers' business models.

Read More.....

3. UN Global Compact Network USA Names Shobha Meera as Treasurer

UN Global Compact Network USA, the American chapter of the UN's global corporate sustainability initiative, has elected Shobha Meera as treasurer of its Board of Directors. Meera, chief corporate responsibility officer at Capgemini, will guide financial stewardship and strategic resource alignment for the network, which mobilizes U.S. companies around the UN Global Compact's Ten Principles on human rights, labor, environment, and anti-corruption.

Read More.....

4. 500 Global Launches Program to Scale Sustainable Startups in the Global South

500 Global, one of the world's most active venture capital firms, has launched its Sustainable Innovation Program to support founders building commercially viable solutions to sustainability challenges across the global south. The program combines strategic capital, multilateral partnerships, and deep expertise to scale ventures that deliver both market returns and measurable impact.

Read More.....

5. Iberdrola Advances Supply Chain Sustainability Training with UN Compact

Iberdrola has renewed its collaboration with the UN Global Compact in Spain, taking part in the third edition of the Sustainable Suppliers Training Programme. This year, the initiative will provide sustainability training to more than 920 SME suppliers across the four continents where Iberdrola operates.

Read More.....

6. Assent Launches EU Deforestation Regulation Compliance Software Ahead of 2025 Deadline

Assent Inc. has introduced a new EU Deforestation Regulation (EUDR) solution aimed at helping manufacturers meet the bloc's looming compliance deadline. The

regulation, which takes effect December 30, 2025, requires companies to prove that products entering the EU are deforestation-free, legally produced, and traceable to their land of origin. For large and medium-sized firms, due diligence statements will be mandatory by the deadline. Without compliance, manufacturers risk losing access to the EU market and could face fines of up to 4% of their European revenues.

Read More.....

7. California Court Upholds Climate Disclosure Laws, Rejects Chamber of Commerce Challenge

In a decision with far-reaching implications for corporate climate accountability, a federal judge this week ruled that California's groundbreaking climate disclosure laws— SB 253 (emissions reporting) and SB 261 (climate-related financial risk)—will remain in force. The ruling, which rejected a preemptive challenge by the U.S. Chamber of Commerce and allied business groups, clears the path for enforcement beginning in 2026.

Read More.....

8. Philippines to Launch Carbon Credit Policy for Energy Sector

The draft policy outlines rules for generating and trading carbon credits, while aligning the Philippines' commitments with the Paris Agreement. It is also designed to encourage

private investment in renewable energy and emissions-reduction projects.

Read More.....

9. Microsoft Secures Long-Term Carbon Credit Deal with Climate Asset Management's U.S. Forestry Project

Microsoft has finalized a multi-year agreement to purchase nature-based carbon removal credits from Climate Asset Management (CAM), supporting its goal to become carbon negative by 2030. The deal — arranged by EFM, the operating partner for CAM's Natural Capital Fund I — secures up to 700,000 carbon credits through 2035 from a forest asset located in Washington State's Olympic Peninsula. The property is undergoing a transformation to climate-smart forest management, a model increasingly seen as a viable path for large-scale carbon removal.

Read More.....

10. SEC Won't Say if It Will Enforce Climate Disclosure Rule Even If It Wins in Court

The U.S. Securities and Exchange Commission (SEC) has told the Eighth Circuit Court of Appeals it does not plan to revisit or revise its climate disclosure rule—but also refused to say whether it will enforce the rule if legal challenges fail. The comments come in a status report filed by the SEC on July 23, following a court order requesting clarity on whether the Commission will uphold the regulation if petitions for review are denied.

Read More.....

MONTHLY NEWS

Sustainability – Indian Context

1. **AWS, Gentari Sign 80MW Wind Power Deal in India to Advance Net Zero Targets**

   Gentari and Amazon Web Services (AWS) have signed a Power Purchase Agreement (PPA) for an 80MW wind power project in Tamil Nadu, India, marking a significant milestone in their clean energy partnership. The facility, expected to begin operations in mid-2027, will generate around 300,000 MWh of renewable energy annually. The deal follows the companies' 2023 collaboration agreement and is designed to accelerate both Gentari's goal of delivering practical, scalable clean energy and AWS's commitment to achieve net-zero carbon emissions by 2040.

   Read More.....

2. **India Widens Biodiversity Strategy, Sets 23 National Targets: MoEFCC**

   India outlines new climate and biodiversity measures, focusing on resilient farming, wildlife protection and community-led conservation. India has stepped up efforts to combat climate change and conserve biodiversity through a mix of national and state-led programs, Union Minister of State for Environment, Forest and Climate Change The initiatives include strengthening climate-resilient agriculture, expanding biodiversity protection, and boosting measures to manage human-wildlife conflicts.

   Read More.....

3. **Government Notifies Environment Protection Rules as India's Emissions Decline**

   India tightens rules on polluted land as greenhouse gas emissions show a decline, Environment Ministry tells Parliament. India has issued new rules to identify and clean up polluted land across the country, mandating state authorities to track, assess and remediate contaminated sites, the government. The Environment Protection (Management of Contaminated Sites) Rules, 2025, notified on July 24, define a contaminated site as an area where pollutants exceed prescribed levels after a detailed site assessment.

   Read More.....

4. **India, Europe Launch Cryosphere Research Project as Himalayan Glaciers Melt**

   India and Europe join forces to study Himalayan glacier melt, water risks and climate-driven hazards under the new CryoSCOPE project. The CryoSCOPE project, co-funded by India's Ministry of Earth Sciences and coordinated by the Finnish Meteorological Institute, will combine advanced observation, modeling and artificial intelligence to investigate the links between snow, ice, air pollution and hydrology in the high mountains.

   Read More.....

5. **Marathwada Sugarcane Profits Mask Rising Environmental Threats**

   Sugarcane profits surge in drought-hit Marathwada as study warns of looming environmental and sustainability risks. Sugarcane farmers in Maharashtra's drought-prone Marathwada region are reaping solid short-term profits but face long-term threats from poor environmental practices, according to new research using an UN-

backed sustainability assessment.The study, published in "**Sustainable Futures**," applied the Food and Agriculture Organization's Sustainability Assessment of Food and Agriculture Systems framework to 39 farms in the Jayakwadi Dam command area.

Read More.....

6. **India Must Finance Inclusive Green Transition to Meet 2070 Net Zero Goal: IEEFA**

India must align finance, policy and institutions to ensure an equitable, inclusive and low-carbon transition to achieve its 2070 net-zero goal. India must align policy, institutional mechanisms and capital flows to finance a "just transition" that is low-carbon, inclusive and equitable if it is to meet its target of net-zero emissions by 2070, according to the Institute for Energy Economics and Financial Analysis.

Read More.....

7. **IIT Delhi Develops Method to Turn Denim Waste into Quality Knitted Garments**

Indian researchers develop process to recycle denim waste into quality knitted garments, cutting environmental impact by up to 60 percent. According to IIT Delhi, the country generates about 3.9 million tonnes of domestic post-consumer textile waste annually, but only 4 percent is recycled. Most discarded clothes and fabrics end up in landfills, where they can take centuries to decompose.

Read More.....

8. **NFR, IIT Guwahati Roll Out Biodegradable Bedroll Bags on Trains**

The Northeast Frontier Railway, in partnership with IIT-Guwahati, introduces compostable bedroll bags on trains to reduce plastic waste. The Northeast Frontier Railway and the Indian Institute of Technology-Guwahati have collaborated to introduce biodegradable and compostable materials as a replacement for conventional plastic to ensure environmental sustainability, according to the Press Trust of India. As a pilot initiative, NFR has introduced eco-friendly green bed-roll bags on its trains, replacing traditional plastic bags used for distributing linen to passengers.

Read More.....

9. **India, UN Launch South-South Cooperation Initiative to Drive SDG Progress**

India partners with UN to share development expertise across Global South through new SDG-focused capacity-building program**.** India and the United Nations have launched a joint capacity-building initiative to accelerate the implementation of the Sustainable Development Goals across the Global South, connecting Indian institutions and development models with partner countries through a new framework. It aims to support a range of programs, including digital health platforms, fortified food supply chains, statistical capacity for census operations, and technical and vocational education.

Read More.....

10. **NITI Aayog Rolls Out Index Tracking State-Level EV Adoption Across India**

India's top public policy think tank, NITI Aayog, on Monday launched the India Electric Mobility Index, the country's first nationwide framework to assess and rank states and union territories on their progress toward electric mobility adoption.The new index is designed to guide states in aligning local efforts with national goals for reducing transport emissions and reaching net-zero carbon emissions by 2070.

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SUSTAINABILITY MUSING!

ESG Vs. ANTI-ESG: Competing Views in Business and Investment

CMA (Dr.) Aditi Dasgupta
Joint Director
The Institute of Cost Accountants of India
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Introduction

The rise of Environmental, Social, and Governance (ESG) investing has reshaped business strategy and capital markets worldwide. Once considered niche, ESG has grown into a global movement emphasizing sustainability, corporate accountability, and long-term risk management. Yet this expansion has also sparked an anti-ESG backlash, particularly in the U.S., where critics argue that ESG undermines shareholder value, politicizes business, and burdens firms with costly compliance.

Understanding ESG

ESG assesses non-financial performance across three areas. **Environmental** factors focus on emissions, renewable energy adoption, and waste management, illustrated by Tesla's push into electric vehicles despite supply chain criticism. **Social** considerations involve labor rights, diversity, and community impact, as seen in Starbucks' ethical sourcing and diversity initiatives. **Governance** emphasizes transparency and board independence, with Unilever offering an example of sustainability-driven corporate oversight.

Supporters stress that ESG is not philanthropy but rather a framework for risk management and long-term value creation. BlackRock has noted that firms aligned with ESG are better positioned for resilience in the future.

The Case for ESG

ESG is seen by advocates as a tool for mitigating risk, reducing exposure to regulatory changes, supply chain disruptions, and reputational harm.

ESG vs Non-ESG Fund Performance
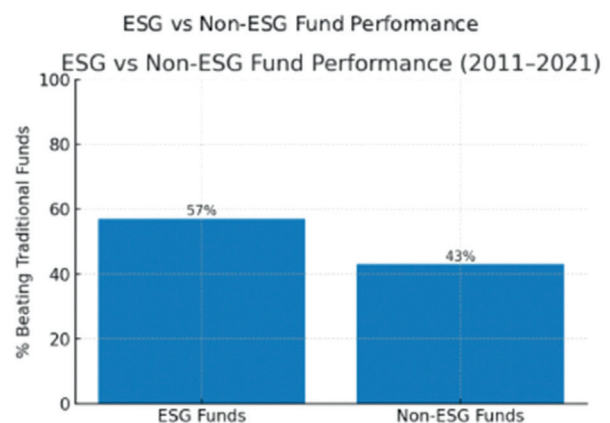
Performance data further strengthens the case. Morningstar (2021) reported that 57% of ESG funds outperformed their traditional peers over a ten-year period, compared to 43% for non-ESG funds.

The Anti-ESG Perspective

Critics counter that ESG dilutes the primary goal of maximizing profit. For them, ESG represents ideological overreach, branded by some as "woke capitalism." They raise financial concerns, pointing out that ESG funds can underperform. They also argue that reporting requirements impose disproportionate costs on smaller firms.

The lack of standardized ESG metrics is another

frequent criticism, as it opens the door to "greenwashing." Political pushback has also been sharp: U.S. states such as Texas and Florida restrict public funds from using ESG criteria, citing threats to free markets and energy independence. This opposition has been reflected in shareholder activity: anti-ESG resolutions in the U.S. surged from 9 in 2020 to 92 in the first half of 2024, though these typically receive less than 5% investor support (Equilar, 2024).

Global Trends and Market Impact

Despite U.S. polarization, ESG continues to grow globally. ESG assets under management reached $41 trillion in 2022 and are projected to exceed $50 trillion by 2025, with Europe leading at 83% of total assets. ESG funds also demonstrate greater longevity: 77% of ESG funds launched a decade ago still exist, compared with only 46% of traditional funds.

Investor Support for ESG by Generation
Investor Support for ESG Integration (PwC, 2022)
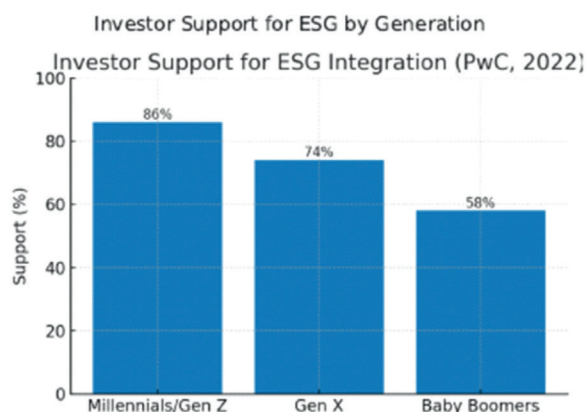
Investor sentiment reflects generational differences. PwC (2022) found that 86% of Millennials and Gen Z investors favor ESG integration, compared to 74% of Gen X and 58% of Boomers. Performance studies covering 2017–2021 found no statistically significant difference between ESG and non-ESG funds, though ESG funds tended to deliver better risk-adjusted returns.

Case Studies in ESG Action

Companies are increasingly reporting tangible ESG outcomes. Standard Chartered generated $982 million in sustainable finance income in 2024. Tesla avoided 30 million tons of CO_2e through renewable initiatives. Delta Air Lines saved 45 million gallons of fuel, worth $110 million. H&M cut Scope 1 and 2 emissions by 41%. Starbucks certified over 6,000 "Greener Stores," reducing costs by $60 million annually.

Key Trends Shaping the Debate

Several structural trends will determine ESG's trajectory. Regulation is expanding, with the EU's CSRD mandating disclosure by 2026, while the U.S. remains fragmented between ESG promotion and restrictions. Markets are adapting: global ESG assets are forecast to reach $40 trillion by 2030, even as many companies practice "greenhushing," quietly adopting ESG strategies without highlighting them.

Technological tools such as AI and blockchain are being applied to strengthen data credibility and reduce greenwashing. At the corporate level, strategies are shifting toward material, sector-specific ESG risks. Meanwhile, political and public polarization continues, forcing companies to navigate different regional expectations.

Transparency: Bridge or Divider?

Transparency in ESG reporting has the potential to build trust, inform decision-making, and enhance corporate credibility. Yet over-standardization risks fueling polarization, creating regulatory burdens, or encouraging companies to "greenhush."

Conclusion

The ESG vs. anti-ESG debate is less about investment performance than about competing philosophies: shareholder primacy versus stakeholder capitalism. While ESG gains traction globally, anti-ESG voices ensure scrutiny and ideological resistance, particularly in the United States.

The future of ESG will likely depend on standardized transparency, demonstrable results, and regional adaptation. Rather than one side prevailing, business strategies are poised to evolve toward a balance of profitability, purpose, and resilience—shaped by both investor expectations and broader societal pressures. SB

Geological Terrain and Human-Induced Vulnerability: Dharali (Uttarakhand) Flash Flood

CMA Arunabha Saha

Practicing Cost Accountant

Thane

ABSTRACT

On August 5, 2025, a sudden flash flood wiped out Dharali village in Uttarkashi, Uttarakhand. At first, people thought it was caused by a cloudburst, but experts later found it was the result of weak mountain rocks, melting glaciers, and harmful human activities. Large projects like the Char Dham Highway, along with the unchecked gowth of hotels and restaurants on riverbanks, ignored safety and environmental needs. Cutting slopes, removing forests, and heavy construction have made the Himalayan environment unstable, turning natural hazards into almost certain disasters.

(Mountainous Terrain: The steep slopes and narrow valleys of the Himalayan region channel flood waters rapidly, increasing the force and destructive potential of the water.)

Introduction

In early August 2025, Dharali village was destroyed within minutes by a violent flood that swept away homes, shops, bridges, roads, and even army facilities. While heavy monsoon rain was first blamed, later investigations revealed that long-standing geological weaknesses and careless human development had made the damage far worse. Understanding this disaster means looking beyond daily weather to the deep-rooted problems—weak mountain rocks, reckless construction, and poor land-use planning.
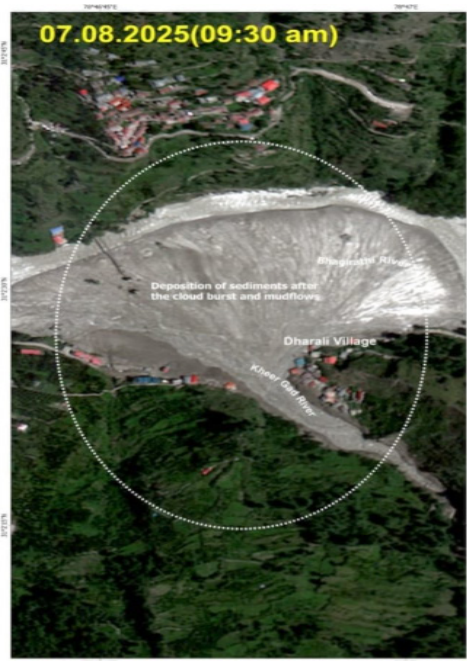
ISRO Picture

The satellite images show Dharali Village before and after - (August 5, 2025) the disaster, where riverbanks were buried under thick layers of debris.

Geologically, the sudden sediment deposition was driven by terrain, likely triggered by intense rainfall or a glacial lake outburst, which mobilized massive mudflows down to the village.

1. Dharali Disaster: More Than Just Nature's Anger

On August 5, 2025, a massive rush of water, mud, and boulders hit Dharali village.

It destroyed buildings, roads, hotels, and even parts of the army camp and helipad.

Early reports claimed a cloudburst, but the Indian Meteorological Department confirmed no such event occurred—the rainfall was too low to qualify as one. This led scientists to suspect other causes, such as a glacial lake outburst flood (GLOF), a glacier breaking apart, or a landslide dam bursting upstream. All these are linked to both climate change and the fragile geology of the area.

2. Char Dham Highway: A Price the Mountains Are Paying

Scientists say that Dharali's destruction was made worse by recent large construction projects, especially the Char Dham Highway. This project:

➢ Cleared 690 hectares of forest

➢ Cut down 55,000 trees

➢ Removed 20 million cubic meters of earth

These activities loosened slopes, blocked natural water flow, and upset the ecological balance. In the years before the disaster, 811 landslides occurred near the highway—81% of them within just 100 meters of the road—showing how roadworks increased landslide risk.

3. Weak Himalayan Rocks and Melting Glaciers

Uttarakhand's mountains range from 800 to nearly 7,000 meters in height and are made mostly of phyllites and schists—soft metamorphic rocks with thin layers that break easily. When human cut into these slopes for roads or buildings, they remove the natural cover that protects the rock. Once exposed, these rocks absorb rainwater, lose strength, and can slide down even after light rainfall.

Slate — Rock breaks into flat sheets — Original sedimentary layers in the shale protolith — cm

Because the Himalayas are young mountains, their slopes are already unstable. Gravity constantly pulls at these weakened layers, so a little extra weight from water can trigger huge landslides.

At the same time, climate change is melting glaciers rapidly. This creates and enlarges glacial lakes held back by thin walls of loose material. If one of these walls breaks, it releases massive amounts of water in minutes—a GLOF—eroding slopes and fuelling deadly flash floods.

4. Building Too Close to Rivers

In Dharali and nearby towns, hotels, shops, and homes were built right on riverbanks or even riverbeds to attract tourists. These areas, called riparian zones, are meant to carry floodwater naturally. When built upon, they offer no protection—during a flood, these buildings collapse and float away, adding debris that worsens the destruction.

If these areas had been left open, they could have acted as safety buffers. Instead, construction narrowed the floodplain and forced water to flow faster and more powerfully.

5. Ignoring Past Disasters

The 2013 Kedarnath tragedy was caused by a glacial lake burst that wiped out towns downstream. Yet, risky construction continued in Uttarakhand as if no lessons had been learned. The Dharali flood is a reminder that ignoring history leads to repeating it.

6. Many More Areas at Risk

Experts warn that other towns like Harsil, Barkot, Rudraprayag, Devprayag, Chamoli, and Guptkashi could face similar disasters. The combination of:

❖ Steep, weak slopes of phyllites and schists

❖ Unplanned slope cutting for roads and hotels

❖ Riverbank construction

❖ Rapid glacier melt creates a dangerous situation across the region.

When slopes are cut without planning, water seeps into cracks in the rock, increases pressure, and triggers landslides. In river valleys, unregulated construction narrows floodplains and accelerates currents, creating a "ticking time bomb" effect.

7. Dharali: A Disaster Made by Both Nature and People

Dharali's destruction happened because of:

❖ Building without considering climate and geology

❖ Cutting forests and destabilizing slopes

❖ Building on riverbanks

❖ Weak natural rock structure

It was not just a natural event—it was the result of ignoring both science and past warnings.

Conclusion: A Call to Act Before It is Too Late

The Dharali disaster shows what happens when fragile geology, climate change, and careless human activity meet. To prevent more tragedies:

1. Stop building on riverbanks and unstable slopes.

2. Recheck big projects for environmental safety and slope stability.

3. Monitor glacial lakes and unstable slopes constantly.

4. Use geological maps to plan safe land use.

5. Prepare disaster plans with warning systems, escape routes, and community training.

6. Replant forests and restore natural buffers.

Only by respecting the mountains' natural limits and geology can Uttarakhand have a safe and sustainable future. Dharali's loss must be seen as a warning—not an accident of nature.

In the mountains, every road we carve, every tree we fell, and every riverbank we claim—recklessly or unscientifically—each is a choice between living with nature or inviting our own ruin.

[Acknowledgment: Grateful thanks to Mr. Shankar Nath Chaudhuri, former Director, Geological Survey of India, for his valuable insights and guidance.]

Disclaimer: The views expressed are personal and based on probable geological interpretations.

References & Further Reading

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• NDMA's focus on geological and climate factors for future guidelines

Recipe of Financial Reporting – the ESG Ingredient

PART I – The Basics of ESG Reporting

CMA Anuradha M. Dhavalikar

Practicing Cost Accountant
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ESG has emerged as a key focus area in our journey towards Viksit Bharat. It is a subject of increasing regulation as it impacts major macro-economic indicators like the GDP. ESG presents a high-growth area for the CMA professionals, not only as a part of regulatory financial reporting, but also as an important ingredient of cost and management accounting reports. This first part of this three-part series explores the "where, when, what and how" of ESG reporting. The upcoming parts discuss the initiatives of the ICMAI and the emerging role of the CMAs in this vibrant space.

Audited financial statements are the most read public documents of a listed company, used by shareholders, lenders, regulators, tax authorities, and other government bodies. Reporting ESG factors alongside financial statements lends relevance and better reach. Reporting non-monetary ESG aspects in the financial statements with the relevant expenses highlights their relationships. Understanding the nuances of ESG reporting is essential for collating data, analysing and reporting ESG.

ESG in Financial Reports

Let us examine where ESG fits into financial reporting.

- Integrated Reporting – mandatory and voluntary

  Jurisdictions such as the European Union and the US require ESG disclosures alongside the financial statements and follow specified standards. In India, the Business Responsibility Sustainability Report (BRSR) – based on nine principles from the UN SDGs – is mandatory for certain large listed corporate entities. Making certain ESG disclosures, as per the Reserve Bank of India's Green Financing norms enables borrowers to access preferential credit terms. CSR reporting under the Companies Act, 2013 is another example of mandatory reporting.

- Management Information and Decision Support Systems

  All entities (for-profit and not-for-profit) must evaluate the impact of the ESG factors on their strategic direction, growth, and sustainability. These entities also have a profound impact on the environment, society and the stability of the country of operation through their activities. This makes it imperative to report the costs and benefits of ESG actions of the entity to the management and to the decision-makers at various levels of the organisation.

- Reporting for Managing Stakeholder Satisfaction

  Utility of ESG reports extends beyond the geographic boundaries. Many Foreign Institutional Investors and Foreign Direct Investment partners require adherence to stringent ethical, environmental and social policies. They need relevant ESG reports from the investee. Many entities transfer high ESG risk operations to third-world. Here, transparency in reporting ESG impact is

imperative for the host nation. Credible ESG reporting is required to enhance stakeholder confidence in the reporting entity.

Reporting Timelines

The purpose, user, regulatory requirements, size and significance of the project, and the time, effort and money required to prepare the report are the key determinants of the time and frequency of issue of an ESG report.

- Regulatory requirements – Most regulations require periodic disclosures (BRSR – annually). Others might be triggered by an incident, e.g., the major injury incident report to the Factory Inspector (48 hours).

- User Requirements and Purpose – The frequency of the reports may be different for different users, e.g., quarterly progress reports for the Board and monthly reports for the Finance department for processing payments. Some may be one-time, e.g., the initial survey report for identification of an area of intervention.

- Significance – High impact projects (outlay, corporate image, regulatory compliance, organisational sustainability) will be monitored closely, and reported frequently.

- Complexity – Reports that require significant efforts, expenditure, and time, and where the cost of reporting is high as compared to the project outlay, it may be infrequent, unless there are other imperative reasons. E.g., the impact assessment of tree-plantation or community first-aid centre.

Depth and Reach of Reporting

- Overall Aggregates - Large listed companies report overall aggregates for investor outreach and as a part of regulatory reporting (IFRS S1 & S2, EU and US EDA). Marketing teams use such aggregates for broader visibility.

- Focussed Drill-down - Executive summaries with drill-downs provide an overview with specific insights for the top management. Reports for Decision Support require

explanatory comments and additional information with the drill-downs.

- Concise, Clear and User-Centric Format - Concise, clutter-free, and well-organised reports in a simple language are required to meet the diverse stakeholder expertise levels.

Identification and Classification of ESG Costs and Benefits

The approach and methodology of identification and classification of ESG factors will vary, depending on the report stakeholders. Some examples of approach towards identification and classification, based on the nature of costs and benefits, and stakeholder requirements, are given below:

- Origin of Costs – Past, Present or Future Ops – Often costs arise from past activities, such as a plastic packaging collection drive from product sales of the prior period. Financial accounting norms require reporting them in the period of incidence. It obscures the link of ESG expenses to the reported revenue. To clarify the relevance, costs need to be appropriately classified. For instance, benefits of cost reduction from re-using material may be reported in the current period, while a major portion of the cost was absorbed in the previous period, which is impactful for decline-phase products.

- Hidden or Explicit – Some ESG impacts, like the incremental usage of office AC due to heat from the nearby factory, may be hidden. The heat loss from the factory is usually measured, but the load on the office cooling is often missed out. Similarly, reduction in heat-load by planting trees between buildings might be missed out.

- Preventive or Remedial – Many of the ESG costs are of preventive nature, as they are incurred to mitigate risks, such as the cost of re-cycling and re-using water. Sometimes, they may be remedial. Identifying the causal relationships is essential.

- Voluntary or Mandatory Expenses and Outcomes – Costs and Benefits required to be reported under regulations may require different treatment from internal reporting framework. For example, the costs of running an ETP may be incurred as per the regulations of the State Pollution Control Board.

- Monetary or Non-monetary Resources – Money spent or received for ESG activity can be easily discerned from financial accounts. The non-monetary costs and benefits require identification, measurement and reporting in different terms.

- Controllable or Non-controllable – The additional costs such as using organic produce in the canteen to maintain workers' health may be controllable. The cost of absenteeism due to poor food habits may not be controllable. Classification of this nature is helpful in identifying actionable areas.

Measurement and Quantification of Identified ESG Costs and Benefits

Quantitative Information

- Measurable Indicators – The critical and measurable characteristics of ESG costs and benefits must be identified to ensure objectivity of the report, e.g., the amount spent on donating school uniforms and the number of students served.

- Feasibility – The techniques, tools, equipment, and other resources required to measure the ESG activity should be accessible, affordable, and suited to the scale and nature of data.

- Accounting and Reporting Framework – The form, periodicity, control and review mechanism used in accounting and reporting ESG should be simple, sustainable, scalable, and flexible. The framework should allow for different reporting time-frames.

Qualitative Information

The ESG costs and benefits are characterised by their qualitative aspects that extend beyond the monetary value. For example, the experiential outcome of providing drinking water facilities at a rural school may be measured through tools such as Focussed Group Discussions, Interviews, Surveys, Polls, Ranking, Rating or Scoring, etc., and reported alongside the amounts spent on the project. Identification of such qualitative outcomes and reliable metrics is important.

Data Analytics – Data Cleaning, Validation, Normalisation

The ESG data collected from the field often suffers from inaccuracies, biases, and outlier values. Using Data Analytics ensures that only valid, relevant, and complete data-sets remain.

- Validation and Cleaning – Field data such as the number of student-hours resulting from a school project needs to be validated with reliable base data, such as attendance records, and normal working days of the school throughout the academic year.

- Normalisation – Maintaining "ceteris paribus" or assumed "normal conditions" of the project is essential to achieve normal project outcomes. Any abnormal conditions, such as a climate crisis, a mass migration, epidemic outbreaks, etc., can lead to abnormalities in the base data and needs adjustments. Outliers or extreme values that skew the normal outcome must be removed.

Most ESG elements are non-monetary, elusive, difficult to quantify and spread across financial reporting periods. Establishing causal relations, selecting timelines, and adopting suitable standards and frameworks are essential for effective ESG reporting. The next part highlights the initiatives of the ICMAI to enhance ESG reporting capabilities of CMAs.

A CMA armed with the knowledge and expertise to identify, account for, analyse and effectively communicate ESG elements to the right stakeholders is an invaluable asset contributing to the sustainability of the organisation. **SB**
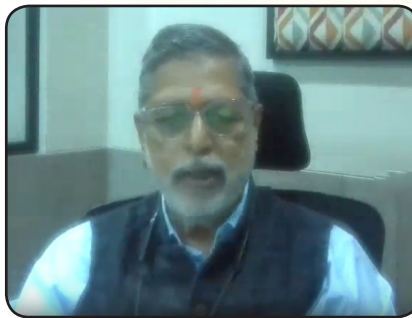
VK Webinar Series of the Sustainability Standards Board

36th Webinar
Electrical Vehicles and Battery Life Cycle – A Story of Circular Economy

July 25, 2025 from 4 to 5:15 p.m.

CMA Dibbendu Roy   **Shri Vijay Ghadge**   **CMA (Dr.) Aditi Dasgupta**

The Sustainability Standards Board (SSB) of the Institute of Cost Accountants of India (ICMAI) successfully organized an insightful and timely webinar on the theme "Electrical Vehicles and Battery Life Cycle – A story of circular economy" on July 25, 2025. CMA Dibbendu Roy, Additional Director and Secretary, SSB, ICMAI introduced the speaker and the topic. Thereafter, keynote speaker, Shri Vijay Ghadge, Retired Deputy Chief Environment Engineer, Gujrat Pollution Control Board delivered a comprehensive presentation on the various recycling processes of electrical vehicles and battery systems.

He explained the carbon footprints of the existing recycling system and the necessity of a carbon-neutral system. He emphasized the need of the low energy sustainable recycling technologies and elaborated the optimization of material recovery and reuse. In his presentation he also touched upon the next generation of battery waste EPR and recycling techniques.

The webinar concluded with a thought-provoking Q&A session, reflecting the active engagement of the participants. CMA (Dr.) Aditi Dasgupta, Joint Director, ICMAI provided the concluding remarks with a vote of thanks. She expressed gratitude to the speaker for the enlightening session and to all participants for their enthusiastic involvement. The webinar served as a significant platform to understand the intricacies of the battery life cycle and reuse of them while also protecting the environment by mitigating the hazardous impact of the batteries in the ecosystem of the environment.
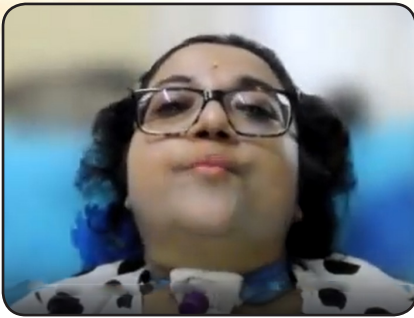
Vasudhaiva Kutumbakam

VK Webinar Series of the Sustainability Standards Board

37th Webinar

Social Stock Exchange- Understanding the Regulations from a Practitioner's Perspective

July 28, 2025 from 4 to 5:15 p.m.

CMA (Dr.) Aditi Dasgupta	**Shri G. Vasudevan**	**CMA Dibbendu Roy**

The Sustainability Standards Board (SSB) of the Institute of Cost Accountants of India (ICMAI) successfully organized the 37th webinar of the *Vasudhaiva Kutumbakam* series on the theme "Social Stock Exchange- Understanding the regulations from Practitioner's perspective" on July 28, 2025. CMA (Dr.) Aditi Dasgupta, Joint Director, ICMAI introduced the speaker and the topic. Thereafter, speaker, Shri G.Vasudevan, Insolvency Professional and Registered Valuer delivered his presentation on the topic and explained the nitty-gritties of the social stock exchange and the aspects from a practitioner's perspective.

He provided an overview of the genesis of the Social Stock Exchange (SSE) and offered insights into the global perspective. He highlighted the key legal provisions and definitions underpinning the framework. Further, he elaborated on the list of eligible activities that establish the primacy of social impact. He also outlined the minimum reporting standards mandated for social enterprises. Subsequently, he presented a snapshot of the instruments and processes applicable to social enterprises, along with the relevant LODR disclosure requirements. He concluded by sharing an update on the current listings on the SSE and the emerging opportunities for professionals in this evolving domain.

The webinar concluded with a thought-provoking Q&A session, reflecting the active engagement and keen interest of the participants. CMA Dibbendu Roy, Additional Director of ICMAI and Secretary of the Sustainability Standards Board (SSB), delivered the concluding remarks and extended a formal vote of thanks, expressing gratitude to the speaker, participants, and organizers for their valuable contributions to the session.

VK *Webinar Series of the Sustainability Standards Board*

38th Webinar
Marching towards Economic Independence through SMEs

August 15, 2025 from 4 to 5:15 p.m.

Shri Abhay Bajaj
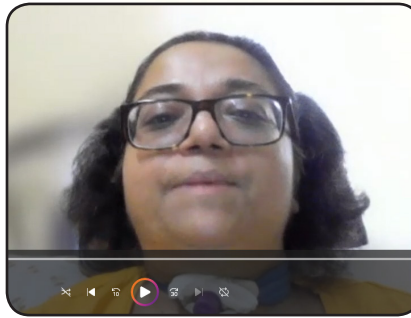
CMA (Dr.) Aditi Dasgupta

CMA Dibbendu Roy

The Sustainability Standards Board (SSB) of the Institute of Cost Accountants of India (ICMAI) successfully organized the 38th webinar of the *Vasudhaiva Kutumbakam* series on the theme "Marching towards Economic Independence through SMEs" on August 15, 2025. CMA (Dr.) Aditi Dasgupta, Joint Director, ICMAI introduced the speaker and the topic.

Thereafter, Shri Abhay Bajaj, Senior Manager – Business Development (SME Listing), NSE, delivered a presentation on the promising avenues of fund-raising for SMEs and start-ups. He deliberated on the NSE EMERGE platform and its utility in facilitating SME listings on the stock exchange. He highlighted the overall ecosystem of capital markets for SME listing, sharing that the total capital raised so far average fund-raising of about ₹29 crores. He also explained in detail the process of SME listing on the stock exchange. Shri Bajaj addressed the challenges in the secondary market for buying and selling of scrips on the SME exchange and referred to various SEBI circulars issued to encourage trading. He elaborated on the compliance aspects of post-listing and discussed the SME IPO eligibility conditions under ICDR norms. The benefits of listing for SMEs were comprehensively presented, along with opportunities for professionals in the listing process. He also emphasized NSE's MoUs with various state governments and the incentives being provided at the state level.

The webinar concluded with a thought-provoking Q&A session, reflecting the active engagement and keen interest of participants. CMA Dibbendu Roy, Additional Director of ICMAI and Secretary of the Sustainability Standards Board (SSB), delivered the concluding remarks and extended a formal vote of thanks, expressing gratitude to the speaker, participants, and organizers for their valuable contributions to the session.

FORTHCOMING *PARINAYATI* WEBINARS

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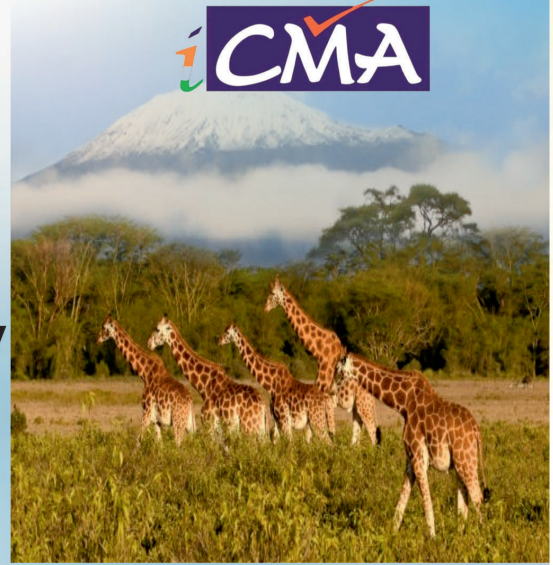
iCMA

Webinar Series on
GLOBAL SUSTAINABILITY OPPORTUNITIES– AFRICA PERSPECTIVE

Sustainability Standards Board and the International Affairs Committee of ICMAI are jointly coming out with an International Webinar Series titled – *Parinayati*

Global Sustainability Opportunities
-Africa Series 1 - Kenya & Tanzania
The coverage is as follows: -

Day 01
Wednesday, September 3 - 5:00 PM to 6.30 PM

➤ Overview of Economy

➤ Overview of SDG Performance

➤ Overview of ESG Reporting Framework

Day 02
Thursday September 4 - 5:00 PM to 6.30 PM

➤ Sustainable Finance

➤ Challenges and Opportunities

➤ Role of Professionals

CMA T C A Srinivasa Prasad
President, ICMAI

CMA Neeraj D. Joshi
Vice President, ICMAI

CMA (Dr.) Ashish P. Thatte
Chairman
Sustainability Standards Board & International Affairs Committee, ICMAI

Resource Persons

CMA A.Sekar
Practising Company Secretary

Dr. Ranjith Krishnan
Sustainability Consultant

For queries, email to ssb@icmai.in

CPE Credit 2 Hour

Web Link: https://eicmai.in/Webinar_Portal/Members/Memberlogin.aspx

Organised by: Sustainability Standards Board and International Affairs Committee

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iCMA

Webinar Series on

GLOBAL SUSTAINABILITY OPPORTUNITIES– SOUTH EAST ASIA PERSPECTIVE

Sustainability Standards Board and the International Affairs Committee of ICMAI are jointly coming out with an International Webinar Series titled – *Parinayati*

Global Sustainability Opportunities

South East Asia Series 1 – Indonesia & Malaysia

The coverage is as follows: -

Day 01
Wednesday, October 8 - 5 PM to 6.30 PM

➤ Overview of Economy

➤ Overview of SDG Performance

➤ Overview of ESG Reporting & Regulatory Framework

Day 02
Thursday, October 9 - 5 PM to 6.30 PM

➤ Overview of ESG Reporting & Regulatory Framework (continued)

➤ Sustainable Finance

➤ Challenges and Opportunities

➤ Role of Professionals

CMA T C A Srinivasa Prasad
President, ICMAI

CMA Neeraj D. Joshi
Vice President, ICMAI

CMA (Dr.) Ashish P. Thatte
Chairman
Sustainability Standards Board & International Affairs Committee, ICMAI

Resource Persons

CMA A.Sekar
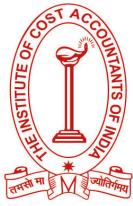Practising Company Secretary

Dr. Ranjith Krishnan
Sustainability Consultant

For queries, email to
ssb@icmai.in

CPE Credit 2 Hour

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FORTHCOMING *VASUDHAIVA KUTUMBAKAM* SERIES

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39th *Vasudhaiva Kutumbakam* — VK Webinar Series of the Sustainability Standards Board

Holistic Wellbeing and Sustainability: Thinking beyond....
Friday | August 29, 2025 | 4 pm to 5:15 pm
Organised by: Sustainability Standards Board (SSB)

CMA T C A Srinivasa Prasad, President, ICMAI
CMA Neeraj D. Joshi, Vice President, ICMAI
CMA (Dr.) Ashish P. Thatte, Chairman, SSB, ICMAI

SPEAKER
Mr. Mukund Sivakumar, Sports Scientist & Head Coach (Junior Cricket) Melbourne

CPE Credit 1 Hour
For queries, email to ssb@icmai.in

Web Link: https://eicmai.in/Webinar_Portal/Members/Memberlogin.aspx
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40th *Vasudhaiva Kutumbakam* — VK Webinar Series of the Sustainability Standards Board

Sustainability Governance- CMA Perspective
Friday | September 12, 2025 | 4 pm to 5:15 pm
Organised by: Sustainability Standards Board (SSB)

CMA T C A Srinivasa Prasad, President, ICMAI
CMA Neeraj D. Joshi, Vice President, ICMAI
CMA (Dr.) Ashish P. Thatte, Chairman, SSB, ICMAI

SPEAKER
Shri Jigar Shah, Practising Company Secretary

CPE Credit 1 Hour
For queries, email to ssb@icmai.in

Web Link: https://eicmai.in/Webinar_Portal/Members/Memberlogin.aspx
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41st *Vasudhaiva Kutumbakam* — VK Webinar Series of the Sustainability Standards Board

Boardroom Sustainability
Friday | September 26, 2025 | 4 pm to 5:15 pm
Organised by: Sustainability Standards Board (SSB)

CMA T C A Srinivasa Prasad, President, ICMAI
CMA Neeraj D. Joshi, Vice President, ICMAI
CMA (Dr.) Ashish P. Thatte, Chairman, SSB, ICMAI

SPEAKER
Shri G. Balasubramaniam, Company Secretary & Academic Consultant

CPE Credit 1 Hour
For queries, email to ssb@icmai.in

Web Link: https://eicmai.in/Webinar_Portal/Members/Memberlogin.aspx
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42nd *Vasudhaiva Kutumbakam* — VK Webinar Series of the Sustainability Standards Board

Earthy weddings : Embracing circular Economy
Friday | October 10, 2025 | 4 pm to 5:15 pm
Organised by: Sustainability Standards Board (SSB)

CMA T C A Srinivasa Prasad, President, ICMAI
CMA Neeraj D. Joshi, Vice President, ICMAI
CMA (Dr.) Ashish P. Thatte, Chairman, SSB, ICMAI

SPEAKER
Ms. S.C.Sharada, Practising Company Secretary

CPE Credit 1 Hour
For queries, email to ssb@icmai.in

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CPE Credit 1 Hour

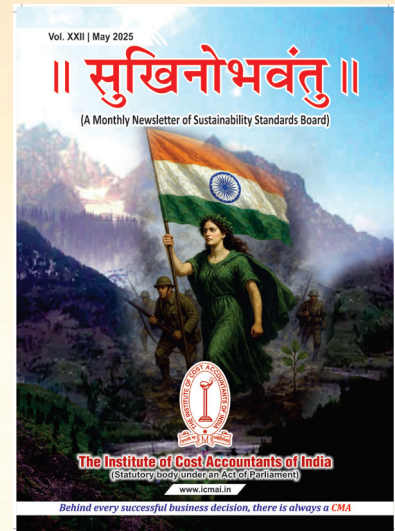**Web Link:** https://eicmai.in/Webinar_Portal/Members/Memberlogin.aspx

Change in speaker for the 38th *Vasudhaiva Kutumbakam* webinar series

Due to unforeseen circumstances the speaker for the 38th *Vasudhiava Kutumbakam* webinar series scheduled on 15th August 2025 could not take the session. Hence a new speaker with new topic was introduced for the same day.
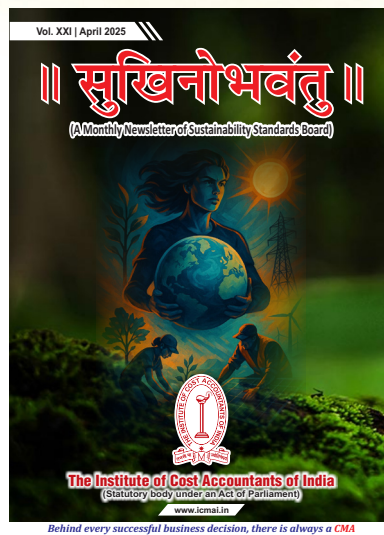
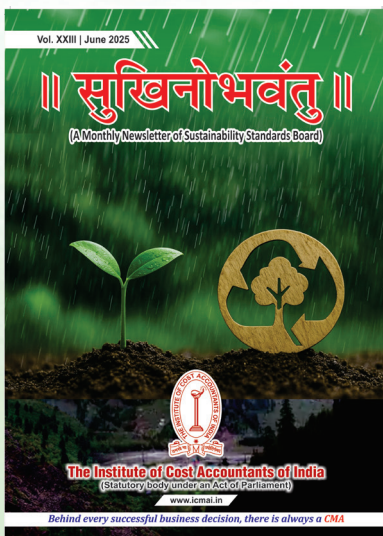Thank you for your understanding and continued support.

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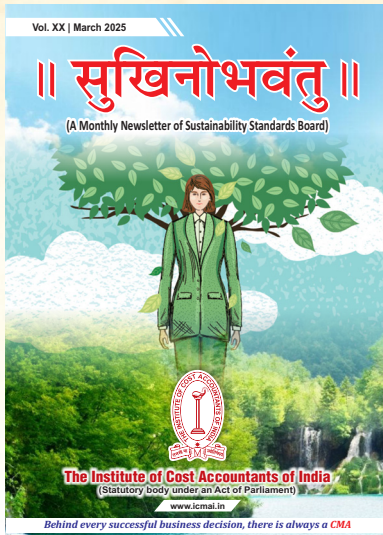
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(A Monthly Newsletter of Sustainability Standards Board)

The Institute of Cost Accountants of India
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Behind every successful business decision, there is always a CMA

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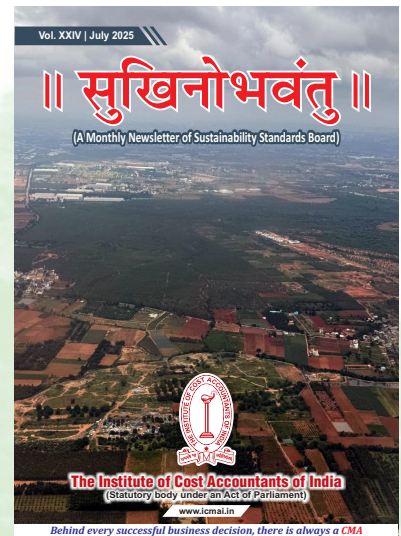
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REROUTE TO OUR ROOTS

Ayurveda and Siddha: The Ancient Ways to Sustainable Wellness

Usha Ganapathy Subramanian
Practicing Company Secretary
Chennai

Introduction

When we think about building a sustainable future, we tend to circle around renewable energy or green buildings or electric cars. Seldom do we think of healthcare in the context of ecological footprint. So, it would be a not-so-pleasant surprise to note that as per a study by McMaster University[1], the pharmaceutical sector emits 55% more carbon per million dollars of revenue than the automotive industry. Modern medicine and healthcare systems do have immense benefits in emergencies, diagnosis of complex illnesses, and have increased life expectancy. However, with factories working round the clock to make medicines and equipment, mountains of biomedical waste, and the energy demands of hospitals that never sleep, modern medicine has left its own trail on the Mother Earth.

Long before these systems existed, for millennia[2], we had our indigenous healthcare systems that were sustainable and affordable – systems like Ayurveda and Siddha. These are not relics of the past, but are still living and breathing traditions that continue to promote health and healing. Ayurveda literally translates to "the science of life", and these systems do not view healthcare as something to be attended to in case of emergencies, but make it part of our lifestyle in order that good health becomes the baseline of our existence. They view human existence as deeply connected with the environment we live in, the food we eat, and lifestyles we have.

1   https://brighterworld.mcmaster.ca/articles/big-pharma-emits-more-greenhouse-gases-than-the-automotive-industry/

2   https://en.wikipedia.org/wiki/Ayurveda

In a world looking for solutions that heal without harm, perhaps it is time we look towards this timeless wisdom alongside modern medicine practices, and let it guide us forward.

Local Materials and Decentralized Systems

Unlike modern synthetic drugs, Ayurvedic and Siddha formulations are traditionally made from locally available medicinal plants using decentralized processes by trained local practitioners or small cottage industries.

This model minimizes the need for: 1) Industrial processes, 2) Transportation costs associated with long-distance supply chains, and 3) Unsustainable packaging materials. This drastically reduces the carbon footprint associated with mass manufacturing and global supply chains, making the model inherently more sustainable.

Further, traditionally, Ayurvedic and Siddha medicines were often prepared in small batches customised for their users, thereby avoiding a one-size-fits-all solution and ensuring remedies aligned with the body composition of the user. This also avoided wastages from overproduction and excess inventory.

Reducing Dependency on Synthetic Chemicals

Modern medicine processes rely on chemical synthesis, which not only requires high energy, but also results in enormous amounts of hazardous wastes. Furthermore, drug residues could be present in human biological wastes and they enter water bodies, leading to the presence

of active pharmaceutical ingredients in the rivers and drinking waters.[3,4]

By contrast, Ayurveda and Siddha, primarily use biodegradable ingredients that decompose naturally without harming ecosystems. Medicinal herbs can be cultivated organically and can be processed using sustainable methods like sun-drying, solar infusion (*surya pudam)*, cold-pressing, and others. This reduces dependency on fuel-consuming industrial processes or environmentally-unfriendly chemicals, and reduces chemical wastes in the landfills and water bodies. Further, generally, every part of a medicinal plant will have its own use – leaves, bark, roots, seeds, fruits – and nothing goes wasted or unused. This ensures zero or minimal wastes.

Moreover, the traditional systems encourage practices like *Panchakarma,* a detoxification method that uses natural substances and results in minimal biomedical waste. The systems prescribe daily and seasonal habits (*dincacharya* and *ritucharya)* that not only provide certainty and structure to the day, but also double up as self-care routines. By emphasizing a disciplined and well-balanced lifestyle as the norm, they promote preventive healthcare and thereby reduce the burden on health infrastructure of the country.

Preservation of Biodiversity and Local Knowledge

Our traditional medicines rely on thousands of medicinal plants that are endemic to specific regions.[5] Promotion of traditional medicine creates demand for herbal farming, seed banking and community nurseries. Thus, they promote biodiversity conservation and empower rural population as well, reflecting show the interdependence of health, ecology, and economy.

Government and Global Recognition

Our Government has recognized the potential of indigenous systems of medicine as a pillar of sustainable development. The Ministry of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homoeopathy) was formed in 2014 with a vision of reviving our ancient systems of indigenous medicine, and to promote the adoption and development of traditional healthcare. It has launched several initiatives like promoting AYUSH Health and Wellness Centres under the National Ayush Mission, Ayurveda Aahar guidelines promoting nutrition-based preventive care, formation of the National Medicinal Plants Board (NMPB) for conservation of medicinal plants, promotion of research in the field, and so on. The NMPB promotes market linkage, conducts summits and campaigns to promote medicinal plants.[6]

During the COVID-19 pandemic, immunity-boosting Ayurvedic formulations like *Kabasura Kudineer* and *Ayush Kwath* were promoted by the Central and State Governments, which led to renewed public trust in natural remedies.

Organizations like FRLHT (Foundation for Revitalisation of Local Health Traditions)[7] have contributed immensely in this field. FRLHT has developed community-level conservation models, like medicinal plant gardens and has established databases of medicinal plants, and has contributed to the formulation of the National AYUSH Policy.

At the global level, the World Health Organization has evolved a WHO Traditional Medicine Strategy 2014–2023[8] to support the inclusion of

3   https://www.sciencedirect.com/science/article/abs/pii/S0013935122015468

4   https://pmc.ncbi.nlm.nih.gov/articles/PM-C11554600/#:~:text=The%20presence%20of%20APIs%20in%20water%20bodies%2C%20ground-water%2C%20and%20reclaimed,the%20food%20chain%20%5B7%5D.

5   https://www.sciencedirect.com/science/article/pii/S2095754820300594

6   https://ayush.gov.in/#!/medicinal_plants

7   https://www.frlht.org/

8   https://www.who.int/publications/i/item/9789241506096

traditional systems like Ayurveda into national health policies.

The Road Ahead

Our traditional medicinal systems need further impetus in the following ways:

- Standardization and quality control especially in the context of decentralized formulations, must be mandated to ensure safety and efficacy.

- It is necessary to promote scientific validation by combining traditional knowledge with evidence-based research.

- The traditional methods must be promoted as complementary to and not a competition to the modern medicine, to enhance their adoption at a wider scale.

- Innovations like Ayurgenomics (integration of Ayurveda with genomics)[9] and digital herbal databases are expected to the way for modern, credible, and scalable Ayurvedic solutions.

Conclusion: Towards a Sustainable Health and Wellness

Our traditional medicinal systems are more than a medical system; they are a philosophy of living in balance with nature. They redefine healing not as a reaction to illness, but as realignment with nature. By emphasising natural and decentralized remedies, and preventive healthcare, they offer a blueprint for sustainable healthcare in the 21st century.

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9   https://pmc.ncbi.nlm.nih.gov/articles/ PMC7760374/

Euthanasia: The Ethical Resolution to Incurable Suffering

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We all know that death is the only certainty in life—an inescapable truth. Yet, coming to terms with this reality is never easy, especially for the near and dear ones of those who suffer. Despite living in an age driven by robotics and artificial intelligence, humanity still seeks a panacea for death—an elusive goal. What we can do, however, is alleviate the pain of dying, particularly in cases of incurable illness and terminal suffering, through a process called euthanasia.

Euthanasia refers to the intentional ending of a life to relieve extreme, irreversible pain and suffering. It is one of the most ethically and legally debated topics across the world, with deeply polarized opinions. While some see it as a compassionate act, others argue it infringes on the sanctity of life and established medical ethics.

In a country like India, where access to affordable and quality healthcare remains a challenge, especially for the marginalized, euthanasia raises ethical, social, and financial concerns. The dignity of life is paramount, and when an individual is reduced to unimaginable suffering, the question arises: Is it ethical to prolong life at any cost, or should society permit a compassionate closure?

Legal Position in India

The legal framework on euthanasia in India has evolved over three landmark judgments:

1. Gian Kaur v. State of Punjab (1996) – The Supreme Court held that the 'right to die' is not a part of the 'right to life' under Article 21 of the Constitution.

2. Aruna Shanbaug v. Union of India (2011) – The Court recognized the concept of passive euthanasia under specific safeguards.

3. Common Cause v. Union of India (2018) – This judgment allowed passive euthanasia and recognized the legality of advance medical directives (living wills), under stringent conditions.

A critical distinction drawn in these cases is between:

- Active Euthanasia: Deliberate actions like administering a lethal injection to cause death.

- Passive Euthanasia: Withholding or withdrawing life support, allowing the patient to die naturally.

    As per the current legal position in India, only passive euthanasia is permitted. For instance, stopping ventilator support in a terminally ill patient with no chance of recovery is legal under court-sanctioned protocols.

Arguments Against Euthanasia

Opponents of euthanasia argue that:

- Sanctity of life must be preserved, and medical ethics prohibit doctors from taking life.

- Palliative care and pain management techniques can offer relief even in terminal stages.

- There is a risk of misuse or coercion, especially in vulnerable populations.

The focus, they argue, should be on end-of-life care, ensuring that patients receive compassion, care, and dignity until their natural end.

Global Perspectives

In contrast, many countries such as Netherlands, Belgium, and Canada have legalized voluntary euthanasia, allowing patients with unbearable suffering to choose a dignified death. This is often done with strict legal oversight and patient consent.

Euthanasia can be categorized into:

- Voluntary: With patient's explicit consent.

- Non-voluntary: Where the patient is unable to give consent.

- Involuntary: Done against the patient's will (widely regarded as unethical and illegal).

In India, non-voluntary and involuntary euthanasia, as well as active euthanasia, are not legally permitted.

Changing Social Realities

India's social fabric is rapidly changing. With the rise of nuclear families and the growing incidence of empty nest households, elderly individuals with chronic illnesses often find themselves without adequate care or support. In such contexts, passive euthanasia may increasingly become a part of end-of-life decisions—especially when the financial burden of terminal care becomes unbearable.

However, it is essential that the dignity of life is not compromised by the mere pursuit of prolonging it. Life should not be extended at the cost of suffering, abandonment, or indignity.

Conclusion

Euthanasia is not just a legal issue—it is a question of human compassion, dignity, ethics, and societal responsibility. As we advance technologically, our moral and legal frameworks must also evolve to address these pressing concerns with sensitivity and safeguards.

India must continue to tread cautiously, balancing individual autonomy, medical ethics, and social realities, while working toward improving palliative care and healthcare access for all.

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Front-Office Etiquette: Setting the Tone for Lasting Impressions

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Any business survives and thrives only because of its customers. It is not only necessary to fulfil their expectations in terms of a functional product or service, but it is also important to make them feel respected and valued. The front office of an organisation is often the first point of contact – be it a physical location or virtual online customer interface. What happens in this space often becomes a defining memory for the stakeholders. It is a long path to build trust and demonstrate consistent competence. A warm welcome and respectful and clear handling of queries can be the starting point towards that. On the other hand, an indifferent or rude approach can erode the hard-earned goodwill in a matter of seconds.

Client-facing etiquette is not about the ambience or looking polished, it is about making the stakeholder feel valued by being reliable, professional and prompt. This article outlines the key aspects of front-office behaviour and client-facing etiquette that every professional should know, especially those who are the first line of contact in an organisation – be it a receptionist, customer care executive, sales personnel or the proprietor of a small business.

Greeting Visitors with Warmth

A courteous greeting, respectful eye contact, and a genuine smile make one feel acknowledged and respected. The front-office personnel should greet everyone promptly and politely, and offer assistance without being intrusive. It is natural to get flustered and hurried when handling multiple requests, but one should always maintain a calm and composed demeanour. It is equally important to be culturally sensitive, some visitors may prefer less direct eye contact or more formal tones, depending on their background. They should use respectful language and address the visitors as "Sir" or "Madam" or address by their names wherever culturally appropriate.

Maintaining a Neat and Inviting Reception Area

Clutter not only makes a space uncomfortable to look at, but also makes the space disorganized and inefficient. Regular decluttering, dusting and maintenance is required in the reception or front-desk area, and the washrooms need to be impeccably clean. Papers and documents need to be regularly sorted and filed. The furniture and décor must be arranged in a manner that is both functional and beautiful. The organisation's branding, mission statements and achievements may be displayed in a tasteful manner. Background music, if any, should preferably be a soft instrumental music played at a low volume. Wherever appropriate, humidifiers, plants, and mildly fragrant incense could be used to give the place a fresh atmosphere. A well-maintained welcome area provides comfort to visitors and also, silently communicates attention to detail.

Handling Client Concerns and Complaints Gracefully

Often times, the reason why stakeholders visit in person would be because they have some concerns or grievances. And not all interactions at the front desk would be pleasant. At times, clients may arrive frustrated or anxious due to

THE ART OF EVERYDAY ETIQUETTE PROFESSIONAL ETIQUETTES- TIME TO UNTANGLE

delays, miscommunications, defective products, or service lapses. Handling these situations with empathy and patience is paramount. When dealing with complaints and grievances, one must listen attentively without interrupting, acknowledge the concern without becoming defensive. Phrases like, "I understand this must be frustrating," reassure the client that their views are held with empathy and respect. One must avoid passing blame to another person or department. Maintain a calm and reassuring tone is important. If the matter cannot be resolved at the front desk, the client must be reassured that the complaint will be escalated in an appropriate manner.

Adhering to Organisational Policies While Communicating Courteously

The front-office often serve as the bridge between organisational policies and stakeholder expectations. It is ideal that all organisations have a consistent and clear approach towards grievance redressal, and have a sufficiently-detailed grievance redressal policy in place, which is displayed in the front office and uploaded on its website. There will be moments when a request cannot be fulfilled, as it might be against the organisation business rules or policies. In these situations, good etiquette involves diplomatic handling of the situation while remaining empathetic. The policies must be clearly explained and reference to sources, wherever possible, must be given. One must avoid bluntly refusing the request and offer alternatives wherever possible. This can be done with polite phrasing like, "As per our policy, cash refunds are not permitted. While I may not be able to offer you a cash refund, I can get you coupons in exchange of the defective product." Many customers or clients may be unaware of the policies and procedures. It is important not to show frustration or an air of superiority in such situations. Using jargon or overly technical terms may be avoided.

Ending Interactions on a Positive Note

Just as the opening greeting sets the tone for the conversation, the way an interaction ends can leave a lasting impression. A simple yet heartfelt thank you, and an assurance that their concerns have been noted can leave a lasting positive impression. Before ending the interaction, any next steps and timelines may be reiterated. Offering assistance with anything else they may need demonstrates that the visitor's request is valued and not hurried. This must be followed by a simple and heartfelt expression of gratitude for the time and patience of the visitor. If the visitor is leaving the premises, a polite send-off such as "Have a wonderful day!" with a smile can fill the visitor's minds with positivity and elevate the overall experience.

Conclusion

The front-office is a place frequented by visitors of all kinds. The space should exude safety and warmth and feel welcoming – whether it is a prospective high-stakes client or a disgruntled customer or service provider. The approach should remain consistently courteous and solution-oriented. By mastering the art of greeting with warmth, maintaining a welcoming ambience, handling concerns with patience, communicating policies respectfully, and closing conversations positively, organizations can turn routine interactions into meaningful relationships.

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

Jhansi Rani Lakshmibai and Environmental Consciousness: A Legacy of Resistance and Sustainability

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Rani Lakshmibai of Jhansi, one of India's most iconic freedom fighters, is remembered for her fearless defiance against British imperialism. Her valor and leadership during the First War of Independence in 1857 have become symbols of strength, patriotism, and resilience. But beyond the battlefield, Rani Lakshmibai's legacy offers deeper lessons for today's world — especially in the context of **environmental consciousness and sustainability**.

During her time, the land was not just a resource; it was sacred. The relationship between people and nature was rooted in respect, responsibility, and preservation. Rani Lakshmibai, as a ruler, was deeply connected to her kingdom's terrain — its rivers, forests, and farmlands. Her resistance was not just political; it was also ecological. She fought to protect her homeland, its people, and its natural wealth from being plundered by colonial powers.

Today, as we confront the climate crisis, her spirit reminds us of the need to defend our environment with the same determination. Just as she stood against exploitation of her people, we must now stand against the exploitation of nature. Sustainability is not only a modern necessity; it is an extension of the values leaders like Lakshmibai lived by — **protecting resources for future generations** and standing firm against forces that threaten ecological balance.

Her life challenges us to lead with courage and responsibility, to be custodians of the Earth, and to fight not with swords, but with awareness, action, and accountability. In this light, Rani Lakshmibai becomes not just a national heroine, but also an enduring symbol of environmental justice.

Let her legacy inspire not only our patriotism, but also our commitment to a sustainable and just future.

Insight Series: III

CMA Arunabha Saha
Practicing Cost Accountant
Thane

Harnessing the Earth's Motion:
A New Frontier in Clean Energy Generation
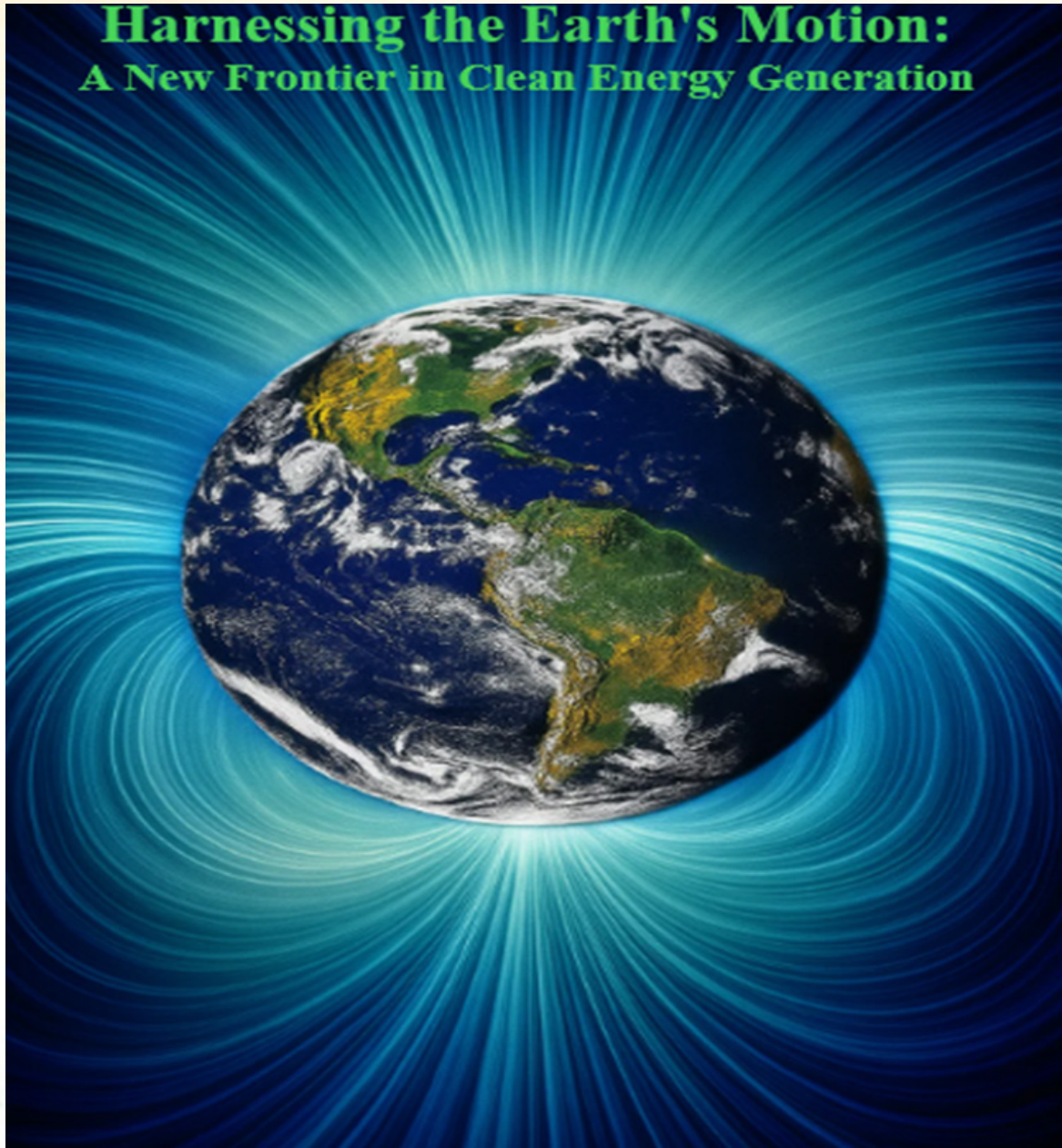
This article explores a fascinating theory proposed by researchers at Princeton University, suggesting that Earth's rotation and magnetic field could be tapped as a new form of clean, renewable energy. Drawing upon Faraday's Law of Electromagnetic Induction, the idea proposes using specially designed conductive materials to capture electricity generated by the interaction of Earth's magnetic field and its rotational motion. While still in its theoretical and experimental stages, this approach opens new possibilities in energy innovation. The article discusses the core scientific principles, proposed device designs, potential space-based applications, experimental prototypes, and the broader implications of this concept.

1. Introduction

In the global quest for sustainable energy, scientists continue to explore nature's untapped forces. Among these is a provocative question posed by physicists at Princeton: can we harvest usable energy from the Earth's own rotation and magnetic field?

Such a proposition challenges conventional thinking but opens up an entirely new frontier in renewable energy. The Earth, after all, is a rotating, magnetised sphere—its molten core constantly generating a magnetic field, and its surface spinning at a speed of over 1,600 km/h at the equator. Could this dynamic environment be used as a giant electromagnetic generator?

"The science of today is the technology of tomorrow." — Edward Teller

2. The Genesis of the Idea

The idea stems from classical electrodynamics. According to Faraday's Law, when a conductor moves through a magnetic field, a current is induced. This is the basic principle behind electric generators. The Princeton team extended this concept: what if Earth itself, spinning through its own magnetic field, could act as the moving conductor?

The magnetic field is produced by the movement of molten iron in Earth's outer core. It stretches far into space and plays a vital role in shielding us from cosmic radiation. By strategically placing materials on Earth's surface—or in space—that interact with this field, researchers suggest we could produce electricity in a way that is global, constant, and emissions-free.

"Everything in the universe is in a state of vibration and motion—and nothing rests." — Nikola Tesla

3. Scientific Principle: Faraday's Law and Magnetic Flux

The foundation of this idea lies in Faraday's Law of Electromagnetic Induction:

$$\varepsilon = -d\Phi_B/dt$$

Where:

- ε is the electromotive force (EMF),
- Φ_B is the magnetic flux through a surface,
- t is time.

And:

$$\Phi B = \int \vec{B} \cdot \vec{dA}$$

Here:

$\vec{B}$ (Magnetic Field Vector)

$\vec{dA}$ (Infinitesimal Area Vector)

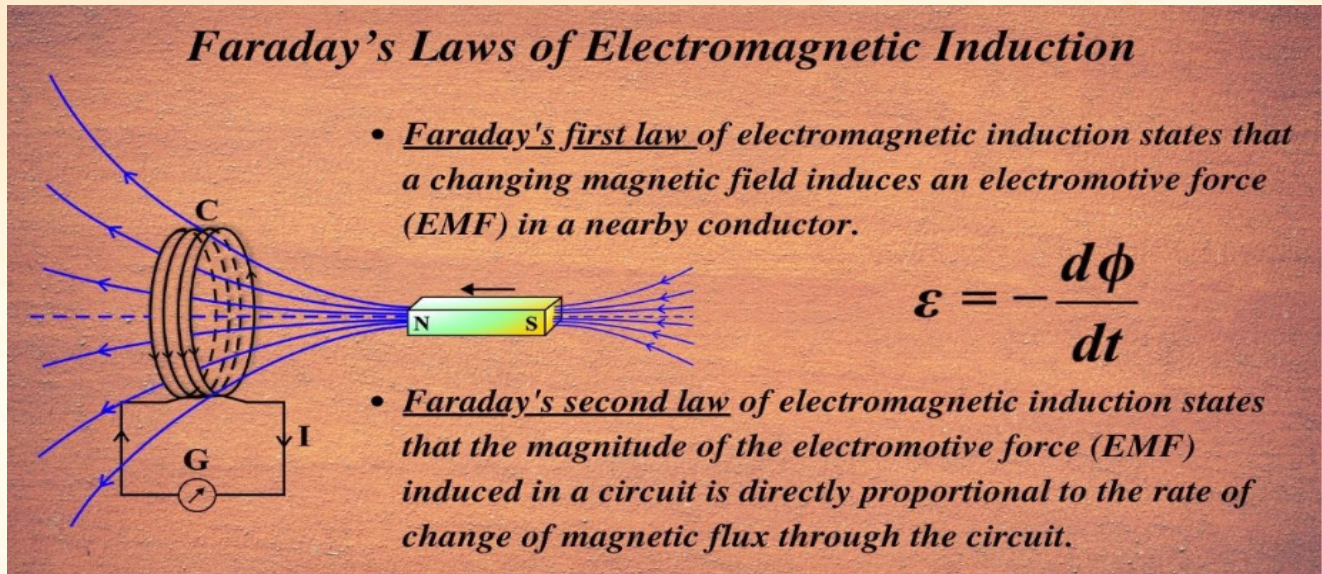$\int$ (Surface Integral)

$\vec{B} \cdot \vec{dA}$ (Dot Product)

This magnetic flux ΦB is what must change over time ($d\Phi_B/dt$) to induce an EMF (electromotive force) in a loop of wire.

For current to be generated, there must be a change in magnetic flux. This can be due to:

- Movement of a conductor through a magnetic field, or
- A changing magnetic field around a stationary conductor.

Faraday's Laws of Electromagnetic Induction

- *Faraday's first law of electromagnetic induction states that a changing magnetic field induces an electromotive force (EMF) in a nearby conductor.*

$$\varepsilon = -\frac{d\phi}{dt}$$

- *Faraday's second law of electromagnetic induction states that the magnitude of the electromotive force (EMF) induced in a circuit is directly proportional to the rate of change of magnetic flux through the circuit.*

4. The Basic Energy Capture Mechanism

To induce a current:

- We need a non-uniform magnetic field or a material that can "lag" in response to the Earth's rotation.

- The setup must ensure that magnetic flux through a conductor change with time.

- Materials with magnetic hysteresis—meaning delayed response—are prime candidates.

- This principle opens the door to designing stationary devices that, although fixed to

Earth's surface, still experience effective changes in magnetic flux.
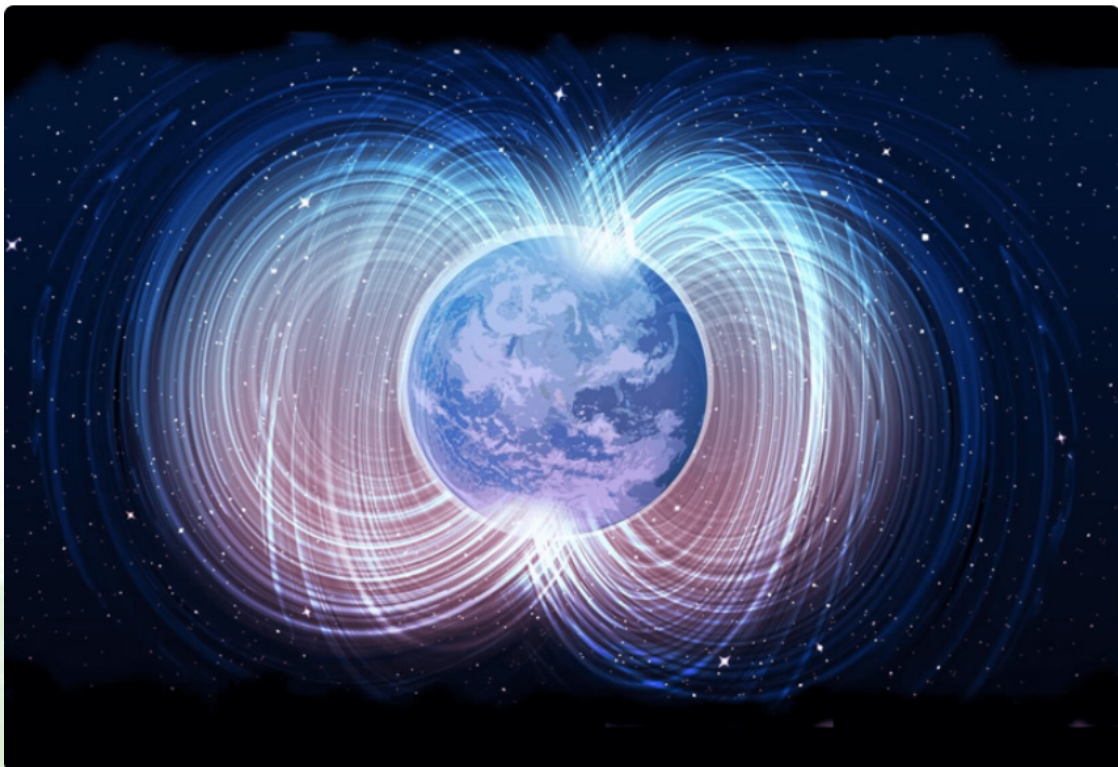
(Magnetic hysteresis describes a material's tendency to retain magnetisation even after the magnetic field that created it is removed.)

5. Cylindrical Shell Design with Magnetic Asymmetry

Princeton researchers Chris Chyba and Kevin Hand proposed a device involving:

- A conductive cylindrical shell, ideally placed vertically near the equator.

- Made from manganese-zinc ferrite (MN60- $(Mn,Zn)Fe_2O_4$), which has:

  ✓ High magnetic hysteresis,

  ✓ Low electrical conductivity.

As Earth rotates, the shell experiences a lagging interaction with the magnetic field. The internal magnetic field is distorted in a way that allows for persistent electric current circulation.

This distortion creates asymmetric conditions, generating a circulating current around specific paths inside the shell.
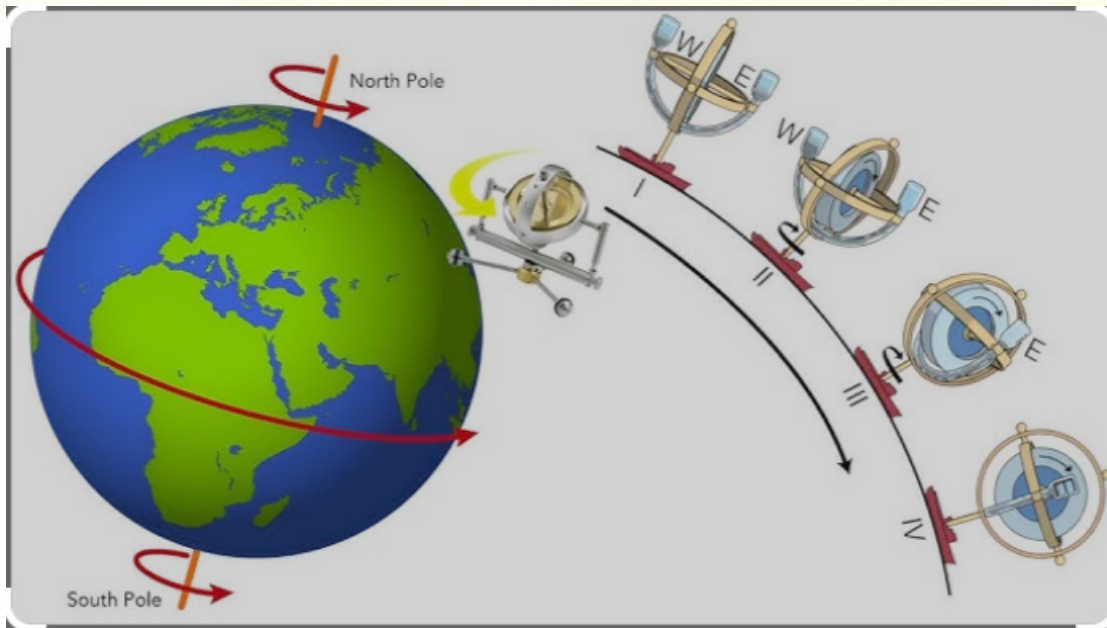
6. Electricity Extraction Mechanism

To capture the energy:

- Electrodes are connected across specific points on the shell.

- The induced EMF (typically in microvolts) generates a current loop.

- This current can be:

  ✓ Stored in ultra-sensitive capacitors or batteries,

  ✓ Amplified using low-noise signal amplifiers,

  ✓ Converted via DC-AC converters for usable output.

7. Power Storage and Conversion

Given the low voltage, special equipment is needed:

- Supercapacitors for micro-energy storage,

- Cryogenic superconductors to avoid resistive losses,

- Nanoelectronic harvesting circuits (e.g. Complementary Metal-Oxide-Semiconductor - CMOS) for signal conditioning.

8. Addressing Scientific Scepticism

Critics highlight:

* Energy output may be too low to be practical,

* May be too expensive to implement.

Some also speculate about potential long-term effects on Earth's motion—though current estimates show negligible impact.

Supporters clarify: the goal is not to alter Earth's rotation or magnetism, but to harness tiny, persistent interactions already occurring naturally.

"All truths are easy to understand once they are discovered; the point is to discover them." — Galileo Galilei

9. Benefits and Future Impact

If scaled up successfully:

* Zero carbon emissions: No combustion or pollutants.

* Globally available: Earth's rotation and field are constant worldwide.

* Energy independence: Especially for remote or space-based operations.

* Durability: No moving parts; long lifespan potential.

10. Path Forward: Multidisciplinary Collaboration

Progress will require:

* Physicists for modelling magnetic fields.

* Material scientists to develop better composites.

* Engineers to design devices and power circuits.

* Cost & Management Accountants (CMAs) to:
  ✓ Assess project feasibility and optimise resource allocation through cost-benefit analysis and lifecycle costing.
  ✓ Evaluate financial risks and support sustainable investment decisions in emerging technologies.
  ✓ Design funding models and green accounting systems for long-term space-based or terrestrial applications.

* Space agencies (NASA, ISRO, ESA) and private firms (SpaceX) to conduct orbital tests.

"Great discoveries and improvements invariably involve the cooperation of many minds." — Alexander Graham Bell

11. Conclusion

Harnessing Earth's rotation as an energy source may sound like science fiction, but ongoing research suggests it could one day become a viable component of our renewable energy mix. The road is long, and challenges remain, but with continued innovation, this bold idea may redefine what it means to generate energy—from the very movement of our planet itself.

"The future of energy lies not in digging deeper, but in thinking differently." — Anonymous.

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Mysteries of Mandala

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Mandalas and the Path to Sustainable Well-being – A Concluding Perspective

Over the course of the last five articles in this journal, I have explored the timeless wisdom, intricate designs, therapeutic benefits, and spiritual essence of mandalas. Each article delved into unique aspects—symbolism, cognitive engagement, emotional regulation, and practical applications in education, therapy, and corporate spaces. Now, as I present the concluding article in this series, I find it imperative to look at Mandalas not just as art or meditative tools, but as holistic systems capable of influencing sustainable living—internally, socially, and environmentally.

Mandala as a Symbol of Wholeness

At its core, a Mandala is a representation of the universe. The word itself, derived from the ancient Sanskrit language, means "circle" or "completion." This sacred geometry reflects balance, harmony, and unity—the very principles on which sustainable life is built.

Whether it is drawn on paper, created with sand, painted on walls, or simply visualized during meditation, a Mandala serves as a mirror. It helps the individual recognize their inner order amidst the chaos of the outer world. When we align with this internal harmony, we begin to make decisions that resonate not only with our well-being but also with the needs of others and the planet.

Emotional and Physical Wellness through Mandalas

One of the most profound impacts of practicing or engaging with Mandalas is on emotional health. In today's fast-paced, digitally fragmented world, many individuals feel disoriented and emotionally disconnected. Mandala creation or meditation can act as a grounding force.

Creating a Mandala activates both the left (logical) and right (creative) hemispheres of the brain. The symmetry and repetition soothe the nervous system, reduce cortisol levels, and improve focus. People experiencing anxiety, depression, or trauma often find solace and expression through this non-verbal form of self-exploration.

Physiologically, this calming of the nervous system directly impacts blood pressure, heart rate, and sleep quality. When emotional turmoil is processed visually and energetically through Mandalas, the physical body also begins to realign itself to a state of health and regeneration.

Mandalas and Sustainable Thought Processes

Sustainability begins in the mind. Our thoughts shape our behaviours, and our behaviours influence the systems we participate in. Mandalas, by their very nature, teach the value of patience, process, and mindfulness. In a world driven by instant gratification, they remind us of the richness of slowing down and engaging in the present.

Practicing Mandalas regularly cultivates mindful awareness and emotional intelligence. These are the key components of sustainable thinking. A person who reflects before acting, who recognizes their triggers, who values silence and inward listening—is far less likely to engage in reactive, wasteful, or toxic behaviours.

This internal discipline, cultivated through Mandalas, naturally ripples into daily life decisions: conscious consumption, healthier communication, reduced dependency on external validation, and a deepened sense of empathy for others.

MANDALA AND SUSTAINABILITY SERIES

Mandalas and Sustainability in Society

Societies are not built by structures, but by the people within them. When individuals heal, the collective heals. This is where the true power of Mandalas lies—not just as personal tools, but as community practices.

Community mandala-making sessions foster cooperation, inclusion, and shared intention. Whether in schools, corporates, senior homes, or marginalized communities, creating a Mandala together breaks social barriers and brings people into the present moment together. It encourages active listening, patience, mutual respect—values essential for any sustainable community.

In education, Mandalas can promote mental wellness and creativity. In workplaces, they become tools for stress release and team bonding. In therapy, they offer non-verbal healing spaces for those who find it difficult to articulate pain.

The simplicity of the form makes Mandalas accessible to all, regardless of age, skill, or background. This inclusivity makes it a perfect tool for sustainable cultural and emotional development.

Environmental Reflection and the Mandala Mindset

On a deeper level, Mandalas also mirror the very patterns we observe in nature—from flowers to galaxies, from tree rings to water ripples. Nature itself operates in circular, regenerative, and balanced systems. Mandalas remind us of this universal blueprint.

When we internalize the Mandala mindset, we begin to understand that nothing exists in isolation. Every action has a consequence, every resource is finite, and every cycle must come back to balance. This leads to a more conscious way of living—reducing waste, honouring biodiversity, and reconnecting with natural rhythms.

Sustainable living is not just about using eco-friendly products—it is a psychological shift. It is about choosing harmony over excess, cooperation over competition, and simplicity over clutter. This is the gift of Mandalas—they don't preach this; they demonstrate it through every line and curve.

Conclusion: From Inner Order to Outer Harmony

As I reflect on this journey of writing about Mandalas, I recognize that these sacred forms have offered me more than knowledge—they have offered me a way of life. A way that honours stillness, invites reflection, and ultimately connects the self with the larger whole.

Mandalas are not just tools for wellness or design patterns for walls. They are maps—spiritual, emotional, and social maps—that guide us toward sustainability in every sense of the word. They remind us that wellness and sustainability are not goals to be achieved externally but states to be cultivated internally.

As we draw the final circle in this written series, I invite each reader to pick up a pen, close your eyes, breathe deeply, and begin their own Mandala. For within that simple act lies the potential for transformation—of self, of society, and of the planet.

Let this final article not be an end, but a beginning—to live more consciously, create more mindfully, and embrace the Mandala as a lifelong companion in the path to sustainable well-being.

SB

Today we will talk about Punarvasu Nakshatra. Current Planetary position brings Jupiter in Punarvasu Nakshatra and that is a very auspicious sign as Jupiter is also the lord of Purnarvasu Nakshatra.

Jupiter is the Guru of the Gods and therefore this nakshatra and its lord will help us expand our spiritual horizons and walk towards higher understanding and awareness.

Punarvasu, Swati, Shravana, Dhanishtha, and Shatabhisha are part of Chara or movable Nakshatras. And therefore they are good for activities that are connected to movements.

These constellations are favorable for buying automobiles, vehicles, gardening, going on journeys and travel. This will be more auspicious if these nakshatras happen to fall on Monday.

Getting back to PUNARVASU Nakshatra - These Individuals will succeed in professions of Communication (Journalism, Advertising, Literature) Teaching (Mentoring, Guide, Counselling, Mathematician), Finance (Accounts, Insurance, Banking, Auditors), Consultants (Engineers, Artists, Architects, Civil Engineers), Religion (Spiritual Teachers, Astrologers), Medical Professionals (Doctors, Nurses), Foreign Trade, Postal Services etc

Purnarvasu Nakshatra is the nakshatra of the Masters (Guru) and the deity is Goddess Aditi who represents shakti for bringing in Abundance and Prosperity into your life.

The tree belonging to this Nakshatra is Bamboo and as the nakshatra restores and rejuvenates so also nurturing of the Bamboo tree which is the symbol of regeneration and strength will bring these qualities into your life.

Bamboo is a symbol of Regeneration, Structure, Strength and systematic growth and evolution. These qualities start reflecting in your life as soon as you grow a Bamboo close to your residence and also gift them to others.

Punarvasu also means reestablishing yourself as the name suggests which is also the character of the deity Goddess Aditi and also the function of Bamboo tree. 🔺SB

Purvi Dalal
Industrial Designer

Blue Whales Go Silent Off California Coast, Alarming Scientists

Scientists monitoring California's coastal waters have reported a sharp decline in blue whale songs. Data from the Monterey Bay Aquarium Research Institute, collected between 2015 and 2021, shows a **40% drop in vocalizations**, with the steepest decline after 2017.

The silence coincided with a marine heatwave known as **"The Blob,"** which raised ocean temperatures by nearly **5°F**. This disrupted the food chain, triggering toxic algal blooms and depleting **krill**, the whales' primary food source. With less energy available, blue and fin whales—both krill-dependent—sang less. Humpback whales, however, increased their songs thanks to their more flexible diet that includes fish like anchovies.

Researchers warn that whale songs are not just communication but also key indicators of ecosystem health. Their decline signals broader stress in the ocean, from food scarcity to shifting migration. Encouragingly, some singing rebounded when food improved, suggesting the silence is a response to hardship rather than a permanent loss.

Still, with climate-driven heatwaves expected to become more frequent, scientists fear such disruptions could threaten the recovery of endangered blue whales and destabilize marine ecosystems.

Announcement

SSB is happy to commence an exclusive section called Sustainability Guidance Cell from March 2025. The objective of the cell is resolving various queries of members in areas of sustainability. The responses would be replied with respect to various queries within 14 days in response to the queries. We request you write to us at ssb@icmai.in. The queries will be selected on "First Come; First Serve Basis".

Five questions on sustainability

1. The Ministry of Environment Forest and Climate Change has notified _____ Eco-Sensitive Zones around protected areas in biodiversity hotspots.

2. _____ is defined as an area where pollutants exceed prescribed levels after a detailed site assessment under the Environment Protection (Management of Contaminated Sites) Rules, 2025.

3. Agriculture is estimated to account for _____ per cent of EU methane emissions.

4. Plastic litter on beaches in India has declined from 67% in 2018 to _____% in 2024.

5. With a projected CAGR of 15.6% from 2025 to 2032, the microgrid market is expected to reach USD _____billion by the end of 2032.

> **NO WINNERS FOR THE QUIZ OF JULY 2025 EDITION**

CORRECT ANSWERS OF PREVIOUS QUIZ

1.	25 %
2.	Qatar
3.	139
4.	Transition Bonds
5.	Sustainability Linked Bonds

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

Call for articles

Sukhinobhavantu is inviting articles on the theme ESG/ Sustainability or related themes for publishing in September'2025 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 September 14, 2025, 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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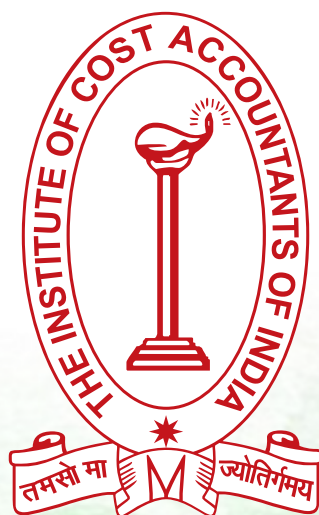
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