Confederation of Indian Industry

NILGIRIS ECONOMIC DIALOGUE

VISIONING HIGH FOR INDIA & BEYOND!

OUTCOME REPORT 2025



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Confederation of Indian Industry

NILGIRIS ECONOMIC DIALOGUE

VISIONING HIGH FOR INDIA & BEYOND!

07-09 FEBRUARY 2025: OOTY

Background of NED

The Nilgiris Economic Dialogue (NED) serves as a powerful platform for fostering meaningful conversations around some of the most pressing challenges facing the country's industries and economy. By bringing together a diverse group of stakeholders, including industrialists, bureaucrats, academics and professionals from various fields, NED ensures a dynamic and multifaceted approach to problem-solving. This vibrant mix of perspectives is crucial for tackling the complex issues that have a far-reaching impact on national growth and development.

In today's fast-changing world, marked by rapid technological advances, political uncertainties and evolving global dynamics, we find ourselves living in a VUCA (Volatile, Uncertain, Complex and Ambiguous) environment. The challenges industries face are no longer static but are ever-shifting, requiring more agile, strategic and collaborative solutions. The first edition of NED, held last year, addressed key issues that were pertinent at that time. However, given the dynamic nature of the world, it is essential to reassess and adapt solutions regularly. This is where the second edition of NED becomes even more critical—allowing us to reflect on previous discussions and pivot strategies as we continue to navigate a rapidly evolving landscape.

The topics for discussion at NED are meticulously chosen to address the most pressing challenges facing the economy in the current scenario. These issues are selected based on their immediate relevance and the profound impact they have on the nation's economic landscape. With an eye on the changing global dynamics, technological advancements and societal shifts, the themes are carefully crafted to reflect the urgent concerns that require attention. Each topic is designed to spark conversations that not only resonate with the realities of today but also provide actionable solutions that can drive meaningful, long-term change in industries and contribute to the broader economic transformation of the country.

The core vision of NED is centered around engaging and empowering stakeholders to drive actionable outcomes. By creating a space for open dialogue, NED encourages the exchange of ideas, innovative solutions and strategies that can lead to tangible, long-term change. The dialogue is not about simply sharing knowledge—it's about creating a roadmap for the future. The long-term goal of NED is to foster a sustained conversation that adapts to the changing realities around us, driving the future of India's industries and contributing to the nation's broader economic growth.

At the heart of NED lies the commitment to engage participants in discussions that are not only thought-provoking but lead to practical, real-world solutions. To empower stakeholders to take collective action, turning insights into strategies that can shape the economic and industrial future of the country. This vision of engagement and empowerment underscores the essence of the NED, ensuring that the discussions continue to drive forward-looking, actionable change in a world that is constantly evolving.

Objective

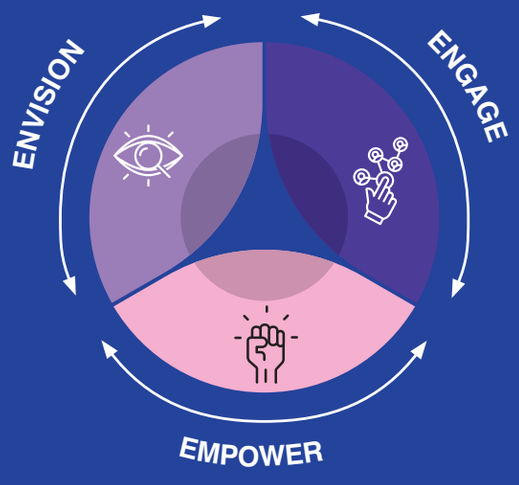
The Nilgiris Economic Dialogue (NED) strives to become a catalyst for fostering inclusive conversations that cross geographical, cultural and disciplinary boundaries. The aim is not just to facilitate dialogue but to create a collaborative platform where diverse stakeholders, including policymakers, industry leaders, academia, environmental experts, social entrepreneurs and other key influencers, can come together to discuss and deliberate on critical global issues.

By encouraging dynamic and multifaceted exchanges, the dialogue seeks to bridge gaps between sectors—public, private and civil society—creating synergies that result in innovative solutions to complex problems. This cross-sector collaboration is crucial in addressing some of the world's most pressing challenges, such as climate change, social inequality, technological disruption and sustainable economic growth. The emphasis on cross-pollination of ideas will ensure that the conversations are holistic and that solutions are multifaceted, taking into account the intersectionality of these issues in the real world.

The dialogue aims to create actionable policy recommendations and strategies that will go beyond theoretical discussions and transform into real-world impact. The goal is for the dialogues and discussions to evolve into concrete, pragmatic steps that can drive policy shifts and implementation at both national and international levels. The actionable outcomes will not only influence governmental policy but also guide businesses, non-governmental organizations and community leaders in their approaches to sustainable development and social responsibility.

Looking ahead, the long-term vision of NED is to empower a diverse set of stakeholders—ranging from young innovators to seasoned policymakers—to take ownership of driving change in their respective spheres. By fostering an environment where thought leaders are equipped with cutting-edge ideas and the tools to implement them, NED envisions becoming an influential platform that shapes the future through collective action. The focus on sustainable development, inclusive growth and technological advancements will ensure that the solutions developed are not just forward-thinking but also equitable and responsible. The overarching ambition of the NED is to establish itself as a premier, annual event that serves as a thought leadership hub, not just for India, but for the global community. It will serve as a meeting ground for diverse voices to collaborate, innovate and generate insights that address both current and future challenges. By evolving with the changing needs of the times, NED will continuously generate fresh insights, refine strategies and provide actionable solutions that can be implemented across sectors.

In essence, through its consistent commitment to fostering dialogue, collaboration and innovative problem-solving, NED will evolve into an indispensable event for policymakers, thought leaders and innovators seeking to create a more sustainable, inclusive and technologically advanced future.



Introduction

India, the world's fifth-largest economy by nominal GDP, has been navigating an increasingly complex set of challenges that are impacting its development trajectory and potential. While the country has seen remarkable progress, especially in sectors like technology, trade and infrastructure, it also faces significant obstacles in areas that demand urgent attention for equitable, sustainable growth.

India is emerging as a global leader in the digital space, with over 750 million internet users, making it the second-largest internet market in the world, behind China. The Indian government's initiatives like Digital India have helped provide access to digital services and promote e-governance, which has impacted sectors like education, healthcare and financial services. However, there is still a significant digital divide in the country. Over 60% of rural Indians still lack access to reliable internet services and digital literacy remains a challenge in many parts of the country, particularly in rural areas. Despite the country's overall growth in tech adoption, concerns around cybersecurity and data privacy have intensified, especially with increasing digital transactions and online engagement. These gaps in access and security undermine the full potential of India's digital economy and need addressing to ensure that growth is inclusive and resilient.

In a rapidly changing global order, India's position in the geopolitical and economic landscape has been evolving. India is currently a key player in the Indo-Pacific region, striving to balance its traditional alliances with the United States and its growing trade relations with China. However, with the rise of protectionism globally and the shift toward deglobalization, India faces a challenge in adapting its trade strategies. According to the World Trade Organization (WTO), India's exports accounted for just over $400 billion in 2022, but it faces barriers such as rising tariffs and trade restrictions globally, particularly in sectors like textiles, agriculture and technology. The ongoing trade tensions between major economies like the U.S. and China also pose risks for India, which remains heavily reliant on global trade and supply chains for key goods and resources. The need for trade diversification and regional partnerships is more pressing than ever to safeguard India's economic interests.

India's rapid industrial growth and expanding urban population have placed immense pressure on its natural resources. India accounts for 18% of the world's population, yet it uses a disproportionately large share of global resources. India's total waste generation is expected to increase from 62 million tons in 2021 to 200 million tons by 2030, creating significant environmental challenges. The country's existing linear economic model, characterized by a "take-make-dispose" approach, is unsustainable. Although India has started initiatives to move toward resource efficiency and circularity, the

country still faces substantial hurdles in adopting this model at scale. Waste segregation, recycling infrastructure and energy efficiency programs are still in nascent stages, with a large proportion of waste being sent to landfills instead of being recycled. To meet global sustainability targets and reduce its carbon footprint, India needs to make considerable strides in promoting circular economy practices—prioritizing recycling, reusing and reducing consumption in key sectors like textiles, manufacturing and agriculture.

Despite impressive GDP growth over the past few decades, India remains one of the most unequal countries in terms of wealth distribution. According to a 2022 Oxfam report, 1% of the population holds 40% of the nation's wealth, while more than 80% of the population struggles with basic needs and limited economic opportunities. While government initiatives like PMAY (Pradhan Mantri Awas Yojana) and Skill India aim to address these gaps, rural-urban divides and social inequalities remain persistent. For instance, while urban centers have witnessed the rise of startups and an expanding middle class, rural India continues to face limited access to quality education, healthcare and employment opportunities. Moreover, Women workforce participation remains below 25%, among the lowest in the world, reflecting significant gender disparities. Regional imbalances also persist. Thus, the need for inclusive growth—ensuring that all citizens, regardless of gender, region, or social background, have access to opportunities—is critical for India's long-term stability and prosperity.

Conclusion: India is facing a convergence of pressing challenges in these four critical areas. The country is at the crossroads of becoming a global digital powerhouse, but digital divides and cybersecurity concerns need urgent attention to ensure that technology benefits all. In an increasingly fragmented geopolitical environment, India must find ways to navigate global trade tensions and deglobalization while strengthening its domestic economy. The country's rapid industrialization is also putting immense pressure on resources, necessitating a shift toward a circular economy that minimizes waste and promotes sustainability. And perhaps most importantly, India must address its pervasive social inequalities, ensuring that the fruits of economic growth are shared equitably across all communities. Tackling these challenges head-on through inclusive, innovative and sustainable strategies will determine India's future path and its place in the global economy.

Tracks

01

Track I: Strengthening Digital Frontiers (Data, Tech & Digital Economy) is crucial for India as it seeks to harness the power of digital transformation to fuel economic growth. With a large, young population and rapid advancements in technology, India has the potential to drive innovation, improve access to servicesand create new economic opportunities. Strengthening its digital infrastructure and embracing technologies like AI and blockchain will be key to positioning India as a global leader in the digital economy while fostering inclusive growth and social equity.

02

Track II: Trade Winds of Change: Strategies for an Evolving World (Geopolitics and Deglobalization) is critical for India as it navigates the complexities of a rapidly changing global landscape. Amidst shifting geopolitical alliances and the trend of deglobalization, India faces both challenges and opportunities in redefining its trade strategies. By diversifying trade partnerships, enhancing domestic manufacturing capabilities and strengthening regional ties, India can ensure its resilience in a world where traditional global supply chains are being reconfigured. This track offers India the chance to position itself strategically, balancing global ambitions with national priorities in a more fragmented and unpredictable geopolitical environment.

03

Track III: Closing the Loop: Strategies for Sustainable Growth (Resource Efficiency & Circularity) is vital for India as it tackles the challenges of resource depletion and environmental sustainability. With rapid urbanization and industrial growth, India faces increasing pressure on its natural resources. Embracing resource efficiency and a circular economy model will help reduce waste, enhance recycling and promote the sustainable use of materials. By adopting strategies that prioritize reuse, repair and recycling, India can drive sustainable economic growth, create green jobs and mitigate environmental impact, all while fostering long-term economic and environmental resilience.

04

Track IV: Growth for All: Strategies for Equitable Progress (Inclusive Growth) is essential for India as it strives to ensure that the benefits of economic growth reach all segments of society. Despite rapid economic progress, challenges like income inequality, regional disparities and social exclusion persist. This track focuses on strategies that promote equal access to opportunities, such as quality education, healthcare and employment, especially for marginalized communities. By fostering inclusive growth, India can create a more equitable society, where every individual, regardless of background or geography, can thrive and contribute to the country's progress.

Curator Council of NED 2025



Shankar Vanavarayar
Convenor, Nilgiris Economic Dialogue & Executive Director, ABT Industries Pvt Ltd



Srivats Ram
Chairman, CII Tamil Nadu State Council & Managing Director, Wheels India Ltd



P Ravichandran
President- India Region, Danfoss Industries Pvt Ltd



N K Ranganath
Director,
Strategy Catalysts Pvt Ltd



AR Unnikrishnan
Vice Chairman, CII Tamil Nadu State Council & Managing Director - Glass, Glass Solutions and Home & Hospitality, Saint Gobain India Private Limited

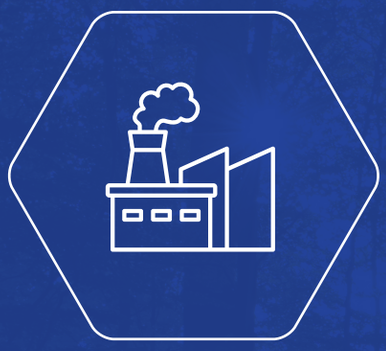


C Devarajan
Managing Director,
URC Construction
Pvt Ltd



Kezevino Aram
President,
Shanti Ashram

Participant Diversity



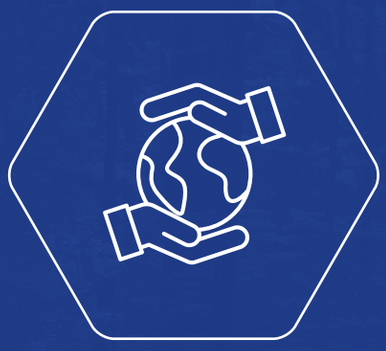
Industry



Government



Academia



NGO



International



Media



Sports, Arts & Culture



Public Intellectuals



Consultants & Researchers



Day 1 Venue

Fern Hills Royal Palace in Ooty is a historic palace located in the scenic Nilgiri Hills of Tamil Nadu. Built during the British colonial period, the palace served as the summer retreat of the Maharaja of Mysore. It is an impressive example of colonial-era architecture, with a blend of European and traditional Indian styles, set amidst lush green landscapes and offering breathtaking views of the surrounding hills.

The palace is known for its grandeur, with intricately designed interiors, vast gardens and elegant rooms that reflect the opulence of royal life in the region. The significance of Fern Hills Royal Palace lies not only in its architectural beauty but also in its historical connection to the royal families of South India. It has hosted several notable dignitaries and continues to be a symbol of the region's royal heritage.

Today, the palace is a popular tourist destination in Ooty, attracting visitors with its charm, historical significance and picturesque setting. It also serves as a reminder of the area's rich cultural and royal history, adding to the unique appeal of Ooty as a hill station.



Day 2 Venue

MRC (Madras Regimental Centre), Wellington is a historic military establishment located in the serene hill station of Wellington, near Ooty, Tamil Nadu. Established in the 19th century, MRC is one of the oldest regimental centers of the Indian Army. It holds a significant place in the country's military history, especially in relation to the Madras Regiment, which is one of the oldest infantry regiments of the Indian Army.

The center serves as a training facility for soldiers, imparting rigorous training and discipline. It is known for its lush green grounds, scenic beauty and colonial-era architecture, making it a unique blend of military significance and natural beauty. The center also holds historical value as it was involved in various key military operations and is deeply embedded in the region's cultural and military heritage.

Today, MRC Wellington is an important landmark not only for its military contributions but also as a place of historical interest. It stands as a reminder of the country's colonial past and the evolution of the Indian Army post-independence. Visitors to Wellington can witness the rich traditions and discipline of the Indian Army through this iconic institution, adding to the historical and cultural allure of the area.



Day 3 Venue

Lawrence School, Lovedale is a prestigious educational institution located in the picturesque hill station of Lovedale, near Ooty, Tamil Nadu. Founded in 1858, the school has a rich legacy of providing quality education to students from diverse backgrounds. It was originally established by Major Thomas Lawrence as a school for the children of British soldiers stationed in India but later opened its doors to Indian students as well.

The school is renowned for its academic excellence, discipline and holistic approach to education, offering a well-rounded curriculum that emphasizes academics, sports and extracurricular activities. Set amidst the scenic beauty of the Nilgiri hills, Lawrence School provides an ideal environment for learning, with sprawling green grounds, a calm atmosphere and colonial-era architecture.

Lawrence School has a long history of producing prominent individuals in various fields, including the armed forces, politics and business. Its strong emphasis on character building, leadership and cultural values makes it one of the most respected schools in India. The school also has a strong alumni network, with many former students holding distinguished positions globally.

Today, Lawrence School, Lovedale, stands as a symbol of excellence in education and continues to contribute significantly to the development of future leaders, maintaining its legacy while adapting to modern educational trends.

Context setting by Mr Shankar Vanavarayar, Convenor, Nilgiris Economic Dialogue

Mr Shankar Vanavarayar, Convenor, Nilgiris Economic Dialogue, in his insightful reflection, eloquently highlighted the symbolic significance of Ooty, often referred to as the "Queen of Hills," as the backdrop for such a pivotal gathering. He expertly connected the picturesque setting to the broader theme of the event—underscoring how economics serves as a powerful force in bridging divides and uniting people from across the globe.

In a deliberate departure from conventional terminology, Mr Shankar explained the intentional choice of the term "dialogue" over more formal descriptors such as "summit" or "conclave." He articulated that this distinction was crucial in fostering a more open, dynamic exchange of ideas.

"We didn't want to call it a summit or conclave so that we could go back as actionable humans and make an impact," he noted, emphasizing the importance of transforming dialogue into tangible outcomes.

Reinforcing the centrality of economics to global collaboration, Mr Shankar remarked, "Economics seems to be one way that the world comes together with humans certainly working together." His words encapsulated the essence of the event—an unwavering commitment to ensuring that the conversations held would lead to actionable strategies, shaping the future through meaningful, collaborative efforts.



Special Address – Dr R Nandini, Chairperson, CII Southern Region



In her Special Address, Dr R Nandini, eloquently set the stage for the day's deliberations. She underscored the importance of gathering a thoughtfully selected cohort of leaders, with the aim of translating strategic discussions into concrete, actionable outcomes that would yield measurable impact.

Dr Nandini articulated a bold vision for the future of the Nilgiris Economic Dialogue, stressing the potential for this event to gain increasing momentum in the years ahead. She expressed a profound hope that the first week of February would become synonymous with this distinguished economic dialogue, a time each year when leaders from across sectors come together to forge new pathways for progress. This vision, she noted, was not merely aspirational but a call to action for all participants to contribute meaningfully to the dialogue's long-lasting legacy.



Welcome Address – Mr Srivats Ram, Chairman, CII Tamil Nadu State Council

Mr Srivats Ram, underscored the novel structure of this edition, which was purposefully designed to build upon the momentum of previous dialogues, rather than reiterating familiar themes. Mr Ram highlighted the pivotal role of creating spaces that facilitate deeper, more meaningful exchanges—conversations that transcend theoretical discourse and contribute to tangible and impactful outcomes.



He further elaborated on the four thematic tracks for this year's dialogue—Data, Tech & Digital Economy, Geopolitics & Deglobalization, Resource Efficiency & Circularity and Inclusive Growth - each chosen for its profound relevance in addressing the global challenges of our time. These tracks, he noted, are not mere academic exercises but are strategically designed to foster sustainable solutions that can drive real-world transformation.

In conclusion, expressed his gratitude to Ms Lakshmi Bhavya I A S., District Collector, The Nilgiris District and the esteemed attendees, whose presence and unwavering support were instrumental in bringing this significant gathering to fruition.



Special Address on Enchanting Nilgiris by Ms Lakshmi Bhavya Tanneeru IAS,
Collector, Nilgiris District

In her address, Ms Lakshmi Bhavya, the Collector of the Nilgiris, provided a comprehensive exploration of the region's economic potential, with a particular focus on its thriving sectors of tea production and eco-tourism. She illuminated the Nilgiris' increasing appeal as a prime destination for travelers seeking to immerse themselves in its unparalleled biodiversity and cultural heritage, presenting the area as a cornerstone for both local and global tourism growth.

Ms. Bhavya's remarks extended beyond economic statistics, urging a shift in the definition of true progress. She asserted that genuine advancement should not be gauged solely by GDP metrics but by the creation of opportunities for vulnerable communities while safeguarding the well-being of future generations. "True progress is not solely measured by the GDP of the economy, but also by how we create possibilities for the vulnerable while protecting future generations," she stated, reinforcing the importance of a balanced and inclusive approach to economic development.

In her call to action, she urged all stakeholders to confront the economic challenges head-on, emphasizing that proactive measures were essential to ensuring long-term prosperity. "It is imperative that we tackle the economic challenges that lie before us," she concluded, underscoring the need for collective responsibility and concerted efforts to foster a sustainable and resilient future for the Nilgiris and beyond.



Confederation of Indian Industry

Track 1: Strengthening Digital Frontiers

(Data, Tech & Digital Economy)



Introduction

India, the world's fifth-largest economy with a GDP of $3.7 trillion (2023), stands at a pivotal juncture in its journey toward becoming a global leader in the digital age. Over the past decade, the nation has witnessed unprecedented technological adoption, fueled by initiatives like Digital India, which helped expand internet connectivity to over 900 million users—a fourfold increase since 2014. This transformation has reshaped governance, with 90% of Central and State government services now digitized, including the Aadhaar biometric system (covering 1.3 billion citizens) and the Unified Payments Interface (UPI), which processes over 10 billion monthly transactions. Yet, stark disparities persist: while urban internet penetration exceeds 70%, rural areas lag at 37%, underscoring the urgency of bridging gaps in digital literacy and access.

Economically, technology contributes nearly 8% to India's GDP and has emerged as both a catalyst and disruptor. Automation and AI are projected to add 450–500 billion to the economy by 2025, yet they also threaten 24% of existing jobs, particularly in manufacturing and agriculture, which employ 45% of the workforce. The tech sector, valued at $245 billion, generates high-skilled roles, but 50% of India's workforce lacks formal skilling and only 5% of higher education graduates meet industry standards for tech jobs. Meanwhile, MSMEs—contributing 30% to GDP, 45% to exports and employing over 120 million people—struggle to adopt digital tools, with only 15% leveraging e-commerce platforms despite their critical role in economic resilience.

Data, the backbone of India's $200 billion IT sector, drives innovation across industries, from agritech startups boosting farmer incomes by 25% to fintech platforms serving 300 million underserved users. However, reliance on data raises risks: India ranked fourth globally in cyberattacks in 2023, with a 18% surge in incidents, while only 35% of businesses comply with data protection norms. Startups, numbering over 100,000 (including 110 unicorns), face a funding winter, with investments dropping 33% in 2023, exacerbating challenges in scaling data-driven models. Collaboration gaps persist too: India invests just 0.7% of GDP in R&D (below the global average of 1.8%) and industry-academia partnerships remain sparse, with only 25% of tech firms actively engaging with universities.

As India navigates this landscape, balancing innovation with inclusivity is critical. With 65% of its population under 35, the nation's ability to harness technology for widespread prosperity hinges on closing skill gaps, securing digital ecosystems and empowering MSMEs—all while ensuring ethical frameworks guide its ascent as a $5 trillion economy by 2025.

India's rapid technological advancement is accompanied by multifaceted challenges that threaten equitable and sustainable growth. A persistent digital divide between urban and rural areas limits access to critical services and opportunities, exacerbating socio-economic disparities. Automation and AI adoption, while boosting productivity, risk displacing workers in traditional sectors, necessitating urgent strategies for job creation and reskilling. Simultaneously, a mismatch between education systems and industry demands has widened skill gaps, leaving many unprepared for tech-driven roles. Data-driven innovation, though transformative, faces hurdles such as inadequate cybersecurity frameworks and privacy concerns, undermining public trust. Small businesses, vital to the economy, struggle to adopt digital tools due to resource constraints, risking exclusion from the digital revolution. Underpinning these issues is the need for cohesive collaboration among governments, industries and educational institutions to design inclusive policies that balance innovation with ethical safeguards and shared prosperity.Our speakers have addressed these challenges in the following discussions

Confederation of Indian Industry

Day 1 Speakers



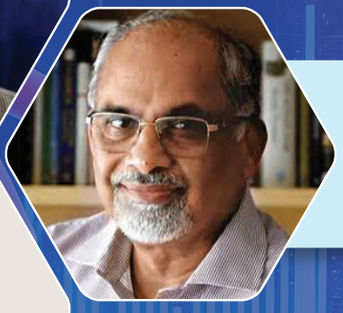
Lt Gen Karanbir Singh Brar, PVSM, AVSM
General Officer Commanding (GoC), Dakshin Bharat Area, Chennai



Vanitha Venugopal
Chief Executive Officer
iTNT Hub



Arun Maira
Author, Member of Planning Commission in India (2009-14) & Former Chairman, Boston Consulting Group India



TN Ninan
Former Editor, Business Standard & The Economic Times



C Devarajan
Member, Curators Council, Nilgiris Economic Dialogue & Managing Director, URC Construction Pvt Ltd



Rajesh Subramaniam
Founder & CEO,
embedUR systems



Dayasindhu N
Co-Founder & CEO,
itihaasa Research and Digital



S Swaminathan
CEO,
GS1 India



Kezevino Aram
Member, Curators Council, Nilgiris Economic Dialogue & President, Shanti Ashram

Special Plenary

REMAKING INDIA:

One Country, One Destiny – Learning, Listening, Localising

Dr Kezevino Aram,
Member, Curators Council, Nilgiris Economic Dialogue & President, Shanti Ashram

In conversation with

Mr Arun Maira,
Author, Member of Planning Commission in India (2009-14) &Former Chairman, Boston Consulting Group India



Discussion Outcome



Path Forward for India: Learning, Listening, and Localizing Solutions

The conversation emphasized that real progress for India cannot solely be driven by logic or reasoning. True transformation emerges from understanding lived experiences and connecting with the stories that shape people's realities. This approach requires moving beyond theory and addressing practical, real-world concerns. A crucial aspect of India's development lies in nurturing young minds to understand and engage with the challenges and opportunities of their environment. This entails cultivating a broader, more inclusive perspective on what it means to grow and evolve as a nation.

India's Diversity: A Strength and a Challenge

India's inherent diversity—spanning ethnic, religious, linguistic, and economic lines—was acknowledged as both a source of immense strength and a significant challenge. This diversity enriches the country's cultural landscape but also complicates efforts toward uniform economic progress. Economic disparity remains one of India's most pressing issues and bridging this gap is essential to ensuring that growth is inclusive and sustainable. The complexity of this challenge requires a nuanced approach that respects and celebrates diversity while addressing inequalities. It was also pointed out that freedom in political, social and economic spheres is a foundational element in shaping the country's trajectory.

Sustainable Growth: Beyond Economic Growth

Economic growth was framed within a larger context, recognizing the critical need for sustainability in development. It was emphasized that economic progress should not come at the cost of society or nature. The growth of India, particularly in the face of global challenges such as climate change and resource depletion, needs to incorporate sustainable practices that ensure the well-being of future generations. The importance of balancing economic ambitions with environmental stewardship was discussed, highlighting that real progress can only be achieved when growth is pursued harmoniously with the planet's health.

Comparing Development Paths: India, Bangladesh, China and Vietnam

The conversation also ventured into international comparisons, drawing parallels between India and neighboring countries such as Bangladesh, China, and Vietnam in terms of development trajectories. These comparisons provided valuable insights into the different approaches these nations have taken towards economic growth, social equity, and governance. Additionally, water resource distribution was highlighted as a key factor in India's development strategy, with comparisons made to the management of water resources in China and the USA. The disparities in water availability and the challenges posed by these disparities in different regions were discussed, pointing to the need for innovative solutions to manage India's water resources sustainably.

The Role of AI in Shaping India's Future

The discussion also touched on the transformative potential of Artificial Intelligence (AI) in addressing India's future challenges. AI can play a pivotal role in areas ranging from agricultural efficiency to urban planning and healthcare. The idea was presented that AI could be leveraged as a tool to optimize resource use, enhance productivity, and enable more equitable distribution of resources, potentially mitigating some of the country's most pressing issues such as poverty, education and healthcare access.



The Influence of Socialism and the 17 Sustainable Development Goals

Socialism's influence on Indian society and its ongoing relevance in shaping the country's development was also explored. While India has transitioned into a more market-driven economy, the social values rooted in socialist thought—such as equity, justice, and access to basic needs—continue to play an essential role in guiding public policy and societal expectations. The conversation then turned to the 17 Sustainable Development Goals (SDGs), which have become a universal framework for measuring and advancing progress across key areas such as education, environment and livelihood. The SDGs were acknowledged as a necessary guide for shaping India's development policies, emphasizing that a holistic approach to development is essential for creating a future that benefits all.

The Power of Local Solutions and Community-Led Change

A key theme that emerged throughout the discussion was the importance of local solutions driven by local communities. The idea that sustainable change must originate from within communities, rather than being imposed from external sources, was central to the conversation. The example of Aurangabad, a city that has seen transformative local initiatives, was used to demonstrate how localized, community-driven projects can yield meaningful results. This approach encourages a sense of ownership and accountability among local populations, leading to more sustainable and lasting changes.

Embracing Mistakes as Learning Opportunities

Finally, the discussion concluded with a powerful message about the importance of embracing mistakes as opportunities for growth and learning. In the context of India's journey toward sustainable development, it was highlighted that setbacks and challenges should not be seen as failures, but rather as valuable lessons that inform future efforts. This mindset encourages innovation, resilience, and continuous improvement, all of which are crucial for navigating the complex landscape of development.



Panel Discussion

STRENGTHENING DIGITAL FRONTIERS

Moderator:

Mr Dayasindhu N

Co-Founder & CEO
Itihaasa Research and Digital

Main speakers:

Mr Rajesh Subramaniam
Founder & CEO, EmbedUR systems

Mr S Swaminathan
CEO, GS1 India

Ms Vanitha Venugopal
CEO, iTNT Hub



Panel Discussion Outcome

The discussion focused on the intersection of data, technology, and the digital economy, examining the transformative potential of deep tech innovations such as Blockchain, AI and Quantum Computing. The session explored how these technologies can enhance India's Digital Infrastructure, improve National Security and drive Economic Resilience.

AI and Its Impact on Employment

A key concern was AI's potential impact on jobs, particularly in entry-level positions. While AI-driven automation can enhance efficiency, panelists stressed that AI should be seen as an enabler, not a replacement, emphasizing the need for proactive investments in reskilling and upskilling initiatives.

India's Position in the Global AI Ecosystem

India's growing role in deep tech was discussed, highlighting initiatives like the Tamil Nadu Technology Hub, which supports startups in AI, green tech and smart cities. The state's deep-tech policy aims to democratize AI, ensuring that innovation extends to startups and grassroots entrepreneurs.

Building Trust in AI and Data Integrity

The discussion explored the necessity of building trust in AI applications, especially regarding data integrity. Blockchain was proposed as a solution to enhance transparency and security in areas like supply chain tracking, counterfeit medicine detection and digital identity verification.



Accessibility of AI: Democratizing Technology

Panelists raised concerns about the accessibility of AI models, suggesting that India develop public AI infrastructure similar to UPI to make foundational AI models accessible to businesses and individuals at minimal cost. NVIDIA's Project Digit was presented as a potential model.

Data Governance and Privacy

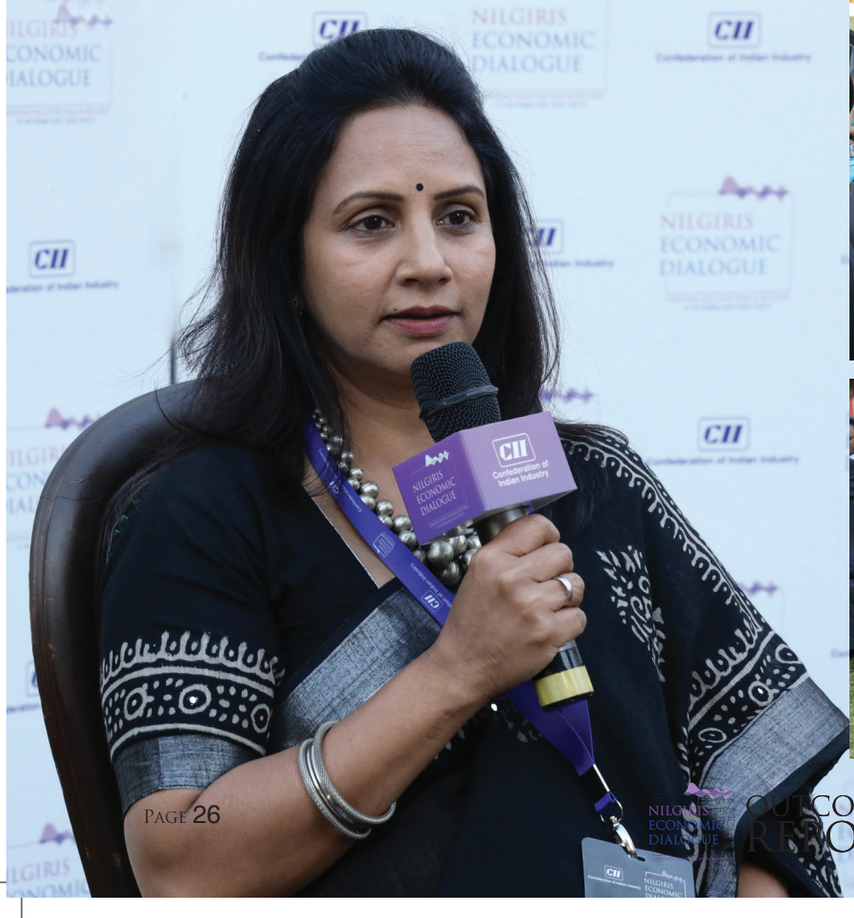
Discussions emphasized the importance of stringent data privacy laws and robust compliance measures to address growing cyber threats. The session referenced global practices, such as the US Social Security system's confidentiality, to underscore the need for stronger data protection frameworks in India.

Inclusive AI Development and Public Infrastructure

Experts discussed how governments can ensure AI accessibility for all citizens, avoiding a digital divide. The need for vernacular-friendly AI models and integration with public infrastructure, similar to UPI's success in digital payments, was highlighted.

Conclusion: Responsible AI Governance and Future Prospects

The session concluded with a call for responsible AI governance and ethical development. Panelists emphasized the need for continued investment in digital infrastructure to ensure AI serves society in a human-centric way. With states like Tamil Nadu, Karnataka and Maharashtra driving AI innovation, India is poised to become a global leader in deep tech with sustained policy support.







Roundtable topics

The Evolution of Data in Computing Architecture: From Processing to AI-Driven Innovation

Navigating India's Thriving Start-up Ecosystem: Key Strategies for Success in Data-Driven Businesses

Navigating the Future of Data and AI: Striking the Balance Between Innovation and Control

Building a Robust Data Infrastructure: Foundations for AI-Driven Insights and Innovation.

Will AI replace jobs or redefine them?

Data, Talent, and Future of Work

Data, Technology, and the Digital Economy Session: Data, Talent and Future of Work

The Transformative Role of Data and Technology in Shaping the Digital Economy

Beyond the Data: The Limits and Sustainability of Data-Driven Business Models in the Digital Age.







Roundtable – Outcome

The Evolution of Data in Computing Architecture: From Processing to AI-Driven Innovation

Harnessing Data for Industry and Employment

The discussion explored the growing importance of data in sectors like transportation and defense. Panelists discussed how data, when leveraged correctly, can lead to innovations such as AI monitoring truck driver behavior to enhance safety and efficiency.

Data's Role in Transforming Industries

The roundtable highlighted the transformative impact of data and technology on various industries, especially in the digital economy. Data is seen as a strategic asset, driving productivity and innovation in sectors like agriculture, healthcare and manufacturing. Discussions focused on how data can bridge rural-urban divides, improve business models and enhance decision-making processes. Additionally, the importance of skill development and addressing societal challenges was emphasized to ensure technology benefits all.

Navigating the Future of Data and AI: Striking the Balance Between Innovation and Control

Ethical Concerns and Economic Disparities

The societal implications of AI were highlighted, with concerns about widening economic gaps as access to AI technology becomes uneven. Ethical issues like data privacy, algorithmic transparency and biases in AI were discussed, with calls for responsible AI adoption to ensure fairness and accountability.









Data Privacy, Security and the Digital Economy

With the increasing volume of data in the digital landscape, the need for robust privacy and security frameworks is paramount. Data, including Personally Identifiable Information (PII), proprietary information and trade secrets, must be protected against rising cyber threats like fraud, privacy breaches and network disruptions. Organizations need to adopt the right technical standards, legal frameworks and best practices to safeguard data and ensure privacy in the face of evolving digital challenges.

AI's Role in Digital Security and Emerging Technologies

AI and emerging technologies play a crucial role in strengthening digital security. AI-driven fraud detection systems are vital for recognizing patterns in real-time, particularly in sectors like healthcare and finance. Ethical AI governance is necessary for managing large datasets and ensuring data protection. Central Bank Digital Currency (CBDC) was suggested to integrate AI-based security layers to protect digital transactions. Additionally, financial technology solutions like transparent payment systems and robust identity verification can further safeguard against cybercrime.



AI, Employment and Ethical Oversight

AI's impact on employment was debated, with differing views on whether AI will replace jobs or bring structural shifts. The need for ethical AI usage, human oversight and inclusivity, especially in rural areas, was emphasized to ensure AI benefits all sectors of society.

Building a Robust Data Infrastructure: Foundations for AI-Driven Insights and Innovation

Policy Recommendations and Future Outlook

The participants emphasized government intervention to regulate AI growth, preventing immediate job market disruptions. Suggesting policies to focus on providing time for upskilling and fostering emerging career opportunities in AI-related sectors, ensuring balanced technological development and workforce stability.



Industry-Academia Collaboration and Policy Frameworks

The collaboration between academia and industry is vital to address skill gaps and ensure that graduates are prepared for real-world challenges. Establishing Centers for Excellence and including industry experts in academic settings can foster experiential learning and prepare students for the workforce. Governments can develop clear AI policies to guide its use in both public and private sectors, while media outlets also can play a role in educating the public about AI's impact on society, industry and governance. By aligning education, workforce training and policies, organizations can build a sustainable, tech-savvy workforce.

Shifting Towards Proactive Digital Governance

As digital threats continue to rise, organizations must transition from reactive security measures to proactive governance. Blockchain technology offers a promising solution, enhancing transparency, security and fraud prevention. Suggesting governments to enforce strict data protection laws, holding organizations accountable for data misuse. Additionally, businesses must prioritize digital literacy and awareness programs to educate customers on safe practices, such as AI-driven fraud detection systems that can identify suspicious activities.

Will AI Replace Jobs or Redefine Them?

AI's Impact on Jobs and Society

The discussion centered on how AI will enhance efficiency without fully replacing human roles. While automation and data analysis will be streamlined by AI, critical thinking, creativity and emotional intelligence will remain human strengths. New job roles like prompt engineers will emerge, complementing AI-driven processes in sectors such as manufacturing, finance and safety.

Job Replacements and Opportunities

AI's role in replacing repetitive tasks was balanced with its potential to create new job opportunities in fields like data science and cybersecurity. The demand for professionals in AI-related fields is growing, especially as the cost of AI technologies decreases and their adoption accelerates.

Skill Gaps and Industry Challenges

The challenge of skill gaps in the workforce was a key topic, with young professionals struggling to

meet the industry's evolving demands. Education and training systems are urged to adapt quickly to match the rapid advancements in AI, ensuring that students are better prepared for the job market.

Data, Talent and Future of Work

AI in Education and Creativity

AI's integration into education was seen as crucial for preparing future generations. Panelists agreed that teaching ethical AI from an early age is necessary. In creative fields, while some viewed AI as a threat to originality, others saw it as a tool to enhance and expand creative boundaries.

Transforming Education to Bridge the Skill Gap

There is a growing need for education systems to adapt to the evolving demands of the digital economy. Schools and Colleges was suggested to integrate practical, skill-based learning that focuses on critical thinking and problem-solving, rather than traditional degree programs. Modular education and continuous learning are essential for keeping pace with technological advancements like AI, machine learning and data analytics. Upskilling initiatives, reverse mentoring and aligning academic curricula with industry needs can help bridge the skill gap and ensure a future-ready workforce.

Mentorship, Collaboration and Long-Term Vision

The importance of mentorship and collaboration in sustaining startup growth was a key theme. Panelists highlighted the need for structured guidance and the creation of cooperative ecosystems to prevent stagnation. By focusing on long-term goals, refining operations and ensuring the core business strength remains intact, startups can remain relevant and navigate challenges. Regular goal renewals and mentorship support were seen as essential to turning innovative ideas into successful, sustainable ventures.

Navigating India's Thriving Start-up Ecosystem: Key Strategies for Success in Data-Driven Businesses

Opportunities and Challenges in the Startup Ecosystem

Participants discussed the evolving startup landscape and the challenges faced by new businesses, particularly around financial



sustainability and proper business models. Mentorship emerged as a crucial factor in helping startups thrive, with calls for more structured guidance to help them define their purpose and vision. While many startups struggle with long-term planning and execution, mentorship and collaborative ecosystems can provide the support necessary to navigate growth challenges.

Supporting MSMEs with Technology

The panel highlighted how technology can address challenges faced by Micro, Small and Medium Enterprises (MSMEs), such as financial management and awareness of government incentives, thereby improving profitability and efficiency in India's manufacturing sector.



Data-Driven Strategies for Startups

Startups were urged to be more strategic in handling data, with an emphasis on confidentiality, privacy and industry-specific data interpretation. Panelists noted that startups often face difficulties in deciding what data is truly essential for decision-making and the right balance of outsourcing. A cooperative ecosystem, inspired by successful global models like China's cluster approach, was recommended to help startups overcome stagnation and scale efficiently.

The Transformative Role of Data and Technology in Shaping the Digital Economy

Digitizing Governance and Public Administration

The participants emphasized the importance of digitizing traditional systems, like Karnataka's shift to digital record-keeping, to improve governance efficiency. Successful initiatives like PM Gati Shakti show how digital infrastructure can enhance operations with more awareness and and acces the adoption can be broader.

Improving Panchayat-Level Awareness

A key challenge discussed was the limited knowledge among Panchayat leaders about government schemes. Increasing digital platforms' reach and training local leaders is essential to improving the effectiveness of over 200 schemes available at the Panchayat level.

Beyond the Data: The Limits and Sustainability of Data-Driven Business Models in the Digital Age

Challenges in Data-Driven Business Models

The conversation explored the limits of data as a sole driver for business growth, with panelists questioning the sustainability of data-exclusive business models. While data can enhance existing models, it cannot replace foundational aspects like human creativity and tangible investments. Concerns around data privacy, job loss due to automation and the balance between digital scalability and real-world execution were also raised, highlighting the need for safeguards and proper integration with physical operations.

Panel Discussion

"FIFTH LARGEST ECONOMY – THE MOUNTAINS TO CONQUER"

Moderator:

Mr C Devarajan

Member, Curators Council, Nilgiris Economic Dialogue & Managing Director, URC Construction Pvt Ltd

Main speakers:

Mr TN Ninan

Former Editor, Business Standard & The Economic Times



Discussion Outcome





India's Economic Landscape

The session began with a powerful visual depicting India attempting to mend a crack, symbolizing the nations challenges with economic disparity and development. India's diversity—social, economic, and political—was acknowledged as a challenge that needs to be addressed to foster a more equitable society. The emphasis was placed on ensuring equal freedom for every citizen—social, economic, political and critical—while striving for faster growth, inclusion and sustainability.

Growth, Inclusion, and Learning from the East

India's per capita income and rising GDP were discussed, alongside the need to learn from Eastern countries, particularly Bangladesh's economic progress. The importance of skill development as a core driver of growth was highlighted, with the goal of increasing citizens' income to ultimately boost GDP, much like Singapore's model.

It was also stressed that an inclusive workforce is essential, where economic systems align with societal needs and that economic models should reform, not disrupt, the existing economic structure.

The Role of Systems and AI in Economic Transformation

A key theme was the need for stronger systems and policies to support India's economic transformation. The potential role of AI in shaping the future economy was also explored.

The discussion emphasized three crucial factors for a country's evolution:

- **People:** Workforce and talent development
- **Resources:** Efficient utilization of economic and natural resources
- **Policy:** Sound governance and regulatory frameworks

A comparison between socialism and capitalism was made, with the speaker noting, "Socialism is caring for society, and capitalism is caring for capital." This underlined the importance of balancing economic priorities for societal well-being.

Poverty, SDGs, and Localized Solutions

The conversation briefly touched upon poverty in India, with a strong focus on Sustainable Development Goals (SDGs). The speaker stressed that SDGs are relevant in every district and that economic planning must be localized to be effective. "It should be a local system solution, and resources should be provided to follow through," the speaker emphasized.

Three Critical Aspects for Growth

The session concluded with a call to focus on three key aspects for driving growth:

- **Learning:** Identifying areas for improvement
- **Looking Around:** Observing industry, societal and global trends
- **Listening:** Encouraging open dialogue between students, industries and society.

The discussion stressed the need for a holistic, inclusive approach to India's economic growth and development.

Confederation of Indian Industry

Special address:

Lt Gen Karanbir Singh Brar PVSM, AVSM

General Officer Commanding (GoC) Dakshin Bharat Area, Chennai



Discussion Outcome





India's Historical Resilience and Defense Challenges

Lt Gen Karanbir provided an insightful reflection on India's historical resilience, defense strategies and the pivotal role its military has played in navigating various challenges, particularly those posed by foreign threats and invasions. Drawing from India's past, he recounted key events such as its involvement in World War II, highlighting the nation's ability to persevere in the face of adversity. The discussion also touched upon India's evolving geopolitical relationships, especially with neighboring countries like China and Pakistan and how these relationships have shaped the country's defense strategies over time.

The Need for Homegrown Military Capabilities

A central theme of Lt Gen Karanbir's remarks was the critical need for India to develop homegrown military capabilities. This would reduce the nation's dependency on foreign defense technologies, ensuring greater self-reliance and strategic autonomy. He highlighted the importance of indigenous production of military technology as an example of India's growing defense independence, citing advancements in sectors like missile technology, naval assets and other defense systems. These initiatives are vital for strengthening national security while also fostering innovation within India's defense industry.

Technological Integration in Modern Defense Systems

The conversation also expanded into the integration of advanced technology into defense systems. There was a notable shift discussed from traditional physical fitness standards to the inclusion of technical expertise and technological fluency in modern military roles. The military of the future, according to Lt Gen Karanbir, will rely as much on cognitive and technical skills as it does on physical strength. The need for strategic leadership in adapting to these evolving demands was emphasized, alongside the importance of well-rounded defense training that blends physical, intellectual and technological capabilities.

Discipline, Collaboration, and Societal Engagement

Lt Gen Karanbir also underlined the necessity of discipline, societal collaboration and leadership in strengthening India's defense structure. Recognizing that national security is not solely the responsibility of the military, Lt Gen Karanbir called for a more integrated approach involving the military, the government, industry and the public. This collaborative effort would create a robust ecosystem where defense innovation and strategy are supported by all sectors of society.

Harnessing India's Youth for Defense and Security

Moreover, Lt Gen Karanbir acknowledged the role of social media and youth engagement in shaping the future of India's defense strategies. While cautioning against the distractions posed by excessive use of social media, Mr Karanbir pointed to the potential of India's vast youth population as a resource that could be harnessed effectively to strengthen the nation's defense capabilities. By cultivating a generation of youth with technical expertise, leadership qualities, and a sense of national pride, India can create a more resilient and strategically agile force.



Strategic Planning for Long-Term National Growth

In conclusion, Lt Gen Karanbir called for a forward-thinking approach to defense, emphasizing the need for strategic planning, innovation and a united effort across various sectors of society. Through enhanced collaboration between the military, industry and the educational system, India can achieve long-term national growth and stability, positioning itself as a global leader in defense and security.



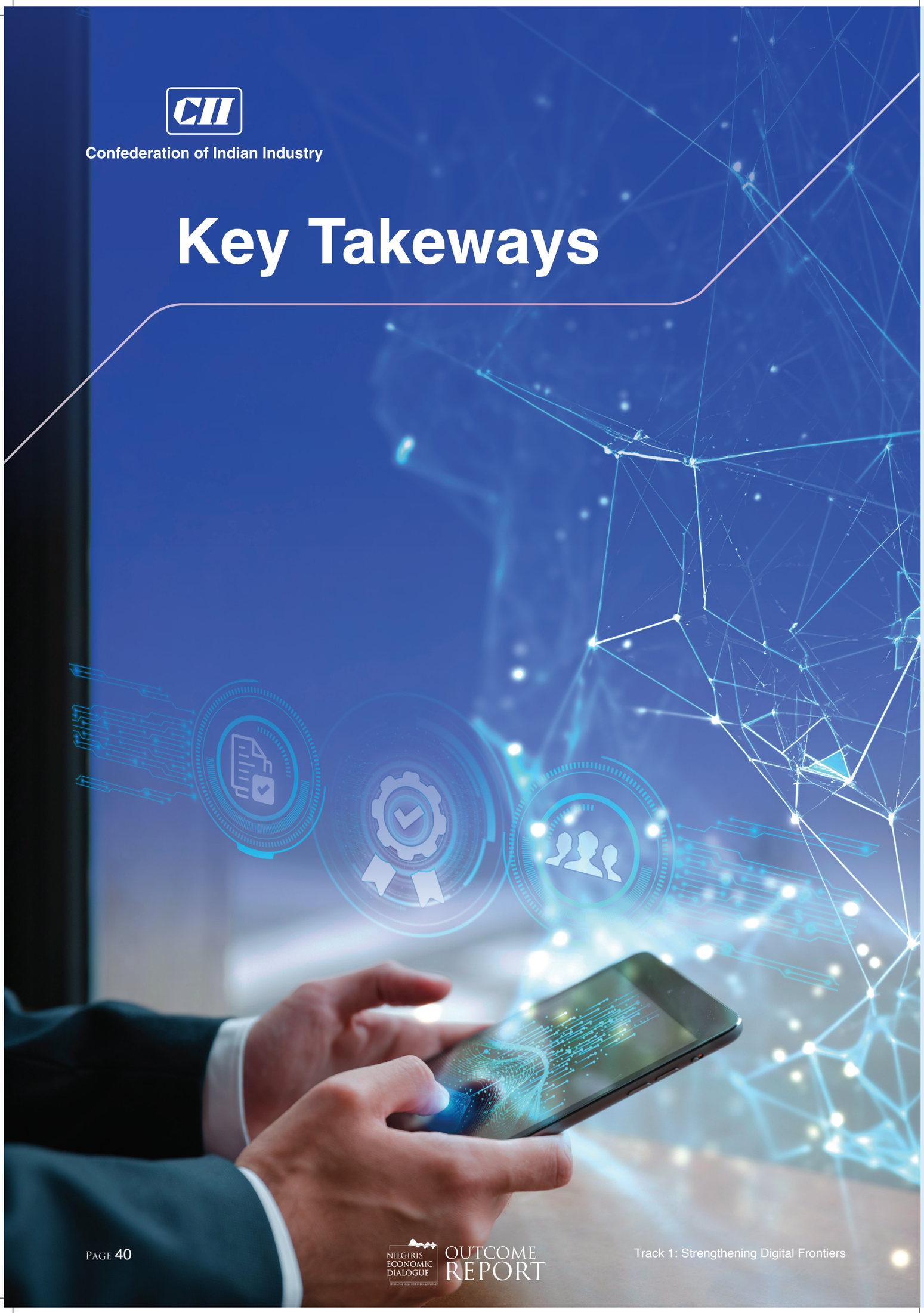
Day 1 Group Pic




Confederation of Indian Industry

Confederation of Indian Industry

Key Takeways



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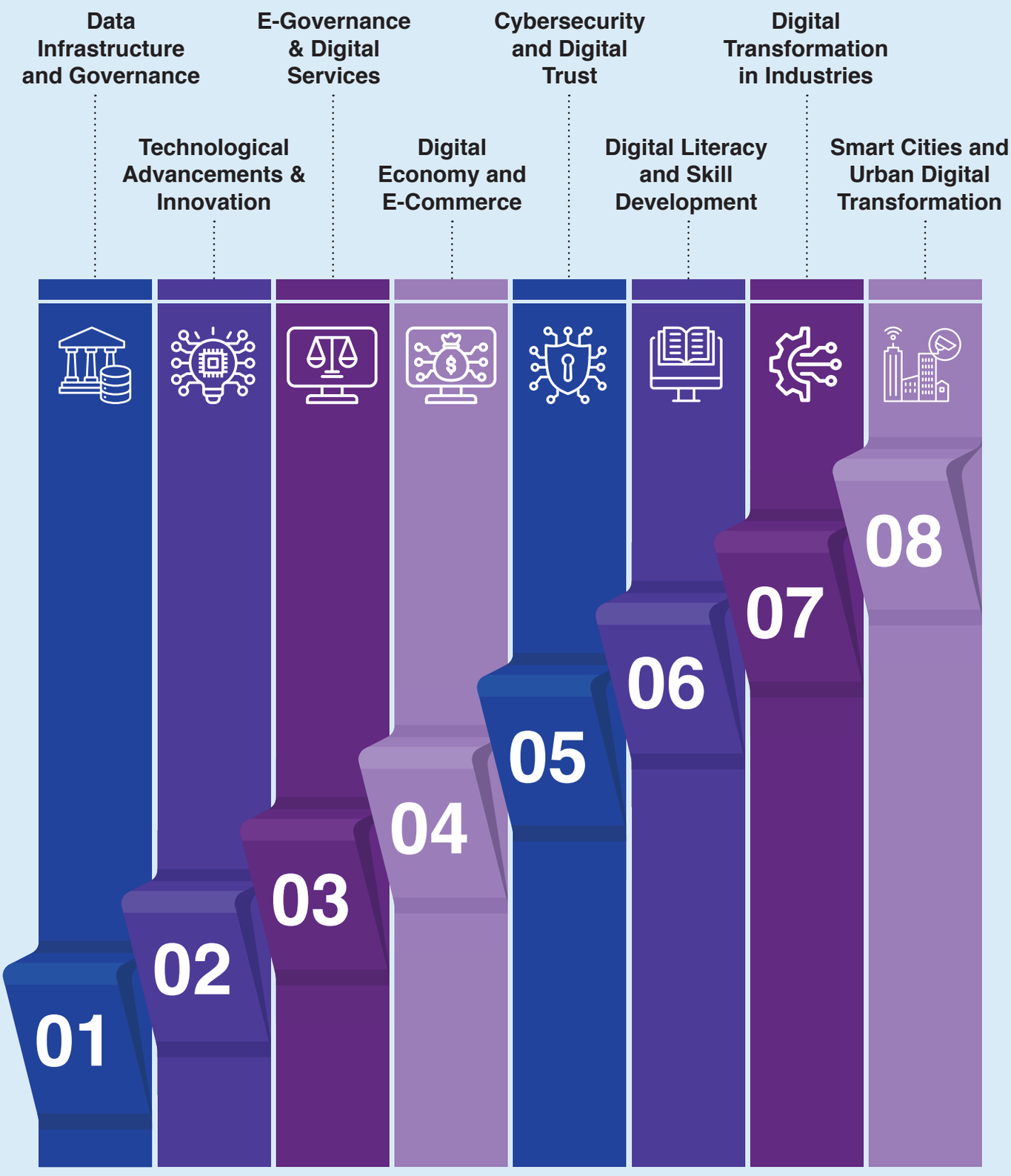
Data Infrastructure and Governance
Technological Advancements & Innovation
E-Governance & Digital Services
Digital Economy and E-Commerce
Cybersecurity and Digital Trust
Digital Literacy and Skill Development
Digital Transformation in Industries
Smart Cities and Urban Digital Transformation
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01

PILLAR 1

Data Infrastructure and Governance

National Data Policies and Frameworks

India has made tremendous strides in establishing robust data governance frameworks. The introduction of the Data Protection Bill is one such initiative aimed at protecting user privacy and regulating data handling. With India's data economy projected to hit $20 billion by 2025, data governance frameworks like the Personal Data Protection Bill (2023) and Data Empowerment & Protection Architecture (DEPA) are crucial for establishing transparency. These frameworks enable secure data sharing while ensuring citizen data ownership and control, making India a global leader in data protection.

Data Centers and Cloud Infrastructure Growth

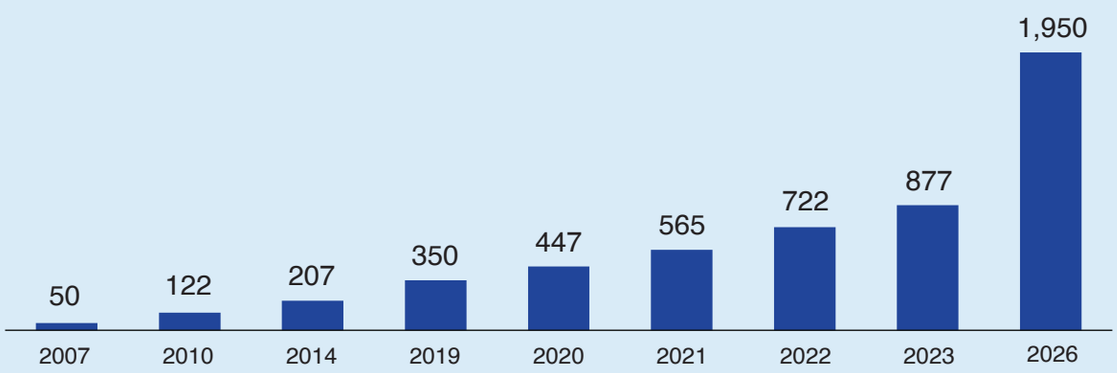
As the digital ecosystem evolves, India is witnessing a rapid expansion of its cloud infrastructure and data centers. By 2025, India's cloud market is expected to reach $10 billion, driven by demand from enterprises needing scalable, secure storage solutions. Cities like Chennai, with its advanced fiber-optic network, are becoming data hub hotspots, housing large-scale data centers from global players like CtrlS and Amazon Web Services (AWS). Tamil Nadu, particularly, has become the preferred destination for data center investments, positioning itself as a critical player in the digital economy.

Data Marketplace and Innovation

India's vision of a Data Marketplace is gradually taking shape with government-backed initiatives to create an ecosystem for buying and selling anonymized datasets. The National Data Governance Framework (NDGF) is expected to open the floodgates for businesses, startups, and academic institutions to access public datasets, which could fuel innovation in fields like AI, healthcare, and agriculture. As the digital economy grows, the value of data will continue to rise, creating a new landscape where data becomes an invaluable asset for driving business and government efficiency.

Building Digital Trust through Transparency

India's Digital India program, launched in 2015, is a major step toward empowering citizens and businesses with secure, easy access to government services. The success of Aadhaar—India's unique biometric identity system used by over 1.3 billion people—has been pivotal in fostering trust in digital services. To build upon this, India has also introduced blockchain technology to verify data, such as land records and educational certifications, ensuring tamper-proof digital transactions. These initiatives not only promote data sovereignty but also create trust in the digital ecosystem.



Source: techchannel

PILLAR 2

Technological Advancements & Innovation

02

The Rise of AI and Machine Learning

India's AI market is projected to reach $7.8 billion by 2025. AI is becoming a cornerstone of technological innovation, with the government pushing initiatives like the National AI Strategy to boost AI-driven sectors such as healthcare, agriculture and manufacturing. For instance, AI-powered health diagnostics systems are already being implemented to reduce diagnostic errors, while agri-tech solutions powered by AI are helping farmers optimize crop yield. AI's transformative potential is clear and India is rapidly becoming a global hub for AI research and development.

Blockchain Technology in FinTech

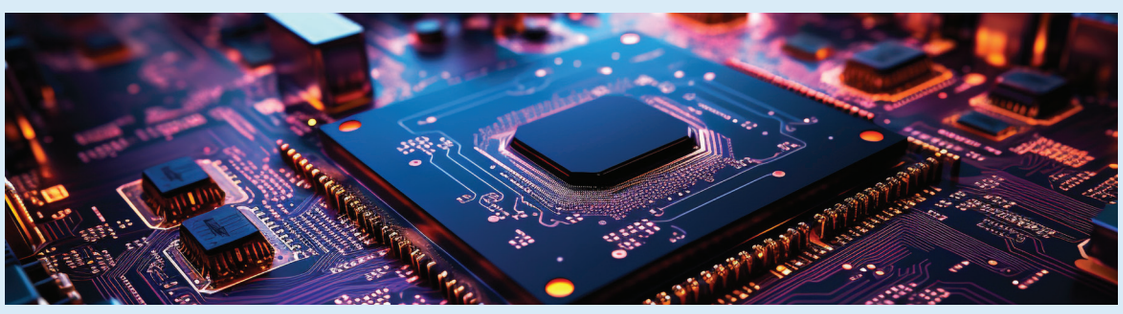
India's blockchain adoption is on the rise, especially in the FinTech sector. Blockchain is not only being used to enhance the security of financial transactions but is also revolutionizing cross-border payments and digital currencies. The Reserve Bank of India (RBI) has shown interest in Central Bank Digital Currency (CBDC), and blockchain's role in building secure financial ecosystems is growing. Tamil Nadu has launched pilot blockchain initiatives to streamline government service delivery, creating transparent, efficient systems that serve as models for other states.

5G and the Future of Connectivity

The roll-out of 5G technology in India is expected to redefine connectivity, enhancing internet speeds by 10x and enabling real-time communication for IoT devices, autonomous vehicles and smart cities. With 5G trials already underway in Tamil Nadu's Chennai and Coimbatore, the state is becoming a hotspot for next-gen connectivity, making it easier for businesses and consumers to leverage IoT, AI and big data. The benefits of 5G will particularly transform industries such as telemedicine, education, and smart infrastructure, creating a fertile ground for innovation.

The Role of Data Science and Analytics

As data grows exponentially, data science and analytics are becoming the backbone of modern businesses. India's data analytics market is expected to grow at a CAGR of 30%, reaching $16 billion by 2025. With educational institutes like IIT Madras offering specialized data science courses, India is training the next generation of innovators who will use data analytics to optimize everything from healthcare delivery to smart city operations. This data-driven transformation is crucial for industries seeking to harness big data for strategic decision-making.



03

PILLAR 3

E-Governance & Digital Services

Digitalization of Government Services

India's Digital India initiative has led to the digitization of 1,000+ government services, making it easier for citizens to access essential services. The introduction of Aadhaar-linked services has streamlined government welfare programs, reducing leakage and ensuring targeted delivery of benefits. The e-District project is another example, providing rural citizens with online access to government services such as pension schemes and birth certificates. This digital transformation has improved efficiency and accountability, paving the way for a more transparent government.

Citizen Empowerment through Digital Platforms

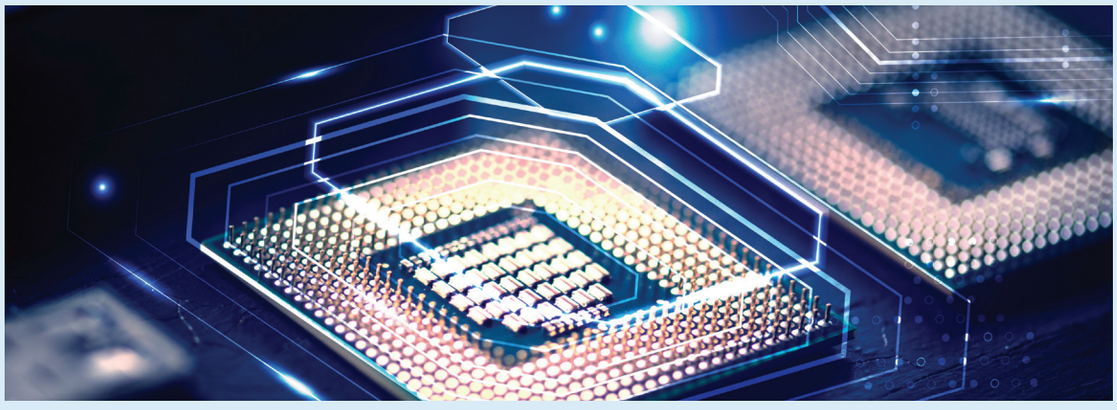
In a bid to ensure equitable access to services, the Indian government has developed UMANG—an app that allows citizens to access over 1,000 government services on their smartphones. This includes services like digital health records, education certificates and land records. With e-governance initiatives like these, the government is bringing services directly to citizens' fingertips, particularly benefiting the elderly and those in remote areas. Tamil Nadu has furthered these initiatives, providing e-Health services to rural areas, enhancing healthcare access for millions.

Transparency and Accountability

India's push for open data platforms is central to its digital governance model. By releasing public datasets on platforms like Data.gov.in, the government is increasing transparency in areas like urban development, water management, and environmental monitoring. This transparency enables citizens and businesses to access critical data for research and development, driving public trust in digital initiatives. The state of Tamil Nadu is also leveraging blockchain technology to create immutable records for government transactions, promoting transparency and accountability.

E-Healthcare Transformation

With healthcare becoming increasingly digital, India is leveraging technologies like telemedicine, digital health records and AI diagnostics to improve accessibility and efficiency. The e-Health initiatives launched in Tamil Nadu are a model for other states, enabling remote consultations and virtual clinics in rural areas. The National Digital Health Mission (NDHM) aims to create a national health ID, making health records portable and easily accessible, thus enhancing the quality of care across India.



04

PILLAR 4

Digital Economy and E-Commerce

Surge in E-Commerce Growth

India's e-commerce industry is set to reach $100 billion by 2025, with sectors like retail, electronics, and grocery delivery driving this growth. Platforms like Flipkart and Amazon India have revolutionized consumer habits, contributing to a rapid surge in online shopping. Tamil Nadu, with its growing urban population, has emerged as one of the top states for e-commerce adoption, fueling a boom in logistics, delivery services, and warehousing sectors.

Digital Payments Revolution

India's digital payments ecosystem has seen an explosion in recent years, with UPI becoming a flagship platform for seamless and secure transactions. UPI saw over 1.5 billion transactions in December 2023, reflecting the growing trust in digital transactions. Tamil Nadu has been at the forefront, with cities like Chennai adopting contactless payments and QR code-based solutions for everything from street vendors to large businesses, creating a cashless society.

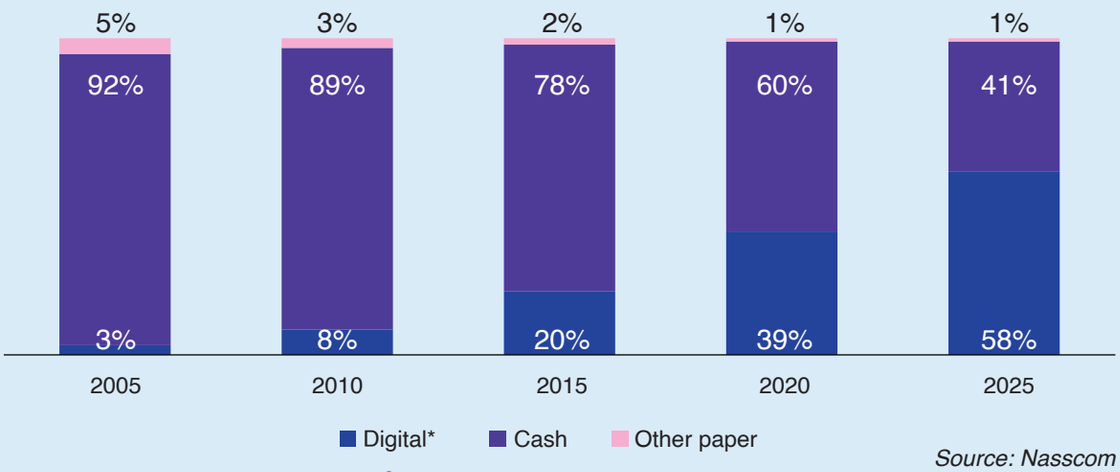
Digital Marketplaces and MSME Growth

The rise of digital marketplaces has provided Micro, Small and Medium Enterprises (MSMEs) with an online platform to scale their businesses. The PMGDISHA scheme (Pradhan Mantri Gramin Digital Saksharta Abhiyan) has empowered rural entrepreneurs with the skills to run digital businesses, facilitating market access to millions of consumers. Tamil Nadu's rural digitalization efforts have been pivotal in enabling local businesses to expand their digital footprint, making them part of the larger e-commerce ecosystem.

Cross-Border E-Commerce Opportunities

India's growing digital export market offers significant opportunities for businesses to tap into global e-commerce platforms. With cross-border e-commerce set to grow at 25% CAGR, Indian businesses, including those from Tamil Nadu, are increasingly exporting products online to markets like the US and EU. Initiatives like Digital India's e-commerce policy are designed to streamline cross-border trade and help Indian SMEs reach international markets.

Digital Payments Growth Journey : India : From 3% in 2005 to 58% in 2025



Source: Nasscom

05

PILLAR 5

Cybersecurity and Digital Trust

Strengthening Cybersecurity Infrastructure

India's growing reliance on digital platforms necessitates robust cybersecurity frameworks. In response to increasing cyber threats, India is investing $4 billion in cybersecurity by 2025, focusing on building secure data centers, advanced threat detection systems and security operations centers. Tamil Nadu has implemented cybersecurity hubs that help businesses and government agencies protect their digital assets against evolving threats.

Cyber Laws and Regulations

To tackle cybercrime, India's Cybersecurity Act and the National Cyber Security Policy aim to create a secure and resilient cyberspace. These policies mandate incident response protocols, security audits and the establishment of cybercrime reporting systems. Tamil Nadu has been actively involved in setting up statewide cybersecurity initiatives, enabling organizations to comply with national standards while ensuring their digital transformation remains secure.

Building Digital Trust through Blockchain

Blockchain technology is central to enhancing digital trust. In sectors like banking, e-commerce, and healthcare, blockchain is being used to ensure data integrity and transparent transactions. Tamil Nadu has integrated blockchain into government service delivery systems, ensuring that records like land registries and academic certificates are tamper-proof. These measures build trust among citizens and businesses, ensuring the security of sensitive data.

Public Awareness and Cyber Hygiene

As digital adoption increases, so does the need for cyber hygiene and public awareness campaigns. India has launched several initiatives to promote cybersecurity education for citizens, including courses on safe online practices, the use of strong passwords, and the importance of multi-factor authentication. Tamil Nadu has also seen campaigns aimed at educating citizens and employees in both private and public sectors to reduce cybercrime risks and ensure safe digital transactions.



06

PILLAR 6

Digital Literacy and Skill Development

Government's Push for Digital Literacy

The Digital India Program has prioritized the widespread dissemination of digital literacy, aiming to reach 250 million people by 2025. This initiative helps ensure that citizens, especially in rural areas, can access government services and participate in the digital economy. Programs like PMGDISHA (Pradhan Mantri Gramin Digital Saksharta Abhiyan) are actively training citizens to use digital platforms for education, healthcare and financial services. By empowering the rural population, India is laying the foundation for a digitally inclusive society.

Skill Development through Government Initiatives

The Skill India Mission has been instrumental in providing digital skills training to millions of youth, ensuring they are ready for the workforce in the digital economy. The National Skill Development Corporation (NSDC) and initiatives like Pradhan Mantri Kaushal Vikas Yojana (PMKVY) offer programs that focus on technical skills related to AI, data science, cybersecurity and blockchain. As a result, India is seeing an increase in a tech-savvy workforce, capable of driving innovation across industries.

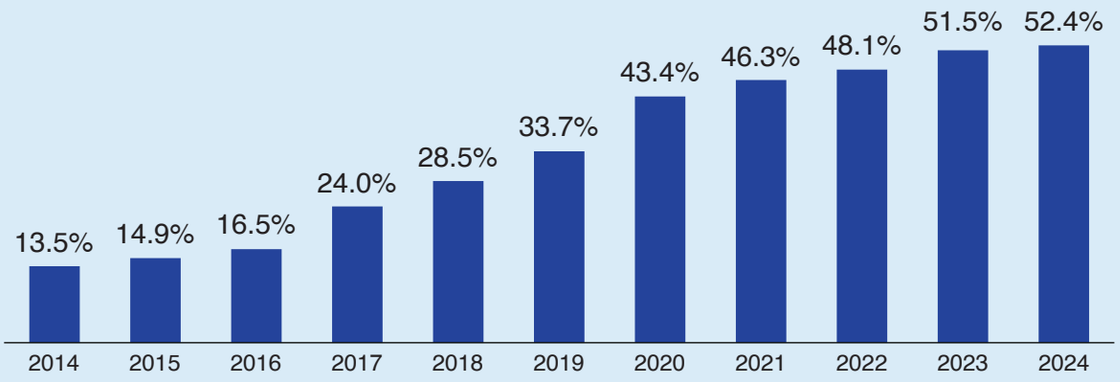
Digital Literacy in Schools and Universities

The Indian government has made substantial investments in digitizing education, equipping students with the necessary skills to succeed in the digital age. Programs such as DIKSHA (Digital Infrastructure for Knowledge Sharing) and NPTEL (National Programme on Technology Enhanced Learning) provide online courses to enhance learning. Institutions like IIT Madras and Tata Institute of Social Sciences (TISS) are offering specialized programs to bridge the gap between traditional education and emerging tech fields like AI, machine learning, and data analytics.

Empowering Women through Digital Skills

One of the most impactful initiatives in India has been the focus on empowering women with digital skills. Initiatives such as #SheTrades and Digital Literacy for Women programs are bridging the gender gap in digital literacy. By providing women access to online training, these programs are opening up opportunities in fields like e-commerce, digital marketing, and entrepreneurship. This focus on digital empowerment is fostering an inclusive environment that fuels innovation and job creation for women.

Internet penetration rate in India from 2014 to 2024



Source: Statista

07

PILLAR 7

Digital Transformation in Industries

1. Digital Transformation in Manufacturing

India's manufacturing sector is undergoing a significant transformation, largely due to Industry 4.0 technologies like IoT, robotics, AI and big data. The Make in India initiative has accelerated the adoption of these technologies to boost productivity, reduce costs, and improve efficiency. For example, the automotive sector in Tamil Nadu, home to companies like Hyundai and Ford, is adopting smart factories and AI-driven supply chains to enhance manufacturing processes. As a result, India is witnessing a revolution in smart manufacturing that positions the country as a global leader in production.

2. Digitalization of Agriculture

India's agriculture sector, which employs more than 50% of the population, is experiencing a digital revolution through technologies such as Precision Agriculture, IoT-based monitoring systems and blockchain. The Digital Green Initiative and eNAM (National Agriculture Market) are digital platforms connecting farmers with buyers and providing them access to weather updates, soil health information and price forecasts. This digital shift is empowering farmers to make data-driven decisions, increasing productivity and profitability in agriculture.

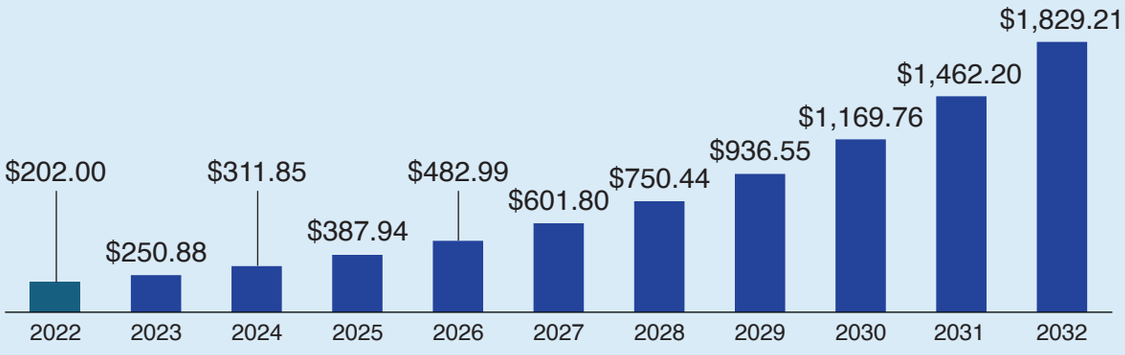
3. Digitalization of Retail and E-Commerce

India's retail industry is undergoing a major digital transformation, with e-commerce platforms like Flipkart, Amazon, and Myntra reshaping how goods are bought and sold. With the rise of mobile-first users, retailers are adopting omnichannel strategies that integrate physical stores with digital platforms. In Tamil Nadu, Chennai has seen a growth in local e-commerce platforms offering everything from groceries to fashion, creating opportunities for SMEs to tap into the broader digital marketplace.

4. Financial Services and FinTech Innovation

India's FinTech sector is booming, with the digitalization of financial services, including digital payments, blockchain-based transactions, and mobile banking apps. The introduction of UPI (Unified Payments Interface) has transformed the way millions of Indians conduct transactions, with 1.5 billion UPI transactions in a single month. Tamil Nadu is at the forefront of this transformation, with a growing number of FinTech startups focusing on digital lending, insurance innovation, and wealth management solutions, all fueled by data and AI.

Global IoT in manufacturing market size



Source: presedence research

PILLAR 8

Smart Cities and Urban Digital Transformation

08

Smart Cities Mission

India's Smart Cities Mission, launched in 2015, aims to develop 100 smart cities with advanced digital infrastructure to enhance urban living. This includes integrated smart traffic management, real-time waste management, digital healthcare and energy-efficient solutions. Cities like Chennai and Bengaluru are already implementing IoT-based systems to monitor air quality and traffic flow, making urban living more sustainable and efficient. The mission is expected to generate new business opportunities, especially for technology companies.

Smart Mobility Solutions

With the rising population and increasing urbanization, India's cities are embracing smart mobility solutions to address transportation challenges. Electric Vehicles (EVs), ride-sharing platforms, and autonomous vehicles are reshaping urban transport. The Tamil Nadu government has introduced policies to incentivize the adoption of EVs and has partnered with tech companies to roll out smart traffic management systems in cities like Coimbatore. These innovations promise to reduce congestion and make commuting more sustainable and efficient.

Sustainable Urban Development

As part of the Smart Cities Mission, there is a strong emphasis on creating sustainable urban spaces that integrate digital technologies for energy efficiency and green building solutions. The development of solar-powered smart grids, intelligent water management, and waste-to-energy plants are being tested in cities like Puducherry and Chennai, ensuring that urban growth does not come at the expense of the environment. These initiatives aim to reduce cities' carbon footprint while maintaining high standards of living.

Citizen-Centric Digital Services

At the heart of the Smart Cities Mission is the citizen. Cities are adopting digital platforms to provide citizens with real-time information and services, such as traffic alerts, healthcare access, and electronic payments for utilities. Tamil Nadu, in particular, has integrated mobile apps and web platforms to streamline the delivery of essential services, allowing citizens to interact with local government bodies efficiently. By making services more accessible and user-friendly, cities are becoming more citizen-centric, fostering a sense of community and participation in governance.



Conclusion

India stands on the brink of an unprecedented digital transformation, where the convergence of **data**, **technology** and the **digital economy** is reshaping its future. The **8 pillars**—spanning data infrastructure, technological advancements, e-governance, digital economy, cybersecurity, digital literacy, industrial transformation and smart cities—demonstrate how India is building a **digitally empowered** ecosystem that will drive growth, innovation and sustainability.

Through visionary programs like **Digital India**, **Skill India**, and **Make in India**, the country is rapidly adopting next-gen technologies like **AI**, **blockchain**, **5G**, and **IoT** to create a **global digital powerhouse**. These advancements are enabling businesses to expand their digital footprint, enhancing efficiency, transparency and productivity across various sectors. **Tamil Nadu**, with its advanced digital infrastructure and thriving **startup ecosystem**, is emerging as a key player in this digital revolution, setting the stage for **industry-wide innovations**.

While challenges remain, particularly in ensuring equitable digital access and cybersecurity, India's continued focus on **digital literacy**, **policy frameworks**, and **tech innovation** positions it to overcome these obstacles and lead the world into a more connected, **inclusive** and **sustainable** future.

The journey to a fully digital India is well underway, and its success will depend on the collaboration between the government, industries, startups, and the citizens themselves. As India embraces its digital future, there is immense potential to not only drive economic growth but also to build a more **inclusive, secure** and **resilient society**, capable of thriving in an increasingly digital world.

India is not merely adapting to the digital age; it is defining it. With bold ideas, robust investments, and transformative initiatives, India and Tamil Nadu are carving a path toward a **new digital era**—one that will set a global benchmark for innovation, digital empowerment and economic development.



Case Study

How Netflix revolutionized the entertainment space by leveraging data & technology

1. Strategy: Business Model Innovation

- **Disrupting Traditional Entertainment**: Netflix disrupted the traditional entertainment industry, moving from a DVD rental model to streaming and content production. This transition was made possible by leveraging the digital economy, allowing them to provide on-demand entertainment to users anytime, anywhere.
- **Subscription-Based Revenue Model**: Netflix implemented a subscription model that relies on recurring revenue. This model is highly scalable and based on customer retention and engagement, both of which are driven by data.
- **Original Content Development**: Netflix uses data-driven insights to develop its original content, ensuring that the content resonates with viewers. The strategy of investing in original series and movies further strengthens customer loyalty and helps Netflix differentiate itself from competitors like Amazon Prime and Hulu.

2. Technology: Infrastructure and Automation

- **Cloud Computing**: Netflix uses cloud-based infrastructure (AWS) to ensure high availability, scalability, and fast content delivery. The cloud platform allows Netflix to provide seamless streaming to millions of users globally, with minimal downtime and latency.
- **Machine Learning and AI**: Netflix's recommendation system is powered by machine learning algorithms that analyze user data to predict and suggest content tailored to individual preferences. The company also uses AI for content creation, including scripts, genre analysis, and audience targeting.
- **Automation for Operational Efficiency**: Netflix employs automation for content management, personalization of recommendations and backend processes, reducing operational costs and improving user experience by delivering relevant content quickly.

3. Data: Analytics and Insights

- **Big Data Analytics**: Netflix collects data on user interactions, watching habits, ratings, and viewing times. This data is continuously analyzed to refine its content library, optimize its user interface, and tailor the recommendations engine.
- **Predictive Analytics for Content Decisions**: Instead of relying on traditional market research, Netflix uses predictive analytics to decide which shows to produce or acquire. Data on what users are watching, how much time they spend on content, and what genres perform best enables Netflix to create content that aligns with user demand.
- **Real-Time Data Processing**: Netflix's ability to analyze data in real time allows it to optimize content recommendations, adjust streaming quality, and anticipate issues before they arise. This ensures a smooth and personalized user experience.

4. Customer Experience: Personalization and Engagement

- **Personalized Content Recommendations**: Netflix's algorithm creates a highly personalized experience for each user, showing them content recommendations based on their individual watching patterns, preferences, and viewing history. This increases engagement and minimizes churn by making users feel like the platform is tailored to their needs.
- **User-Centric Design**: The user interface of Netflix is designed to be simple, intuitive, and user-friendly. It allows customers to easily find and enjoy content, and it adapts to their tastes over time through continuous learning.
- **Globalization and Accessibility**: Netflix uses data to understand regional preferences and adapts its content offering accordingly. This strategy allows the company to cater to a global audience while still maintaining local relevance.
- By using data to guide content creation and acquisition, Netflix has consistently provided shows and movies that resonate with its audience, which has helped it to gain over 200 million subscribers worldwide.
- **Scalability:** Through cloud-based infrastructure, Netflix has been able to scale its operations rapidly, delivering content in over 190 countries and maintaining high-quality streaming without significant investment in physical infrastructure.
- **Sustainability:** Netflix's ability to generate continuous data-driven insights has allowed it to remain ahead of competitors and adapt quickly to changing market conditions. It ensures that content, technology, and user engagement strategies evolve in real-time.

Conclusion

The **Digital Transformation Framework** illustrates how Netflix successfully integrated data, technology and customer experience to revolutionize the entertainment industry. By continuously leveraging these core pillars, Netflix has not only become a global leader in streaming but also set new standards for how businesses can use technology to innovate and scale. The framework helps us see how Netflix adapts to the digital economy and provides insights into how other businesses can utilize similar strategies to drive growth and competitive advantage.

This approach serves as a model for businesses looking to transform in the digital age, emphasizing that strategy, technology, data and customer-centricity must work together to achieve sustainable success.

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Confederation of Indian Industry

Track 2: Trade Winds of Change: Strategies for an Evolving World

(Geopolitics and Deglobalization)



Introduction

India stands at a crucial crossroads in its economic and strategic journey. As one of the fastest-growing major economies, India has demonstrated remarkable resilience in the face of global challenges. Its GDP growth in 2024 is expected to hover around 6-7%, a clear indicator of its robust economic fundamentals despite worldwide uncertainties. India's trade relations are diversifying, with exports reaching a substantial $450 billion in 2023, driven by key sectors like IT, pharmaceuticals and manufacturing. The country's position as a global technology hub is evident, with its software exports alone accounting for about $200 billion annually. The attractiveness of India as a destination for foreign direct investment (FDI) continues to grow, with $84 billion flowing into sectors like manufacturing, digital services and renewable energy in 2023.

Strategically, India has embraced a more active role on the world stage. Its partnerships with the United States, Japan and Australia through the Quad have positioned it as a key player in the Indo-Pacific region. Similarly, its growing engagements with Global South nations reflect a shift in foreign policy, responding to a rapidly changing global landscape.

However, despite these achievements, India's path forward is fraught with complexities. The world is increasingly fragmented and India must navigate a web of geopolitical and economic challenges that could either propel its ambitions or hinder its growth. The delicate balance India must maintain in the face of rising global tensions is evident in its evolving response to the deglobalization wave, the geopolitical flashpoints surrounding it and the ongoing shifts in global power.

The Russia-Ukraine war is a prime example of this, placing India in a delicate diplomatic bind as it tries to balance its long-standing defense and energy ties with Russia while facing growing international pressure to align more with Western nations. India, a major importer of Russian energy and military hardware, finds itself walking a tightrope—continuing its trade with Russia, which provides discounted oil, while also facing the economic repercussions of disrupted global supply chains and soaring energy costs. The war has not only affected global energy prices but has also made India acutely aware of its vulnerability in terms of both defense and energy security.

China's growing presence in countries like Pakistan, Sri Lanka and Nepal has raised alarms in India, which sees its regional dominance being slowly eroded. This increasing proximity to India's borders, coupled with a strengthening China-Pakistan alliance, places India's security at risk. Ladakh and Arunachal Pradesh remain flashpoints where territorial disputes with China continue to simmer. India's increasing military and defense capabilities, while essential, are not enough to quell the growing regional tensions fueled by China's expansive ambitions. Yet, despite these numerous challenges, India has an opportunity to redefine its position in the global supply chain through strategies like friend-shoring and the China+1 approach.

As companies seek to diversify away from China, India could become an attractive alternative hub for manufacturing, leveraging its large labor force and rapidly developing infrastructure. However, seizing this opportunity requires India to address its own systemic weaknesses, such as outdated labor laws, inefficient infrastructure and a slow regulatory environment, which could hinder its ability to fully capitalize on this geopolitical shift. As de-globalization trends take hold, India is faced with the double-edged sword of reducing its reliance on external markets while ensuring its economic growth is not stunted by global isolation. India's challenge lies in how to navigate these shifting dynamics, balancing its national interests with its ambition to become a global economic and political leader. The path forward is anything but straightforward, but India's ability to adapt and respond to these challenges will ultimately determine whether it can fully realize its potential in this increasingly fragmented world.

These pressing dilemmas are set to create a significant impact on India's economy, shaping the course of its future growth. As the world navigates shifting geopolitical and economic landscapes, these challenges demand urgent attention. Speakers will delve into these critical issues in more detail, offering insights and solutions through a series of interactive sessions in the upcoming pages. The discussions will provide a deeper understanding of how India can address these burning concerns and position itself as a strong economic player in a rapidly changing global environment.

Confederation of Indian Industry

Track 2: Speakers

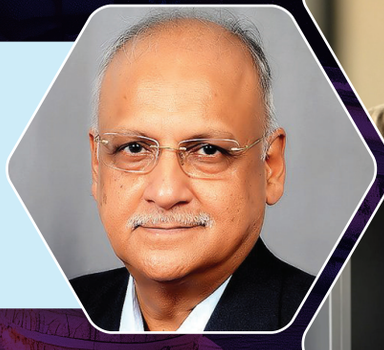
Speakers



Lt Gen Ananthanarayan Arun
PVSM, YSM, SM, VSM (Retd), Former Director General Strategic Planning, Indian Army



Amb Pankaj Saran
Convenor, NatStrat & Member, National Securitty Advisory Board



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Moderators



AR Unnikrishnan,
Vice Chairman, CII Tamil Nadu State Council & Managing Director - Glass, Glass Solutions and Home & Hospitality, Saint Gobain India Private Limited



Stanly Johny
International Affairs Editor, The Hindu



Happymon Jacob
Founder & Honorary Director, Council for Strategic and Defence Research (CSDR)

Confederation of Indian Industry

INDIA@2050:

Shaping the Future – Vision, Challenges and Opportunities

Mr AR Unnikrishnan,
Vice Chairman, CII Tamil Nadu State Council & Managing Director - Glass, Glass Solutions and Home & Hospitality, Saint Gobain India Private Limited

with

Lt Gen Ananthanarayan Arun,
PVSM, YSM, SM, VSM (Retd)
Former Director General Strategic Planning, Indian Army



Discussion Outcome



Shaping India's Future Vision: Strategic Insights for National Growth

In the face of rapidly evolving geopolitical landscapes, technological advancements and domestic challenges, India's future lies in its ability to strategically plan, innovate and adapt. The speaker's insights provide a comprehensive framework for shaping India's future in the military, industry and leadership. The focus should be on long-term preparedness, technological innovation and leadership transformation to ensure that India remains resilient in the face of future challenges.

1. Future Readiness: The Need for Strategic Vision and Technological Advancement

India's preparedness for the future hinges on its strategic vision and the ability to integrate technology into defense and industrial sectors. To compete globally and ensure national security, India might want to develop forward-thinking military strategies and an industrial base capable of supporting this vision.

- **Long-term Military Strategy**: Evolving from "Make in India" to "Think in India" The speaker emphasized the military strategies to evolve with a vision that spans decades. While India's Make in India initiative has successfully fostered local defense production, the next phase requires a shift to innovative thinking. India needs focus on developing homegrown technologies and leveraging R&D for a strategic advantage, anticipating the evolving nature of modern warfare. This approach demands patience and foresight, as ideas take years to



come to fruition—sometimes up to 25 years from research to the final product. An example in this area could be India's long-term strategy in developing the indigenous Tejas fighter jet. The Tejas project, which began in the 1980s, showcases India's commitment to building self-reliance in defense manufacturing. Despite initial challenges, sustained efforts in research, technological advancements and collaboration between various defense agencies led to the successful development of the Tejas, which is now an integral part of the Indian Air Force. This achievement demonstrates how a carefully planned, long-term strategy can lead to the creation of high-tech, globally competitive products within India.

- **Technological Integration**: Staying Ahead of Global Military Advancements and Military technology is the backbone of modern defense forces. India can look into integrating cutting-edge technologies like AI, robotics, big data and advanced communication systems into its defense infrastructure. The speaker highlighted how innovations such as high-tech jackets for soldiers have already started to impact India's defense readiness. However, there is still significant work to be done in keeping up with the evolving demands of modern warfare, where technological superiority is paramount.



2. How to Ensure We Are Future-Ready: Building Resilient Industry and Leadership

The future of India is also closely tied to industrial growth and the development of future-ready leaders. It is not just about technological advancements in defense; it is also about ensuring robust industry and leadership systems that can drive national growth, innovation and adaptability.

- **The Role of Industry in National Defense and Growth**
  India's defense and industrial sectors are intrinsically linked. The speaker highlighted the need for closer government-industry partnerships to drive technological innovations and scale up defense manufacturing. India's challenge remains its inability to match China's industrial scale, especially in large-scale production. Industrial collaboration with sectors like tech, manufacturing and fintech will be critical in positioning India as a global leader in both defense and other industries.

- **Fostering Risk-Taking and Innovation in Leadership:** True leadership, especially in military or business, requires embracing risk-taking and innovation. The speaker highlighted that entrepreneurship thrives in environments where leaders are willing to step into the unknown. The mindset of risk-taking should permeate through all sectors, whether in defense, business, or technology, to push boundaries and drive India's growth. Leadership based on vision and integrity is what will foster innovation across sectors and make India resilient in the face of challenges.
- **Preparing the Second-in-Command for Crisis Management:** A crucial lesson in leadership comes from military operations: the second-in-command (2IC) must always be prepared to step up and lead during times of crisis. The speaker emphasized that succession planning and preparing the 2IC is vital for ensuring that leadership continuity is maintained. This principle holds true in all sectors, as a strong leadership structure is

necessary to tackle unexpected challenges and crises.

3. Enablers for Becoming Future-Ready: Technology, Talent and Decision-Making

For India to become truly future-ready, the enablers for progress must be firmly in place. These enablers will empower both the military and industrial sectors, ensuring that India is equipped to meet future demands with technological innovation, a skilled workforce and decisive leadership.

- **Military Innovation:** Keeping Pace with Emerging TechnologiesThe evolution of military warfare requires constant innovation. The speaker pointed out that the introduction of advanced military technologies, such as autonomous systems, cybersecurity and space warfare, will define the future of defense strategies. Indian should continue increasing investments in R&D, military-grade innovations and advanced weaponry to ensure it stays ahead in global defense capabilities.
- **Skill Development:** The Workforce of the FutureThe Skill India Mission and initiatives like Pradhan Mantri Kaushal Vikas Yojan (PMKVY) are laying the foundation for a tech-savvy workforce. However, as AI, blockchain and cybersecurity shape the industries of tomorrow, there is a need for specialized training in emerging fields. The speaker emphasizes the importance of digital literacy and skills development in ensuring that India's youth are not only prepared for the digital economy but also able to drive the technological innovations that will shape the future.

Embracing the Future Through Innovation, Leadership and Resilience

India's future depends on its ability to integrate strategic military planning, technological advancement and industrial growth with visionary leadership. The speaker's insights provide a roadmap for ensuring that India is prepared for the challenges ahead. Through collaboration between government and industry, embracing risk-taking and innovation in leadership and fostering a future-ready workforce, India can position itself as a global leader. It is only through innovation, agility and resilience that India can secure its place in the next phase of global development



Confederation of Indian Industry

GEOPOLITICAL FLASHPOINTS:

Navigating the Russia-Ukraine War, USA-CHINA Tension, West Asian Conflicts

Mr Stanly Johny
International Affairs Editor, The Hindu

&

Amb Pankaj Saran
Convenor, NatStrat & Member, National Securitty Advisory Board



Discussion Outcome



Geopolitical Flashpoints: Navigating Global Tensions from India's Perspective

India finds itself at a pivotal crossroads in a world defined by escalating geopolitical tensions, especially with the USA-China rivalry, the Russia-Ukraine conflict and ongoing West Asian instabilities. According to Amb Pankaj, these flashpoints present both challenges and opportunities for India. The country must adopt a proactive and strategic approach to safeguard its national interests while capitalizing on emerging global dynamics.

1. USA-China Rivalry: Economic and Political Implications for India

The rivalry between USA and China continues to dominate the global stage, with far-reaching consequences for trade, technology and military strategies. As Amb Pankaj highlighted, India must carefully balance its relations with both superpowers.

- **Economic and Political Tensions:** The escalating trade wars and technological competition push India to diversify its supply chains and forge new economic partnerships.
- **Impact on Global Trade**: Amb Pankaj emphasized how the rivalry disrupts global trade flows, presenting an opportunity for India to expand its role in the international market by strengthening its manufacturing base and trade agreements.



2. The Russia-Ukraine Conflict: Strategic and Economic Fallout

The Russia-Ukraine war has reshaped global security dynamics, with significant economic shifts and a rethinking of military strategies.

- **Global Implications**: As Amb Pankaj pointed out, the war has underscored the importance of energy security and international stability. For India, maintaining strategic neutrality while fostering strong ties with Russia is critical.

- **Economic and Military Fallout**: Rising energy costs and disruptions to global supply chains directly affect India's economy. The conflict also calls for India to enhance its defense readiness and invest in self-sufficiency in military equipment.

3. India's Strategic Positioning: Navigating Global Flashpoints

In this period of geopolitical flux, Amb Pankaj believes India must leverage its strategic position to navigate these global tensions effectively.

- **Proactive Foreign Policy**: India's approach must be multi-faceted—maintaining balanced relations with the USA, China and Russia while strengthening alliances in the Indo-Pacific. India should focus on regional security, economic resilience and technological innovation.

- **Opportunities for Global Leadership**: India is uniquely positioned to maximize trade diversification and enhance its global influence. As Amb Pankaj mentioned, by strengthening diplomatic ties, focusing on defense capabilities and promoting peaceful coexistence, India can emerge as a key global leader.

positioning itself as a mediator to ensure regional stability.

Shaping India's Path Amid Global Tensions

In navigating the complex challenges presented by the USA-China rivalry, Russia-Ukraine conflict and West Asian instability, Amb Pankaj suggested that India needs to adopt a strategic balanced and forward-thinking approach. By enhancing its diplomatic influence, economic resilience and technological innovations, India can protect its interests while playing a significant role in shaping the future geopolitical order



Confederation of Indian Industry

CHINA'S RISE AND ITS IMPACT ON THE WORLD:

Implications for India-China Relations

Mr Happymon Jacob
Founder & Honorary Director, Council for Strategic and Defence Research (CSDR)

&

Lt Gen S L Narasimhan
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Discussion Outcome

China's Rise and its Global Implications

The discussion on China's rapid rise emphasized how this shift is reshaping the global landscape in both economic and geopolitical terms. China's ascent to becoming the world's second-largest economy has fundamentally altered trade networks and global power dynamics. The discussion underscored China's extensive infrastructure projects through its Belt and Road Initiative (BRI), connecting countries across continents and its increasing influence in international trade and institutions. The conversation highlighted that while China's economic growth offers significant opportunities for countries, its assertive military posturing, especially in the Asia-Pacific region, is raising concerns globally.

Geopolitical Implications: China's Military Expansion and India's Strategic Role

China's growing military influence and expansionist policies have profound geopolitical implications, especially in the Asia-Pacific region.

- **China's Engagement in the Asia-Pacific**: China's military presence in the South China Sea and its Belt and Road Initiative (BRI) have raised concerns about regional security and stability. India, as a key player in the Indo-Pacific, faces increasing pressure from China's assertiveness in these areas. India needs to actively work to safeguard regional security by strengthening its military readiness and deepening ties with like-minded countries in the region.
- **Indo-Pacific Strategy and QUAD**: India's participation in the Quadrilateral Security Dialogue (QUAD) with the United States, Japan and Australia serves as a critical part of its strategy to counter China's expansion in the Indo-Pacific. Strengthening these alliances will allow India to project its influence more effectively in the face of China's increasing assertiveness. By bolstering defense cooperation and regional partnerships, India can ensure the stability of the Indo-Pacific and safeguard its own interests.

Implications of China's Rise for India

The discussion on the implications of China's rise for India revealed significant concerns and strategic opportunities. As tensions between the two nations continue to escalate, especially following the Galwan Valley clash, the discussion pointed out that India must navigate this complex relationship carefully. With trust between India and China at an all-time low, the discussion came to the conclusion that both countries' military posturing and unresolved border disputes must remain a critical focus for India's foreign policy and defense strategies.



India's Strategy: Countering China's Influence and Ensuring Future Readiness

The conversation on how India should respond to China's rise stressed that a comprehensive strategy is essential for countering China's growing influence. It was clear from the discussion that India's economic response must be centered on self-reliance and the "Atmanirbhar Bharat" initiative emerged as a central theme. The discussion highlighted that India's manufacturing sector needs significant investment and reducing dependency on Chinese goods is crucial for achieving economic resilience and strategic autonomy.

In terms of future readiness, the discussion felt strongly that India must stay ahead of technological and defense innovations to maintain its competitive edge. The conversation concluded with a consensus that India's long-term strategy must focus on resilience, ensuring that the country is equipped for both economic challenges and military preparedness. By investing in key sectors and forging stronger international alliances, India can navigate the changing global dynamics while maintaining its sovereignty and regional influence.

Track 2: Roundtable topics

Possible leveraging opportunities by India with reference to Friend Shoring and the China+1 strategy

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The Impact of a Potential Trump Re-election on Global Trade Dynamics: Challenges and Opportunities for India

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The Rising Trend of De-globalisation: Implications for Global Trade and India's Economic Outlook

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The US-China Tech War: Strategic Implications for India's Economic and Technological Future









Roundtable – Outcome

1. Leveraging Opportunities for India with reference to Friend Shoring and the China+1 Strategy

The roundtable discussion underscored the growing significance of the China+1 strategy, where countries diversify their supply chains and production capacities to reduce dependence on China. As global businesses seek alternatives to China due to geopolitical tensions, supply chain vulnerabilities and rising labor costs, India emerges as a potential winner in this shift.

India's large and youthful labor force, combined with its growing technological infrastructure and competitive cost structures, makes it an ideal destination for companies looking to diversify manufacturing. Key sectors such as pharmaceuticals, textiles, electronics and automobiles are well-positioned to benefit from this trend. For instance, Indian pharmaceutical companies already serve global markets and with the growing China+1 shift, India can expand its production capacity and enhance its role in global supply chains.

However, India needs to address several internal challenges, including outdated policies, regulatory bottlenecks and insufficient innovation and infrastructure. To fully leverage the opportunities presented by this trend, India needs to modernize its industrial policies and create a more business-friendly environment. This includes further streamlining tax regulations, improving access to finance for MSMEs and fostering public-private collaborations. As global firms seek diversification, India must also enhance its skilling initiatives, ensuring its workforce is equipped to handle the demands of advanced manufacturing technologies.

In this context, India's "Atmanirbhar Bharat" (self-reliant India) program plays a critical role. By focusing on building local capabilities in key sectors, India can attract investments, reduce dependency on China and improve the resilience of its domestic industries. Additionally, creating Special Economic Zones (SEZs) and manufacturing hubs could make India an attractive destination for global businesses shifting their production.

2. The Impact of a Potential Trump Re-election on Global Trade Dynamics: Challenges and Opportunities for India

The potential re-election of Donald Trump as U.S. President raises several uncertainties and challenges for India, particularly in the context of global trade dynamics. Trump's previous

tenure saw the U.S. take a more protectionist approach with tariffs, trade wars and an America First policy. A second term could see a return to trade restrictions and a focus on deglobalization, especially in critical sectors like IT services, pharmaceuticals and textiles, which form a large part of India's exports to the U.S.

Under a Trump re-election, the trade policies might include higher tariffs on Indian exports, which could affect India's cost competitiveness, particularly in industries like steel, automobile parts and electronics. Moreover, Trump may also continue to push for intellectual property protection measures and restrictive immigration policies, which could further impact the Indian IT sector and the movement of skilled labor.

However, India can also find opportunities in a Trump re-election by diversifying its trade partnerships with countries like Japan, Germany and Australia while strengthening its presence in emerging markets in Africa, Southeast Asia and Latin America. India can actively engage with the World Trade Organization (WTO) to push for fair trade practices and reduce the impact of protectionism. Additionally, India could look to secure more bilateral trade deals with countries like the European Union and ASEAN nations to counterbalance any negative impact from the U.S.



India can also take this opportunity to revitalize its domestic industries, strengthen its Make in India initiative and reduce its dependency on the U.S. market. By focusing on domestic production, technological advancements and expanding its exports to alternative markets, India can mitigate the challenges posed by a more protectionist U.S. and position itself as a reliable partner for global trade.

3. The Rising Trend of De-globalization: Implications for Global Trade and India's Economic Outlook

The trend of de-globalization has been gaining traction, with countries worldwide prioritizing self-sufficiency, protectionism and focusing on local industries. This shift has been especially noticeable after the COVID-19 pandemic, which exposed the vulnerabilities of long, complex global supply chains. The resulting rise in nationalist sentiments and protectionist policies could present both challenges and opportunities for India.

The implications of de-globalization for India are multifaceted. On the positive side, India can harness the desire for localization and regionalization to strengthen its own domestic industries. The push for local manufacturing aligns with India's ongoing efforts to build a robust manufacturing sector through initiatives like Make in India. By focusing on reducing reliance on imports, particularly in sectors like pharmaceuticals, electronics and consumer goods, India can increase its industrial self-sufficiency.

However, de-globalization also presents significant challenges. The shift away from global trade could result in higher tariffs and trade barriers for Indian exporters, making it harder for India to access critical markets. Additionally, countries adopting protectionist policies might prioritize local industries over international suppliers, further complicating trade dynamics for India.

To effectively respond to de-globalization, India should focus on regional supply chains and the localization of critical sectors such as defense manufacturing, renewable energy and automobiles. Strengthening relationships with neighboring countries and emerging markets could reduce India's reliance on global supply chains and mitigate risks associated with geopolitical tensions. Furthermore, India's commitment to sustainability and resource-efficient technologies could offer

a competitive advantage in the global market, especially in industries where eco-friendly practices and innovation are increasingly prioritized.

India needs to invest in digital infrastructure to ensure its industries remain competitive in a technology-driven global market. For example, promoting digital trade, e-commerce and data-driven business models will allow India to continue engaging in global commerce despite physical barriers.

4. The US-China Tech War: Strategic Implications for India's Economic and Technological Future

The ongoing US-China tech war has far-reaching consequences for global trade and India's technological future. The intensifying conflict between the U.S. and China over technology dominance is reshaping the global landscape, creating opportunities and challenges for India.

On one hand, the tech war presents an opportunity for India to emerge as a key alternative supplier of technological goods and services. The shift away from China as a manufacturing hub for critical technologies opens the door for India to play a more significant role in global tech supply chains, especially in sectors like semiconductors, 5G infrastructure and Artificial Intelligence (AI). India already has a strong base in IT services and software development and as global companies look to de-risk their operations, India can offer cost-effective and reliable alternatives to Chinese suppliers.



However, India faces its own set of challenges in this space. The country must accelerate investments in R&D, build a robust tech ecosystem and improve its intellectual property framework to attract global tech players. India's ability to produce high-quality semiconductors and advanced manufacturing technologies will be critical to its success in this new era of tech competition.

The U.S.-China tech war also presents an opportunity for India to build closer strategic alliances with Western nations, especially in areas like data protection, cybersecurity and cloud computing. Through such partnerships, India can position itself as a trusted tech partner for countries seeking alternatives to Chinese tech solutions.

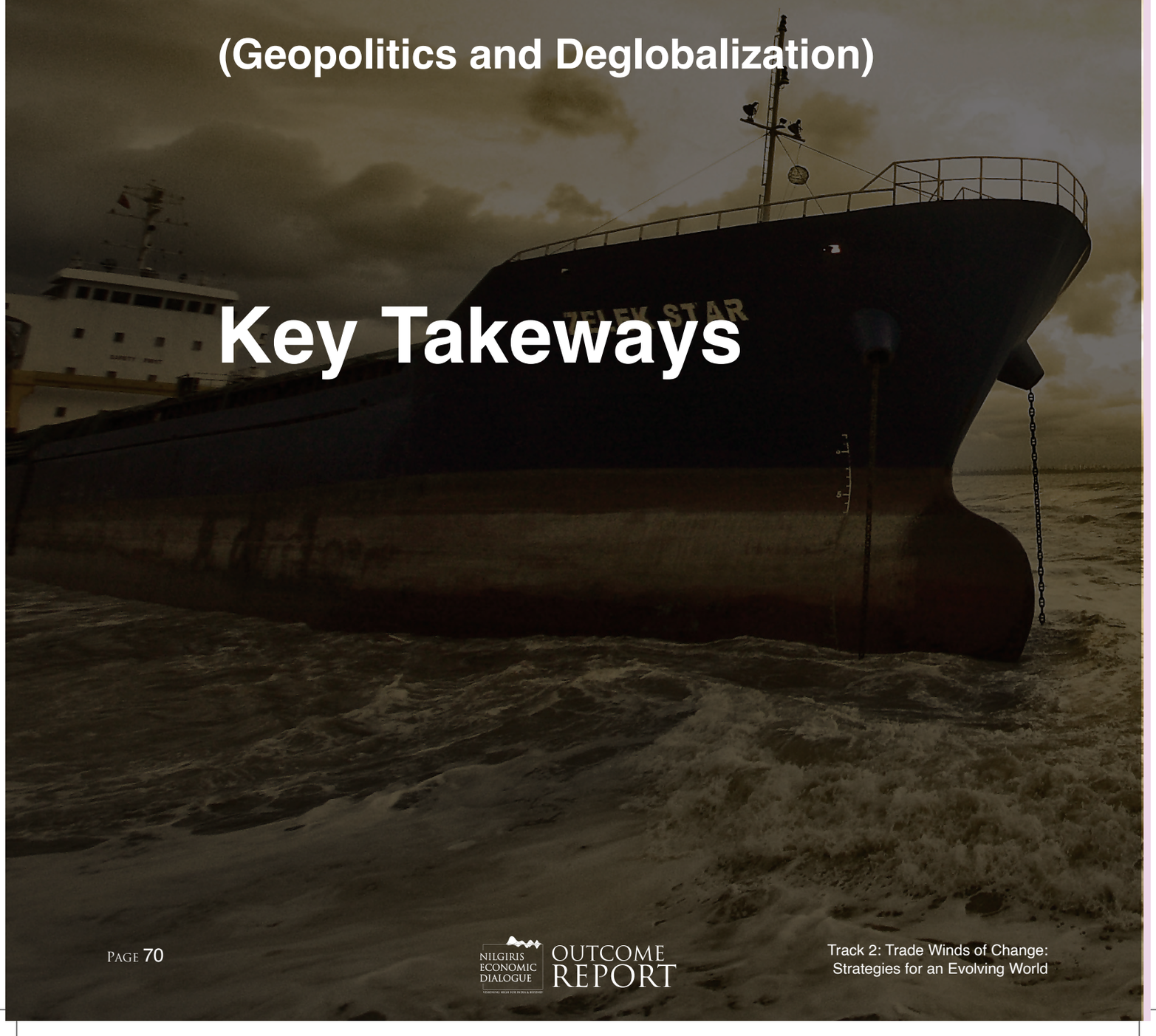
India must also address challenges related to tech infrastructure and skilling its workforce to ensure its technological capabilities meet global standards. By focusing on building innovative ecosystems, supporting startups and integrating digital technologies into every sector, India can capitalize on the strategic shift in the global tech landscape and position itself as a global tech leader in the coming years.



Confederation of Indian Industry

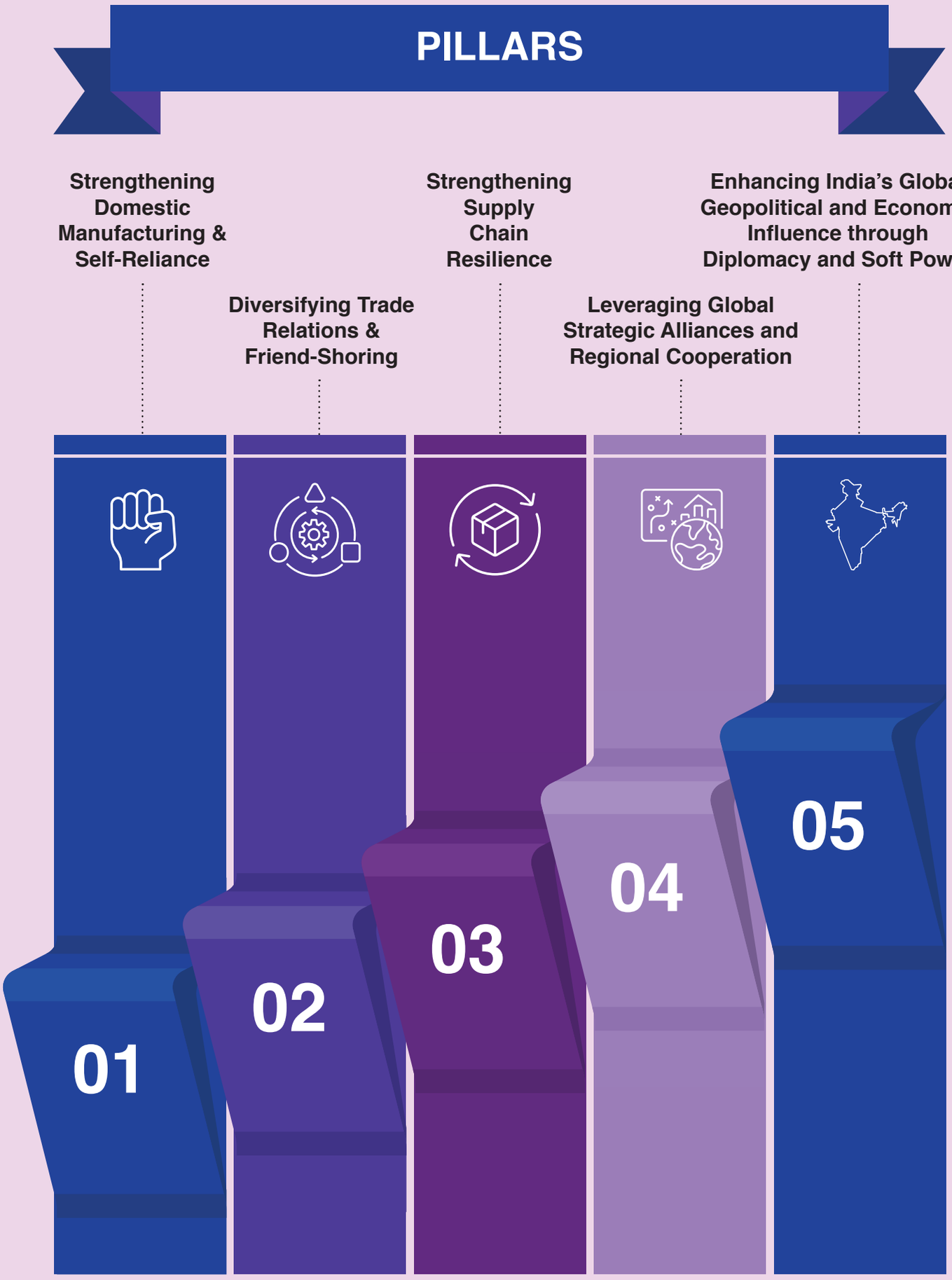
Trade Winds of Change: Strategies for an Evolving World

(Geopolitics and Deglobalization)



Key Takeways

PILLARS


Strengthening Domestic Manufacturing & Self-Reliance
Diversifying Trade Relations & Friend-Shoring
Strengthening Supply Chain Resilience
Leveraging Global Strategic Alliances and Regional Cooperation
Enhancing India's Global Geopolitical and Economic Influence through Diplomacy and Soft Power
01
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01

PILLAR 1

Strengthening Domestic Manufacturing & Self-Reliance

India's path to economic resilience in the face of global challenges, including geopolitical tensions, disruptions in supply chains and rising deglobalization, is heavily reliant on the robust development of its domestic manufacturing sector. Strengthening India's self-reliance in manufacturing will not only reduce its dependence on foreign imports but also position it as a dominant force in global supply chains, particularly as businesses look for diversified sourcing options in the aftermath of recent disruptions. The following recommendations outline the essential steps to strengthen India's domestic manufacturing capabilities, thereby ensuring a sustainable, self-reliant and globally competitive economy.

1.1. Expanding the Production-Linked Incentive (PLI) Scheme

The PLI Scheme has already proven effective in sectors like electronics, automotive and pharmaceuticals. To maximize its potential, India should extend this scheme to other sectors such as textiles, chemicals, renewable energy and defense. By offering targeted incentives for these industries, India can reduce reliance on imports and strengthen its manufacturing base.

- **Broaden Sectoral Scope**: Extend the PLI Scheme to critical sectors like renewable energy and defense manufacturing to build self-reliance in strategic industries.
- **Simplify Implementation**: Streamline regulatory processes for both domestic and foreign companies to access incentives. Transparency and efficiency in disbursements can boost investor confidence.
- **Incentivize R&D**: Focus on providing incentives for innovation and research, ensuring Indian manufacturers adopt cutting-edge technologies and remain globally competitive.
- **Foreign Investment Focus**: Attract foreign manufacturers by offering tax benefits and market access to encourage them to set up production facilities in India.

1.2. Fostering Innovation and Technology in Manufacturing

India's manufacturing sector needs to embrace technological advancements such as AI, automation and 3D printing. This can be achieved by fostering innovation through public-private partnerships and building innovation hubs.

- **Support Tech Incubators**: Establish technology incubators and innovation hubs focused on key industries like aerospace, EVs and defense, where India can develop indigenous solutions.
- **Promote Automation**: Implement incentives for automation and robotics to drive efficiency, reduce labor costs and boost productivity in key sectors like automotive and electronics.
- **Encourage R&D in Core Sectors**: Provide grants and subsidies for R&D in critical industries like pharmaceuticals, renewable energy and chemicals, ensuring India becomes self-reliant in these areas.

1.3. Building Robust Infrastructure for Manufacturing

India's infrastructure needs to support large-scale production. This includes upgrading transportation networks, building industrial parks and ensuring reliable, sustainable energy access for manufacturing.

- **Develop Integrated Clusters**: Create industrial clusters near key transportation hubs for efficient movement of goods, reducing logistical inefficiencies and production costs.
- **Focus on Renewable Energy**: Promote renewable energy infrastructure for manufacturing plants to reduce carbon footprints and meet global sustainability standards.

1.4. Skilling and Reskilling the Workforce

A skilled workforce is essential for India's manufacturing ambitions. Developing educational and vocational programs tailored to the needs of modern manufacturing can help India achieve this.

- **Create Specialized Training Institutes**: Establish institutions that focus on advanced manufacturing skills, such as automation and robotics, to prepare workers for emerging job roles.
- **Promote Apprenticeships**: Industry collaborations with educational institutions can provide hands-on training, preparing students for real-world manufacturing roles.
- **Invest in Reskilling Programs**: Focus on upskilling existing workers to handle new-age manufacturing processes and technologies, ensuring a future-ready workforce.

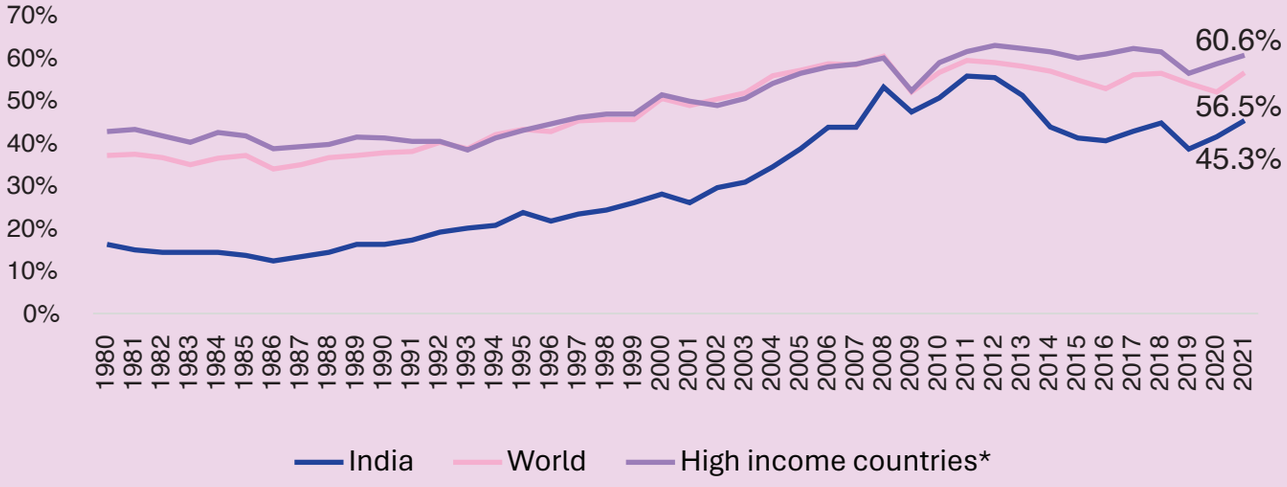
1.5. Enhancing Ease of Doing Business in Manufacturing

India needs to further improve its regulatory environment to foster the growth of domestic manufacturing. Simplifying tax regimes, easing land acquisition and expediting licenses are crucial steps.

- **Streamline Regulations**: Reduce bureaucratic delays in land acquisition, product certification and environmental clearances to create a more business-friendly environment.
- **Tax Reforms**: Simplify the tax structure for manufacturers, with clear and predictable policies, to reduce compliance burdens.
- **Offer Long-term Investment Incentives:** Provide long-term tax exemptions for manufacturers that make substantial investments, ensuring the sector's growth and stability.

International trade – India's catching up

Total trade volume as a percentage of gross domestic product



* Countries with a gross national income per capita of $13,205 or more

Source: World Bank

02

PILLAR 2

Diversifying Trade Relations & Friend-Shoring

As the global economic landscape shifts due to deglobalization and the rise of protectionist policies, India needs to focus on diversifying its trade relations and fostering deeper strategic alliances with like-minded countries. By embracing new markets, strengthening bilateral and multilateral partnerships and positioning itself as a key player in the global economy, India can navigate geopolitical uncertainties and expand its influence on the global stage.

2.1. Strengthening Bilateral and Multilateral Trade Agreements

India's trade strategy needs to evolve from relying heavily on traditional partners like the United States and the European Union to tapping into emerging markets and reinforcing relationships with countries that share democratic values and a commitment to fair trade practices. To achieve this, India can leverage both bilateral and multilateral platforms to enhance its global trade position.

- **Expand Bilateral Partnerships**: India needs to prioritize strengthening existing trade agreements like the Comprehensive Economic Cooperation Agreement (CECA) and RCEP (Regional Comprehensive Economic Partnership) with ASEAN, as well as the India-UAE CEPA (Comprehensive Economic Partnership Agreement). Further, India should actively pursue Free Trade Agreements (FTAs) with key regions like Latin America, Sub-Saharan Africa and Central Asia. These regions are poised for high economic growth and provide untapped opportunities for trade and investment.
- **Push for Regional Trade Alliances**: Beyond traditional FTAs, India needs to also champion the creation of new trade forums with like-minded countries to promote regional cooperation, especially in sectors like clean energy, agriculture and technology. By positioning itself as a trade leader in these regional alliances, India can promote stability in the supply chains and gain better access to new markets.
- **Focus on Reducing Trade Barriers**: One of India's priorities needs to be to reduce trade barriers such as tariffs, customs duties and import restrictions. Encouraging tariff reductions and harmonization of regulations with strategic partners can improve market access and increase the competitiveness of Indian businesses in global markets.

2.2. Engaging in Digital Trade Agreements

As the global economy becomes increasingly digital, the importance of digital trade agreements (DTAs) cannot be overstated. India is already a leader in IT services, fintech and digital content and by expanding digital trade, it can unlock enormous potential for economic growth.

- **Prioritize Digital Trade Agreements (DTAs)**: India needs to aggressively pursue DTAs with key countries like the United States, the European Union, Japan and other advanced economies. These agreements would ensure the free flow of data across borders, safeguard intellectual property rights and create a secure environment for cross-border digital transactions. This is especially critical in sectors like IT services, e-commerce and cloud computing.
- **Promote Digital Economy Expansion**: With a strong digital infrastructure, India has the potential to become a global leader in e-commerce and digital trade. By creating favorable policies that encourage e-commerce, India can make its businesses

competitive globally and also enhance consumer access to international goods and services.

- **Strengthen Cybersecurity Frameworks**: To ensure that digital trade is secure and trustworthy, India needs to develop robust cybersecurity laws and frameworks to protect data privacy and prevent cyber-attacks. This will build trust with international partners and ensure India's leadership in digital trade.

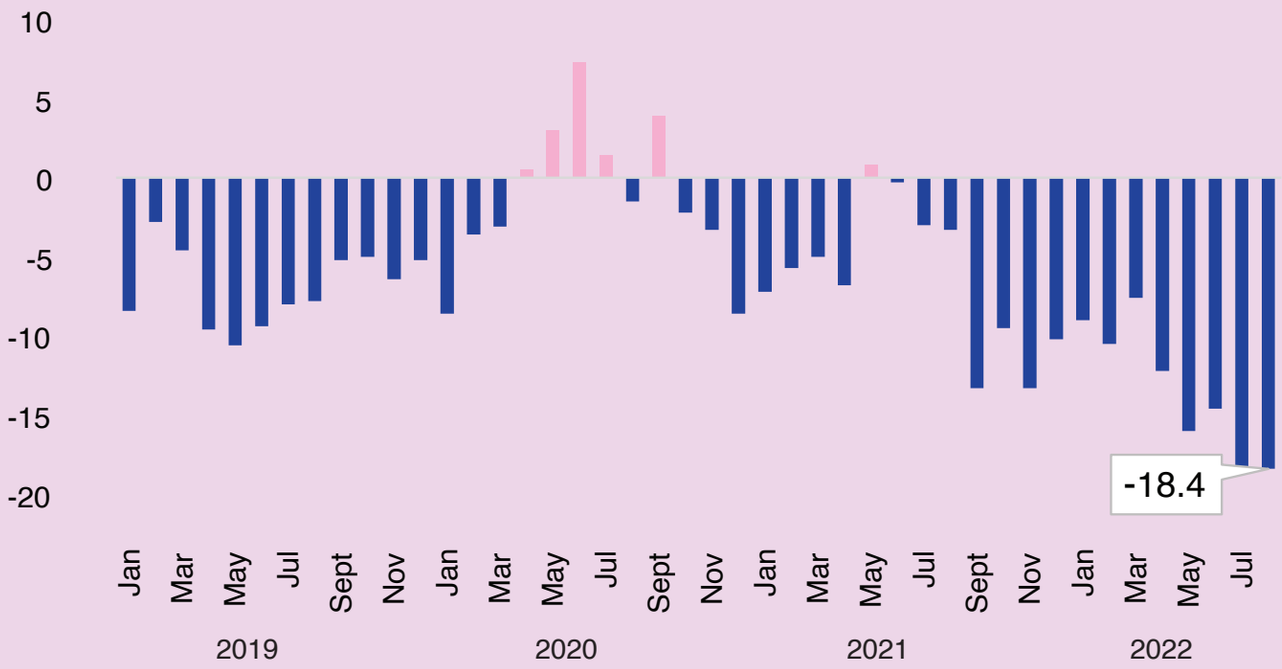
2.3. Building Stronger Economic Ties with ASEAN & Africa

India's economic relations with ASEAN and Africa offer immense potential for growth, as both regions are poised for significant economic development in the coming decades. Strengthening these ties can help India secure access to new markets, natural resources and growth opportunities.

- **Enhance Trade with ASEAN**: India needs to deepen its economic engagement with ASEAN nations by improving connectivity, enhancing trade agreements and focusing on sectors such as renewable energy, pharmaceuticals and digital technologies. These economies are growing rapidly and India can capitalize on its proximity and established ties to secure a foothold in these markets.
- **Engage in Infrastructure Development**: India has expertise in infrastructure development, particularly in areas like transportation, energy and telecommunications. By assisting ASEAN and African nations in building critical infrastructure, India can strengthen its diplomatic and economic ties while creating new opportunities for trade and investment. These infrastructure projects could be mutually beneficial, supporting India's exports and also driving economic development in these regions.
- **Invest in Renewable Energy Projects**: Both ASEAN and African countries are increasingly prioritizing clean energy. India, with its growing capabilities in solar and wind energy, needs to explore joint ventures and investment opportunities in these sectors. India can help these regions develop sustainable energy solutions while benefiting from new market opportunities.
- **Collaborate on Capacity Building**: India needs to focus on building human capital

Indian trade deficit widens

Monthly overall trade deficit* in India (in billion US dollars)



* Exports minus imports

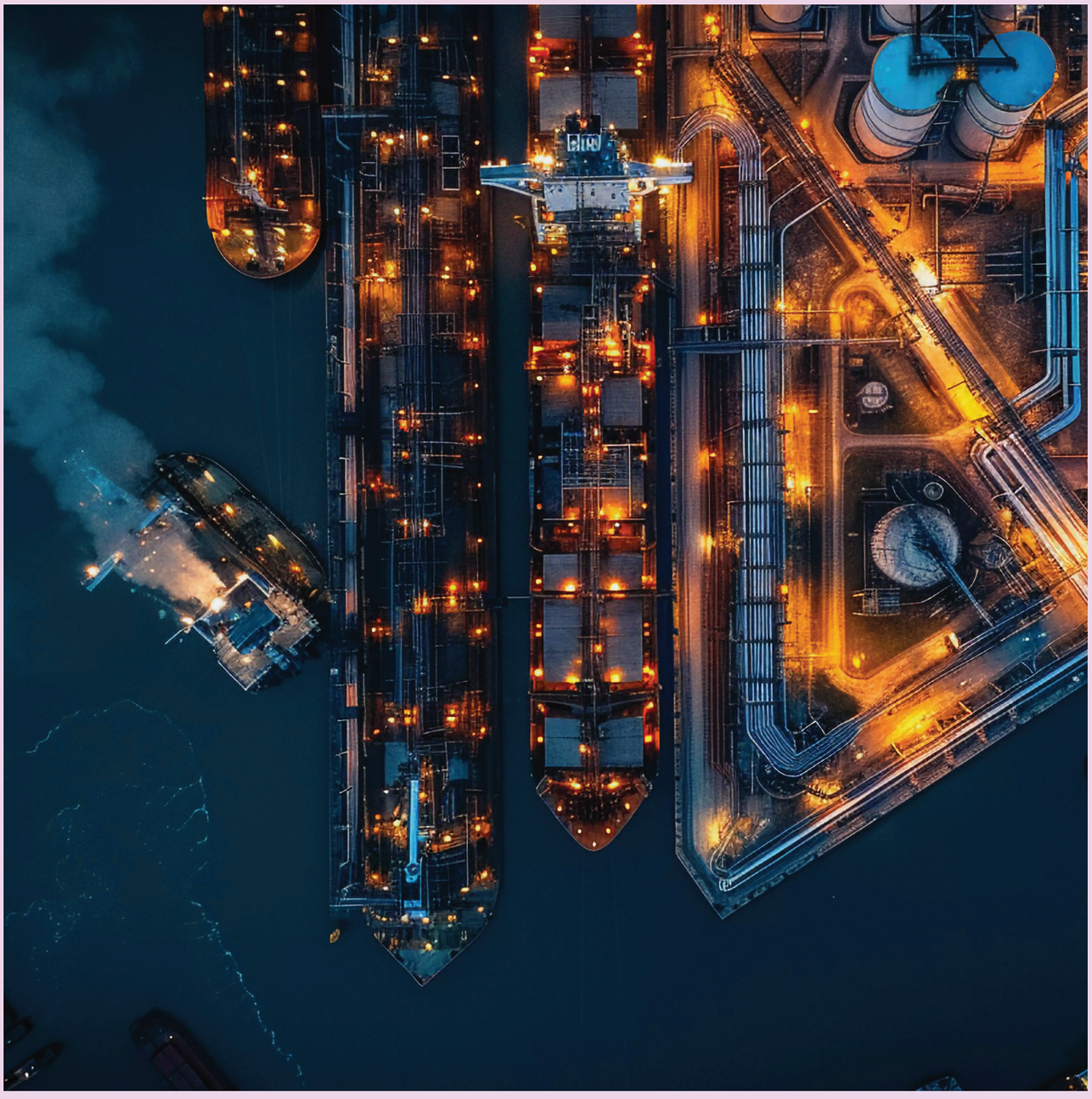
Source: Indian Ministry of Commerce and Industry

in ASEAN and African nations through educational programs, technical training and skill-building initiatives. By establishing educational partnerships, India can create long-term economic ties with these regions while benefiting from a skilled labor force that will help Indian businesses expand in these markets.

2.4. Reducing Dependency on China: The China+1 Strategy

The “China+1” strategy has gained prominence in light of geopolitical tensions and the need to diversify supply chains. India can capitalize on this strategy by becoming a viable alternative to China for global manufacturers.

- **Attract Manufacturing Investment**: India can actively promote its manufacturing sector as a competitive alternative to China. Offering tax incentives, improving infrastructure and reducing regulatory hurdles will make India an attractive destination for foreign businesses looking to diversify supply chains.
- **Leverage the PLI Scheme**: Align the Production-Linked Incentive (PLI) Scheme with the China+1 strategy, providing additional incentives for foreign companies to set up production in India. This will ensure that India can capture a significant share of global manufacturing shifts.



03

PILLAR 3

Strengthening Supply Chain Resilience

Pillar 3: Strengthening Supply Chain Resilience

In the face of deglobalization and the rise of geopolitical and economic uncertainties, India needs to focus on fortifying its supply chains to remain competitive in the global market. Strengthening supply chain resilience involves addressing both domestic and global challenges by enhancing infrastructure, integrating technology, fostering flexibility, promoting sustainability and preparing for geopolitical volatility. By doing so, India can mitigate the risks of supply chain disruptions and secure its position as a reliable global manufacturing and trade hub.

3.1. Infrastructure Development for Efficient Supply Chains

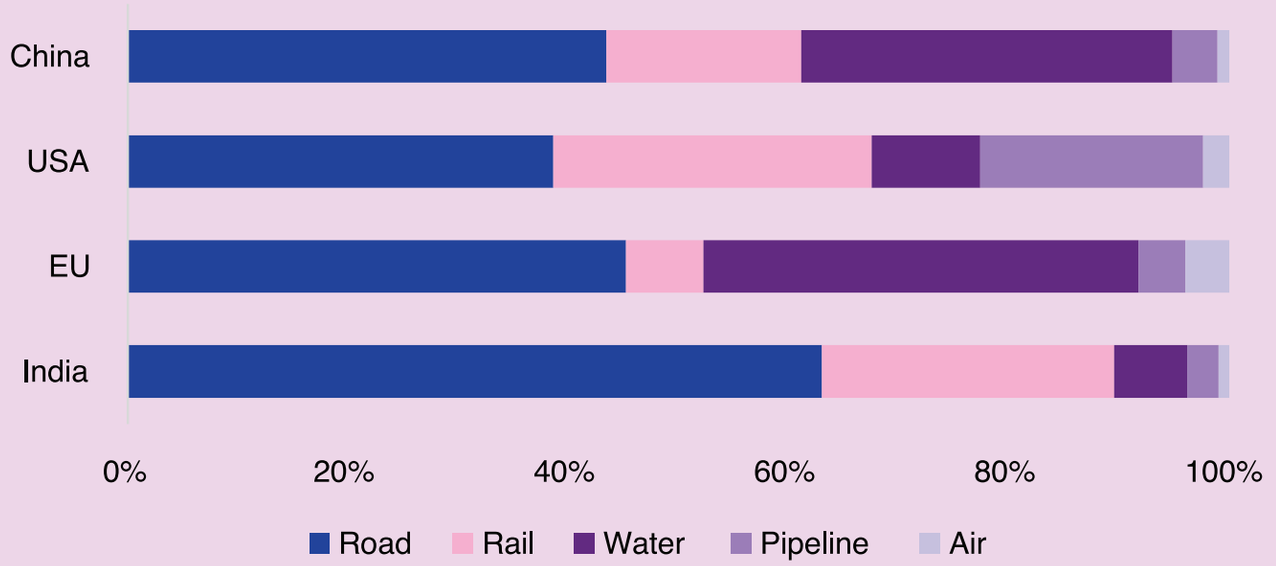
Efficient supply chains depend heavily on robust and modern infrastructure. India's geographical size and diversity present unique challenges and opportunities in logistics. To thrive in the post-deglobalized world, India must continue to invest in infrastructure projects that improve transportation networks, reduce bottlenecks and promote seamless movement of goods across the country.

- **Accelerating Road and Rail Connectivity**: India's ambitious Bharatmala Pariyojana needs to be further expanded to build an interconnected highway system. Expanding dedicated freight corridors and improving railways will significantly reduce transportation costs and time, providing a competitive edge for manufacturers in both domestic and global markets. Faster movement of goods will also ensure a more resilient supply chain, as delays in transportation often exacerbate global disruptions.
- **Modernizing Ports and Airports**: India needs to prioritize the modernization of its ports, airports and air freight systems. Enhancing port capacity, improving customs clearance processes and reducing congestion at ports like Jawaharlal Nehru Port Trust (JNPT) and Chennai Port will allow for more efficient imports and exports. Similarly, upgrading airport infrastructure for cargo operations will support the growing e-commerce and high-value industries.
- **Developing Cold Storage and Warehousing Infrastructure**: Sectors such as agriculture, pharmaceuticals and electronics require temperature-sensitive transportation and storage solutions. India needs to develop state-of-the-art cold storage facilities and efficient warehouses across key logistics hubs. This will reduce waste in agricultural supply chains, improve the shelf life of products and enhance the efficiency of the pharmaceutical supply chain, thus increasing India's role as a reliable global supplier.

3.2. Promoting Technological Integration in Supply Chains

In today's rapidly evolving global economy, the integration of technology in supply chain management is no longer a luxury; it is a necessity. Advanced technologies such as AI, blockchain and IoT can significantly improve supply chain efficiency, reduce operational costs and provide real-time visibility. As global supply chains become more fragmented and volatile, India needs to invest in technological solutions that not only streamline operations but also ensure flexibility and transparency.

Roadways dominate the freight transport, in terms of volume, in India as of FY21



Source: RHP_Western Carriers (India) Limited

- **Embrace AI and Machine Learning for Predictive Analytics**: Artificial Intelligence and Machine Learning can be used to predict supply chain disruptions, manage inventory efficiently and optimize production schedules. By integrating these technologies, Indian businesses can better forecast demand, minimize waste and adjust to sudden changes in market conditions or supply shortages.
- **Blockchain for Transparency and Security**: Blockchain technology can enhance the transparency and traceability of products within the supply chain, allowing businesses to track goods from production to delivery. This can be particularly beneficial for sectors like pharmaceuticals, food and luxury goods where authenticity and safety are critical. By implementing blockchain, India can position itself as a trusted partner in global supply chains, especially in industries that require high levels of trust.
- **Real-time Tracking with IoT**: The Internet of Things (IoT) can be utilized to provide real-time tracking of goods as they move through supply chains. IoT-enabled sensors can monitor temperature, humidity and the location of shipments, reducing losses, improving quality control and ensuring timely deliveries. The government should incentivize the use of IoT in supply chain operations, particularly for SMEs, to improve their competitiveness.

3.3. Risk Management and Supply Chain Flexibility

Global supply chains are increasingly susceptible to external shocks—whether geopolitical tensions, natural disasters, or unexpected economic shifts. India must adopt a proactive risk management approach to ensure that its supply chains remain robust and adaptable to these risks. Diversification, both geographically and in terms of suppliers, is essential for enhancing resilience.

- **Diversifying Sources and Suppliers**: A critical aspect of risk management is reducing dependency on any single supplier or region. India should actively encourage businesses to source materials and components from multiple countries and regions, mitigating risks associated with over-reliance on specific markets. For example, adopting the "China+1" strategy can help reduce dependency on China while enabling businesses to explore alternatives in Southeast Asia, Europe and Africa.

- **Building Local and Regional Supply Chains**: In the face of deglobalization, India needs to focus on building more localized and regional supply chains. By sourcing from within India or neighboring countries like Nepal, Bangladesh and Sri Lanka, businesses can reduce exposure to global trade fluctuations. Establishing regional hubs for production and

distribution will create a more agile and flexible supply chain.

- **Developing Contingency Plans**: Indian businesses should invest in developing contingency plans that anticipate potential risks, such as transportation disruptions, trade restrictions, or geopolitical tensions. These plans should focus on alternative suppliers, backup transportation routes and financial buffers to protect against unexpected disruptions.

3.4. Sustainability in Supply Chain Practices

Sustainability has become a critical factor in global supply chains, particularly as environmental concerns, resource scarcity and regulatory pressures increase. India needs to focus on creating sustainable supply chains to attract global investment, ensure long-term growth and meet international environmental standards.

Green Logistics and Carbon-neutral Transportation: India needs to prioritize the development of low-carbon logistics solutions, such as electric vehicles (EVs), rail networks and green shipping practices. Investments in green logistics not only reduce the environmental impact of supply chains but also align with international sustainability standards, making Indian goods more attractive in global markets.

Energy-efficient Manufacturing and Sourcing: To ensure sustainability in the manufacturing process, India should promote energy-efficient practices and clean technologies in industries like steel, cement and textiles. This will not only lower operational costs but also reduce emissions and energy consumption.



PILLAR 4

Leveraging Global Strategic Alliances and Regional Cooperation

04

In a rapidly evolving world where global supply chains are fragmenting and geopolitical tensions are intensifying, India must focus on leveraging strategic alliances with key global players and fostering regional cooperation. Strengthening diplomatic and economic ties with countries that share common interests, such as democratic values, trade fairness and regional stability, will provide India with opportunities to mitigate risks associated with deglobalization. India's proactive engagement with multilateral institutions, regional organizations and key bilateral partners can significantly enhance its geopolitical leverage, secure trade routes and ensure a more resilient economic future.

4.1. Strengthening Bilateral and Multilateral Trade Agreements

To secure its economic future amid rising protectionism, India must actively pursue bilateral and multilateral trade agreements that facilitate easier access to markets, promote fair trade practices and ensure a stable flow of goods. Building strong trade relationships with countries that are less susceptible to geopolitical volatility will provide India with long-term economic stability and growth.

- **Expand Trade Deals with Emerging Economies**: India needs to prioritize trade agreements with emerging economies in regions like Africa, Southeast Asia and Latin America, where economic growth is expected to remain robust despite global disruptions. Countries such as Brazil, South Africa and Indonesia can offer valuable trade opportunities for India in sectors like agriculture, technology and renewable energy.
- **Reinforce Relations with Traditional Partners**: India's trade relations with the United States, Japan and the European Union are vital to its economic strategy. Strengthening these relationships will ensure access to high-value markets and investments. India should look to renegotiate or update existing agreements to include new sectors such as digital trade, renewable energy and Artificial intelligence.

4.2. Enhancing Cooperation with Indo-Pacific Allies

The Indo-Pacific region is crucial for India's geopolitical and economic future. As the region becomes a focal point for global trade and security issues, India must enhance its alliances with key Indo-Pacific countries, especially the United States, Australia, Japan and South Korea, in order to secure regional stability and strengthen economic ties.

- **Quad Alliance (India, US, Japan, Australia)**: The **Quadrilateral Security Dialogue (Quad)** is an important mechanism for India to forge deeper strategic alliances in the Indo-Pacific. India needs to work with its Quad partners to ensure the free flow of trade in the Indo-Pacific, safeguard maritime security and counter rising threats from China. Collaborative efforts in technology, defense and climate change could also enhance India's regional influence.
- **Regional Comprehensive Economic Partnership (RCEP)**: While India initially refrained from joining the RCEP, it should reconsider its stance in the future. The evolving global trade dynamics may make India's participation in such agreements increasingly beneficial to access regional markets, especially in East Asia and Southeast Asia. India's involvement would help it secure preferential market access and gain trade advantages.
- **India-Japan Collaboration**: Japan is a critical partner for India in terms of technological advancement, infrastructure development and regional security. Strengthening ties

with Japan can help India leverage Japanese technology in renewable energy, high-tech manufacturing and defense sectors. Joint ventures and strategic initiatives will also enhance India's presence in East Asia and beyond.

4.3. Strategic Partnerships with the Global South

India's leadership in the **Global South** can provide immense opportunities for economic cooperation and geopolitical influence. By building strategic partnerships with nations in Africa, Latin America and other parts of the Global South, India can position itself as a key player in the global reordering that is taking place due to deglobalization.

- **Infrastructure Development in Africa and Latin America**: India can use its expertise in affordable infrastructure development to engage in long-term projects across Africa and Latin America. By contributing to the construction of roads, energy grids and digital infrastructure, India can forge deeper economic ties while gaining access to critical resources and markets.
- **Diplomatic Leadership in Global South Forums**: India needs to assume a leadership role in forums like the Non-Aligned Movement (NAM), the G77and BRICS, where it can advocate for the interests of emerging economies. India can push for reforms in global trade and finance, ensuring that the voices of developing nations are heard in international policymaking.
- **Trade and Investment Partnerships with Africa**: Africa's growing population and emerging markets present vast opportunities for Indian companies, particularly in the sectors of pharmaceuticals, agriculture, technology and renewable energy. India needs to increase investments in African infrastructure and agricultural technology, helping the continent become more self-sufficient while also creating new markets for Indian products.

4.4. Engaging with the Middle East and Central Asia

The Middle East and Central Asia hold significant importance for India due to their geopolitical positioning, access to energy resources and strategic trade routes. Strengthening ties with this region will allow India to diversify its energy sources, secure new trade routes and position itself as a key partner in regional security.

- **Energy Security through Middle East Partnerships**: India is one of the largest importers of energy, particularly crude oil, from the Middle East. Strengthening energy cooperation with countries like Saudi Arabia, UAE and Iran will ensure a stable supply of energy for India's growing needs. India should also explore renewable energy collaborations with these countries, particularly in solar and wind energy, as these nations transition to more sustainable energy sources..

India's trade performance



Note: All figures in $ billion

Source: Commerce ministry

PILLAR 5

Enhancing India's Global Geopolitical and Economic Influence through Diplomacy and Soft Power

05

In an era of rising nationalism and protectionism, India must position itself as a leader in global governance, multilateral diplomacy and economic cooperation. As deglobalization creates uncertainties in global trade flows and international relations, India can mitigate these challenges by promoting itself as a key player in global geopolitics. Beyond traditional hard power, India's growing soft power, including its rich cultural heritage, diplomatic initiatives and strategic partnerships, can be harnessed to enhance its international standing and secure its economic interests.

5.1. Strengthening Multilateral Diplomacy and Regional Leadership

To navigate the complexities of a deglobalized world, India needs to increase its participation in multilateral organizations and foster its role as a regional leader. By becoming a vocal advocate for stability, cooperation and equitable growth in multilateral forums, India can create a favorable global environment for its economic expansion and geopolitical influence.

- **Active Engagement in United Nations and Other Global Bodies**: India should continue its active involvement in the United Nations, especially in the UN Security Council, to push for global peace and stability. As a non-permanent member or, ideally, as a permanent member of the UNSC, India can influence global security decisions, advocate for de-escalation of conflicts and shape international norms.
- **Revitalizing SAARC and BIMSTEC**: SAARC (South Asian Association for Regional Cooperation) and BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation) represent platforms where India can lead regional cooperation, particularly in economic integration, disaster management and security cooperation. Strengthening these platforms would help India improve its relationships with its neighbors, reduce tensions and foster intra-regional trade and investment.
- **Shaping the G20 Agenda**: As a key member of the Group of 20 (G20), India should actively shape the global economic discourse, advocating for sustainable development, equitable trade practices and reforms in global institutions to reflect the changing global order. India can position itself as a bridge between developed and developing nations, advocating for inclusive growth and fair trade rules.

5.2. Expanding India's Role in Global Trade and Finance

In a world increasingly skeptical of globalization, India can assert itself as an economic and financial hub. India's strategic geographic location, vast domestic market and rapidly growing economy make it an attractive partner for global trade. Strengthening India's role in global finance and trade will help counter the risks of deglobalization and increase India's influence in shaping future trade rules.

- **Trade Facilitation through Digital Infrastructure**: India should consider investing heavily in digital trade infrastructure, making it a center for the growing global digital economy. By enhancing trade facilitation technologies such as blockchain, Artificial Intelligence and data analytics, India can increase its participation in the digital economy and reduce barriers to international trade.

- **Strengthening Financial Institutions**: India can leverage its growing financial services sector to promote financial inclusivity across regions, particularly in the Global South. India's banks and insurance companies should establish stronger connections with counterparts in Africa, Southeast Asia and Latin America. Additionally, India's central role in BRICS (Brazil, Russia, India, China, South Africa) can help facilitate new global financial norms and development funding.

5.3. Leveraging Cultural Diplomacy and Soft Power

India's cultural diplomacy has always been a pillar of its foreign policy. In a world moving towards fragmented globalization, India can use its cultural assets to build relationships, influence global perceptions and create opportunities for economic partnerships. Indian culture, music, movies, cuisine, yoga and heritage offer immense diplomatic leverage, particularly in regions where India has deep historical and cultural connections.

- **Promoting Indian Culture through Soft Power Initiatives**: India needs to invest in spreading its culture globally, particularly through cultural centers, art exhibitions, film festivals and academic exchange programs. India's cinema, literature and spiritual teachings (like Yoga and Ayurveda) can significantly increase its global influence, fostering goodwill and trust in India as a partner for peace and prosperity.
- **Bollywood and Media Diplomacy**: India's Bollywood film industry has a global reach and India should further capitalize on this cultural export by building deeper partnerships with global film industries. The power of cinema can be used to promote India's values of democracy, sustainability and technological progress while strengthening people-to-people ties with audiences around the world.
- **Educational Diplomacy and Scholarships:** India needs to expand its educational exchanges by providing scholarships and hosting international students from emerging economies. This will allow India to build long-term relations with young, educated leaders in key countries who can advocate for India's interests in the future. Indian universities should partner with global institutions to facilitate research collaboration, which will also enhance India's position in scientific diplomacy.

5.4. Strengthening Security and Defense Diplomacy

As geopolitical tensions rise globally, India's defense and security partnerships are becoming critical to its national interest. Strengthening defense ties with countries that share India's democratic values, especially in the Indo-Pacific region, will enable India to play a crucial role in maintaining regional stability and promoting a rules-based international order.

- **India-US Defense Partnership**: India should continue to deepen its defense cooperation with the United States, especially through initiatives like the Indo-Pacific Strategy and the Quad Security Dialogue. Collaborations in counterterrorism, cybersecurity and maritime security can serve as a strategic counterbalance to rising threats in the region.
- **Expanding Joint Defense Exercises**: India can strengthen defense diplomacy by increasing the frequency of joint defense exercises with key allies, such as Japan, Australia and ASEAN countries. These exercises will enhance interoperability, foster trust and help counter growing security challenges in the region.
- **Technological Cooperation in Defense**: India needs to invest in co-developing cutting-edge defense technologies with like-minded countries. By promoting strategic defense research and development (R&D) in fields like cybersecurity, Artificial Intelligence and drones, India can increase its defense capabilities while also fostering stronger security alliances.



Conclusion

In conclusion, India stands at a critical crossroads as the world undergoes profound changes in the face of deglobalization and shifting geopolitical realities. The challenges presented by these forces are significant but also present India with a unique opportunity to redefine its economic trajectory and emerge as a leading global player. By strategically focusing on strengthening domestic manufacturing, expanding trade relations and enhancing supply chain resilience, India can position itself as a key player in a more fragmented and regionalized world economy. Initiatives such as the Production-Linked Incentive (PLI) scheme are vital in reducing India's dependence on foreign markets and boosting local production, which not only bolsters self-reliance but also enhances India's competitiveness across various industries.

In addition, India's push to diversify its trade partnerships through bilateral and multilateral agreements, including those focused on digital trade, will open up new avenues for economic growth. Engaging with emerging markets and strengthening alliances with like-minded democracies will enable India to expand its global footprint, fostering stronger economic ties with regions like ASEAN, Africa and Latin America. This approach will help mitigate the risks associated with over-reliance on traditional trading partners, especially in light of the ongoing global economic fragmentation.

Moreover, India's emphasis on supply chain resilience and digital innovation is crucial in adapting to the changing global landscape. Investing in state-of-the-art infrastructure, promoting technological integration and ensuring the adoption of sustainable practices within supply chains will not only make India more competitive but also allow it to cater to global demands for transparency, efficiency and environmental responsibility. India's capacity to leverage advancements in AI, blockchain and IoT to enhance logistics and manufacturing processes will give it a significant edge in the evolving world economy.

India must also recognize that the challenges posed by deglobalization are not just economic but geopolitical. Strengthening its strategic alliances, particularly with countries like the United States, Japan and the European Union, will be crucial in securing its position in the global order. Collaborative ventures in critical sectors such as technology, defense and renewable energy will enable India to remain at the forefront of global innovation while simultaneously ensuring a stable and secure supply chain for its industries.

By navigating these complexities with foresight, agility and strategic policy initiatives, India has the potential to not only safeguard its economic future but to lead the way in the global reordering of trade and alliances. India's ability to balance self-reliance with global cooperation, its investments in sustainable practices and technology and its focus on building resilient and diverse trade networks will allow it to thrive amid the challenges of deglobalization. In this evolving geopolitical and economic landscape, India has the opportunity to redefine its global role, assert its influence and secure its place as a resilient and influential leader in the new world order.

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Confederation of Indian Industry

Track 3: Closing the Loop: Strategies for Sustainable Growth

(Resource Efficiency & Circularity)



Introduction

With 1.4 billion people and resource-heavy sectors like agriculture (14% of GDP) and energy, India faces urgent pressure to shift from linear to circular models. Initiatives such as recycling 70% of municipal waste by 2030, scaling solar energy (500 GW target by 2030) and precision farming (cutting water use by 30–50%) highlight efforts to decouple growth from ecological strain. Circular practices could unlock $624 billion annually by 2050 and create 10–15 million jobs, aligning economic ambition with climate resilience. For a nation balancing development and planetary limits, embedding sustainability into policy and industry is vital to ensure equitable progress and safeguard resources for future generations.

Renewable Energy Expansion

India has significantly increased its renewable energy capacity, growing five-fold from 24 GW in 2014-15 to 136 GW in 2024-25. The share of non-fossil fuel-based capacity rose from 78 GW (29% of total capacity) in 2014-15 to 199 GW (45% of total capacity) in 2023-24. The country aims to achieve 500 GW of non-fossil fuel-based power generation capacity by 2030, aligning with its goal to meet 50% of its energy requirements from renewable sources by that year.

National Green Hydrogen Mission

Launched with an investment of INR 19,744 crore, the National Green Hydrogen Mission targets the production of 5 million metric tons of green hydrogen annually by 2030. This initiative is expected to bolster renewable energy expansion and position India as a key player in the global green hydrogen market.

Circular Economy Initiatives

India's circular economy is projected to reach a value of $2 trillion by 2050, potentially generating approximately 10 million jobs. The government has introduced policies focusing on resource efficiency, particularly in sectors like construction and demolition. Additionally, India has joined the Global Alliance for Circular Economy and Resource Efficiency (GACERE) to collaborate on sustainable resource management globally.

Waste Management and Recycling

The government has implemented Extended Producer Responsibility (EPR) regulations, setting targets for reuse, recycling and the use of recycled content to promote a circular economy. Despite these efforts, challenges persist, such as managing waste from renewable energy components like batteries and solar panels. Innovative solutions, including repurposing used electric vehicle batteries for rural energy storage, are being explored to address these issues. Addressing sustainability and economic resilience requires tackling several key challenges. Institutional and policy gaps in energy efficiency highlight the need for a centralized governance structure and stronger prioritization of energy efficiency in national strategies. High energy consumption in industries such as steel, cement and petrochemicals, along with the growing demand from AI and data centers, is straining existing energy infrastructure, necessitating efficiency improvements.

The lack of a robust circular economy framework results in poor waste management, particularly in battery, plastic and electronic waste disposal, requiring better resource efficiency in industrial processes. Climate change is already impacting the economy, with GDP losses estimated between 2-6% and corporate profits declining by up to 20%, while evolving regulatory mandates on ESG compliance are reshaping investment landscapes. Water and resource scarcity, exacerbated by poor planning and extreme weather events, calls for better urban and agricultural water management strategies. Additionally, community-driven sustainability efforts remain underutilized, with limited engagement of civil society, youth and marginalized groups in conservation and responsible tourism. Finally, the mismatch between economic growth and sustainable development is evident in the struggles of MSMEs due to outdated policies and limited financial support, as well as rural-urban disparities that hinder balanced progress. Addressing these issues requires integrated policies, strengthened governance and active community participation to ensure sustainable and inclusive development.

Confederation of Indian Industry

Track 3: Speakers



Vikram Kapur IAS
Additional Chief Secretary / Director, Anna Administrative Staff College & Director, General of Training



Montek Singh Ahluwalia
Distinguished Fellow, Centre for Social and Economic Progress & Former Deputy Chairman, Planning Commission of India



P Ravichandran
President- India Region, Danfoss Industries Pvt Ltd



Padu S Padmanaban
Founder Member & Mentor, Indian Alliance for Energy Efficient Economy



Hans Raj Verma
Advisor (CR), TVS Motors & Director General, COSIDICI



Thomas Garvey
President, World Design Organization



Sandeep Singh Sidhu
Managing Director, Craigmore Plantations (India) Pvt Ltd



Mukund Rajan
Chairperson , ECube Investment Advisors Pvt Ltd

Confederation of Indian Industry

SPECIAL PLENARY ON RADICAL VISION FOR A DECARBONIZED RESOURCE-EFFICIENT INDIA

by

Mr Padu S Padmanaban
Founder Member & Mentor, Indian Alliance for Energy Efficient Economy

Moderator:

Mr P Ravichandran
President- India Region, Danfoss Industries Pvt Ltd



Discussion Outcome

The insights shared by Mr Padmanaban on energy efficiency (EE) underscore the critical importance of rethinking the approach to energy governance in India, especially in light of the growing global urgency around climate change and sustainable development. His recommendations highlight key areas of focus that can drive India towards more effective energy policies and practices. Below is a detailed elaboration of the key points mentioned by Mr Padmanaban:

1. Reimagining Energy Efficiency Governance in India

Reimagining Energy Efficiency Institutions

The insights shared emphasize the critical need for India to rethink its approach to energy efficiency (EE) governance, especially considering the growing global urgency around climate change. The recommendation to position energy efficiency institutions under the Prime Minister's Office (PMO) reflects the need for heightened focus and coordination. This would ensure that energy efficiency is no longer treated as a peripheral concern, but integrated into the broader national economic, environmental and energy agendas. The PMO's oversight would lead to more effective decision-making, ensuring all sectors—industrial, residential and commercial—adhere to high standards of energy conservation and sustainability.

Repositioning the Bureau of Energy Efficiency (BEE)

As India faces increasingly complex energy challenges, there is a pressing need to reassess the role of the Bureau of Energy Efficiency (BEE). The current framework, while effective to an extent, requires a more dynamic and responsive approach. Mr Padmanaban highlighted the need for BEE to be empowered with forward-thinking policies that can adapt to rapid technological advancements. A more agile and forward-looking BEE could be pivotal in driving ambitious energy efficiency goals, while ensuring that regulations and incentives remain relevant to the evolving energy landscape.



2. Energy Efficiency as a National Movement: A Collective Responsibility

Energy Efficiency as a People's Movement

The discussion underscored that energy efficiency is not just a governmental or industrial concern but a movement that needs to involve everyone. Unlike renewable energy, which relies on specific natural resources, energy efficiency is a collective responsibility that can be achieved through small but significant actions from every household, business and institution. By adopting energy-efficient technologies, reducing waste and optimizing energy use in production processes, individual actions can lead to national-level energy savings. To facilitate this shift in mindset—from treating energy efficiency as secondary to making it a primary national objective—India must invest in awareness campaigns, education and incentives for both businesses and consumers.

Focus on Energy-Intensive Industries

Energy-intensive industries like steel, cement, petrochemicals and fertilizers account for a significant portion of India's energy consumption and carbon emissions. These sectors must be at the forefront of India's decarbonization strategy. Mr Padmanaban pointed out the need to improve energy efficiency in these industries, focusing on process optimization, waste heat recovery and better energy management systems. Encouraging the adoption of advanced energy-saving technologies and enforcing stricter regulations for energy consumption would significantly reduce emissions while ensuring that India's industrial growth remains competitive on a global scale.

The Role of Lifestyle in Sustainability

Another key point discussed was the impact of consumer behavior on energy consumption. With rising demand for non-durable and single-use products, energy consumption is exacerbated, leading to an increased carbon footprint. Mr Padmanaban emphasized the need to encourage conscious consumerism, promoting sustainable lifestyles through reduced consumption, recycling and the purchase of energy-efficient products. Governments, businesses and educational institutions can play a significant role by driving initiatives that integrate sustainability into consumer behavior, ultimately leading to large-scale reductions in energy consumption and contributing to India's climate goals.

3. Innovative Solutions and Technologies for Energy Transition

Challenges of AI and Data Centers

The rise of Artificial Intelligence (AI) and data centers presents an emerging challenge for energy efficiency. Data centers, which support AI-driven technologies like cloud computing, machine learning and big data analytics, are rapidly becoming major consumers of energy. India, with its growing role in the global tech landscape, must address the energy needs of these high-demand systems. Optimizing energy use through energy-efficient server management, cooling systems and integrating renewable energy solutions can help mitigate the strain on the country's energy infrastructure. Additionally, India needs to prioritize energy-efficient AI technologies, ensuring that the digital transformation across sectors like healthcare, agriculture and manufacturing does not come at the cost of unsustainable energy use.

Integrated Energy Networks

An integrated energy network that combines diverse energy sources—renewables, nuclear, natural gas and even coal in the transitional phase—would provide much-needed stability and flexibility to India's energy infrastructure. By integrating renewable energy sources like solar and wind with traditional energy grids, India can improve energy storage, reduce fossil fuel dependency and maximize the use of renewable



Track 3: Closing the Loop: Strategies for Sustainable Growth



energy. Investment in smart grid technologies would ensure efficient distribution and help balance energy demand, using excess renewable energy generated during the day to meet demand during peak hours. In parallel, energy storage solutions such as batteries can further optimize the renewable energy system by storing excess power for later use, thereby enhancing energy efficiency.

Hydrogen as an Alternative Energy Source

The discussion highlighted hydrogen as a promising alternative to traditional fossil fuels, particularly in industries that are hard to decarbonize, such as steel production. Sweden's success in using hydrogen for steel production offers valuable lessons for India, which has significant potential to decarbonize its heavy industries. The use of hydrogen in energy-intensive sectors like steel and cement could significantly reduce emissions. Mr Padmanaban recommended that India invest in the research and development of hydrogen technologies and create a conducive policy environment for their commercial adoption. Scaling up hydrogen use could help India meet its decarbonization goals and establish itself as a global leader in hydrogen technology.

End-of-Life Planning for Thermal Power Plants

The transition to cleaner energy must also include a focus on the decommissioning of outdated thermal power plants. As these plants age, they become less efficient and environmentally harmful. Proper end-of-life planning for these plants is essential to reducing emissions and facilitating a smooth transition to cleaner energy alternatives. Mr Padmanaban emphasized replacing outdated thermal power plants with more efficient technologies such as supercritical and ultra-supercritical plants, which offer lower emissions. India should also accelerate its shift towards solar, wind and other renewable energy sources, phasing out coal-based power generation in the process.

4. India's Leadership in the Global Energy Transition

India's Opportunity to Lead

India, as the world's third-largest emitter of CO_2, is in a prime position to spearhead the global energy transition. With its vast population and rapidly growing economy, India has the unique opportunity to demonstrate how a developing nation can navigate the transition to a low-carbon future without stifling industrial growth or economic development. The country's industrial base, burgeoning technological advancements and large-scale renewable energy projects position India as a global leader in green technologies. This leadership role is essential not just for India's own development but also for the global community, as India can serve as an example for other emerging economies on how to balance sustainability and growth.



In addition to showcasing the potential of energy efficiency and decarbonization strategies, India can also capitalize on the global shift towards clean energy by positioning itself as a hub for green innovation. With the demand for sustainable technologies on the rise, India can become a leading exporter of clean technologies and solutions, ranging from solar energy systems to electric vehicles and energy-efficient industrial technologies. This economic opportunity aligns with India's ambition to play a larger role in

the global economy while contributing significantly to the global climate goals. India's vast potential in these areas, especially in sectors such as renewable energy, electric vehicles and sustainable infrastructure, underscores its capacity to lead by example and drive the global agenda forward.

The Role of Global Trade and Partnerships

India's position in the global trade landscape makes it a key player in the international transition towards sustainable energy. The increasing global demand for renewable energy technologies, coupled with India's growing capabilities in manufacturing and technology innovation, provides the country with a strong foundation to meet both domestic and international needs. India can foster partnerships with other nations and global organizations to drive the development and deployment of clean energy technologies, creating new markets for Indian innovations. Collaborative efforts in research and development, along with knowledge-sharing, can facilitate the faster adoption of energy-efficient solutions worldwide, ensuring that global sustainability goals are met in a timely manner.

Political and Economic Considerations

Political stability and long-term economic strategies are crucial to India's leadership in the global energy transition. The discussion highlighted that political decisions—both domestically and globally—can significantly influence the success of climate action. Political will is needed to ensure that ambitious energy efficiency and decarbonization policies are enacted, with consistent support over the long term. India's ability to maintain political and policy continuity, despite any challenges, will be key to its role as a leader in global sustainability efforts.



Global Impact of Political Decisions

Political decisions, whether at the national or international level, have far-reaching consequences for global sustainability efforts. The discussion brought to light how shifts in political leadership, such as the United States of America's withdrawal from climate-related subsidies, can derail or slow global climate progress. In this context, India must remain steadfast in its commitment to ambitious climate goals, despite the flow of political dynamics. India's voice in global policy forums can push for more binding and robust climate agreements, helping to maintain momentum in the fight against climate change. By providing leadership and clarity in policy, India can influence global political decisions and ensure that the global community remains united in its pursuit of climate solutions.

India's Leadership in Global Energy Transition

India stands at the crossroads of a transformative energy journey. With its vast potential in clean technologies, growing industrial base and strong global partnerships, India has the opportunity to lead the world in energy efficiency and sustainability. By strategically prioritizing green innovations, fostering international collaborations and maintaining political commitment, India can drive its energy transition while fostering economic growth. India's leadership in this space can set a global example, proving that sustainable development and industrial growth can go hand in hand and paving the way for a cleaner, low-carbon future for all.

Confederation of Indian Industry

KEYNOTE ADDRESS

by

Dr Mukund Rajan

Chairperson, ECube Investment Advisors Pvt Ltd

Moderator:

Mr P Ravichandran

President- India Region, Danfoss Industries Pvt Ltd



Discussion Outcome





Dr Mukund's remarks encompass a broad range of critical issues surrounding India's climate change challenges, corporate responsibility, innovation and the necessary regulatory and financial shifts. Let's dive deeper into each of these elements to understand the multifaceted approach required for India's future sustainability.

Impact of Climate Change

Climate Change Impact: Dr Mukund pointed out the direct financial impacts of climate change on India's economy, emphasizing that the country is already experiencing significant economic losses due to environmental factors. The loss of 2-6% of GDP signifies a trend where sectors across the economy, from agriculture to infrastructure, are being hit hard by more frequent and severe weather events, such as floods, heatwaves and storms. Furthermore, companies are facing profit reductions of up to 20% due to disruptions caused by climate change—whether through damage to physical assets, interrupted supply chain or increased costs related to environmental compliance. This illustrates the urgent need for both mitigation and adaptation strategies to protect economic stability and ensure long-term prosperity. Climate change is no longer a distant problem; it is impacting India's present-day economy.

Corporate Responsibility and Sustainability Initiatives

CSR Investment: Dr Mukund suggested that India's Corporate Social Responsibility (CSR) efforts could go further in addressing environmental sustainability. He proposed that a portion of CSR investments—specifically 2%—could be directed toward preserving India's rich biodiversity, such as the flora and fauna of the Nilgiris region. Given the rich environmental and ecological importance of regions like the Nilgiris, companies in India can use their CSR funds to protect and restore these ecosystems. Additionally, Dr Rajan emphasized the need for subsidies to support the adoption of solar solutions, both in urban and rural areas.

Regulatory and Financial Shifts

Net Zero Target: India's Net Zero target for 2070 has significant implications for the country's regulatory and financial landscape. Dr Rajan pointed out that key regulatory bodies like the Securities and Exchange Board of India (SEBI) and the Reserve Bank of India (RBI) are pushing

for stricter Environmental, Social and Governance (ESG) disclosures from companies. The growing importance of climate-conscious investments means that businesses must align their operations and disclosures with global standards for sustainability. This trend is likely to affect the entire loan approval process, with banks and financial institutions increasingly looking to fund companies that meet certain ESG criteria. This shift is not only critical for reducing India's carbon footprint but also for attracting foreign investment that prioritizes sustainability. Furthermore, the financial sector needs to adapt by supporting green finance initiatives—such as low-interest loans for renewable energy projects—and encouraging the private sector to take a more proactive approach in their sustainability strategies.

Role of Entrepreneurs and Innovation

Innovation in Sustainability: Entrepreneurs have an essential role in India's sustainability transition. Dr Rajan pointed out that innovation is a key driver in reducing carbon footprints and creating efficient energy solutions. Entrepreneurs can spearhead efforts to create low-carbon technologies, energy-efficient products and solutions that reduce the strain on the country's energy resources.



Closing the Loop

Shift to a Sharing Economy: One of the more forward-thinking points Dr Rajan made was the need for India to transition towards a sharing economy. This model, based on shared access to goods and services, can have a transformative impact on sustainability by reducing overall consumption. Sharing practices—such as car pooling, accommodation sharing (e.g., Airbnb), or product renting—allow for better utilization of resources, reducing the need for individuals and businesses to own and consume more.



Panel Discussion

BIODIVERSITY AND SUSTAINABLE DEVELOPMENT IN THE NILGIRIS

Speakers:

Mr P Ravichandaran
President- India Region, Danfoss Industries Pvt Ltd

Dr Thomas Garvey
President, World Design Organization

Mr Vikram Kapur IAS
Additional Chief Secretary / Director, Anna Administrative Staff College & Director General of Training

Mr Hans Raj Verma
Advisor (CR), TVS Motors & Director General, COSIDICI

Mr Sandeep Singh Sidhu
Managing Director, Craigmore Plantations (India) Pvt Ltd



Panel Discussion outcome



1. The Urgency of Biodiversity Conservation in the Western Ghats

The panel emphasized the urgent need to preserve the Western Ghats fragile ecosystem. Nilgiris must position itself as a global leader in biodiversity conservation, setting the standard for environmental responsibility. A notable example was TVS Motor, which has dedicated 30% of its plant area to biodiversity, setting a strong corporate precedent.

2. The Role of the Private Sector and Collaborative Efforts

Private Sector Involvement:

The discussion highlighted the critical role of the private sector, including corporations and MSMEs, in driving meaningful conservation efforts. Businesses must collaborate to create a collective impact on preserving the region's biodiversity. A concerted effort by various industries, both large and small, is essential for ensuring the long-term sustainability of the Western Ghats.

Key Environmental Priorities:

Water conservation and land restoration were identified as core priorities to maintain the region's ecological balance. Addressing the challenge of invasive species, such as the Sena flower, is another urgent issue that requires attention.

Green Fund Proposal:

To support these priorities, the proposal for a Green Fund aims to back biodiversity projects and strengthen the Operational Biodiversity Governance Model (OBGM). This would encourage corporate sectors to play a more active role in conservation by providing funding and creating an enabling environment for sustainable practices.







3. Sustainable Development Goals (SDGs) and Nilgiris as a Sustainability Model

Sustainable Development Goals (SDGs):

The panel discussed the SDGs for 2015–2030, stressing that current commitments are inadequet. They noted the need for measurable indicators to effectively track progress, referencing frameworks such as the SRG framework and SDG Index. These tools can help evaluate whether efforts are on track and drive accountability.

Nilgiris as a Model for Sustainability:

Viewing Nilgiris as a company, as proposed by Mr Garvy, could lead to a shift in how environmental and social benefits are shared with local communities. There is a need for businesses to integrate sustainability into their core processes, ensuring that environmental dividends directly benefit the people of Nilgiris. By adopting this model, Nilgiris can serve as a beacon of sustainable development, offering lessons for other regions globally.

4. Empowering Local Communities for Long-Term Sustainability

Demographic Challenges and Reverse Migration:

Mr Garvy also addressed reverse migration and demographic changes, drawing inspiration from Bhutan's sustainable development model. Solutions for the Western Ghats must come from within the community itself, with local participation driving long-term sustainability.

Community Engagement and Education:

Local communities must be actively involved in biodiversity conservation efforts, as their knowledge and practices significantly contribute to the sustainable management of natural resources. Awareness programs, especially in rural areas, can foster a sense of ownership among people and encourage them to participate in conservation activities. Additionally, supporting local livelihoods through eco-tourism and sustainable agriculture will ensure that conservation efforts are integrated into the social and economic fabric of the region.

Responsible Tourism:

The discussion concluded with an emphasis on responsible tourism, urging a collective approach that involves businesses, government and society. This is essential to avoid the commercial exploitation of the region while promoting sustainable tourism practices that protect the environment and benefit local communities.

Track 3: Roundtable topics

Enhancing Our Education System & Skill Development for Early Promotion of Sustainability Knowledge

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Global and Local Strategies for Achieving Carbon Neutrality: Priorities and Timelines for Decarbonization and Sustainable Development

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Paving Way for Water Secure India through a Circular Approach

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Integrating Gender and Eco-Inclusive Approaches for Sustainable and Circular Growth









Roundtable – Outcome

1. Enhancing Our Education System & Skill Development for Early Promotion of Sustainability Knowledge

Engage Communities and Children:

Early engagement is the key in embedding sustainability knowledge. Schools and communities must be at the forefront of sustainability education, where children not only learn about sustainability in theory but also participate in hands-on activities that foster eco-conscious behaviors. For instance, children can be involved in recycling programs or energy-saving challenges, both in their schools and homes. This grassroots involvement ensures that sustainability is not just a concept taught in classrooms but is integrated into everyday actions. By focusing on long-term behavioral shifts, education can create a generation that actively participates in sustainable practices, promoting both environmental and social responsibility across all areas of life.

The Role of Education in Promoting Sustainability:

Sustainability education needs to be woven into all levels of learning. It must move beyond abstract theories and become an integral part of the curriculum, allowing students to see real-world connections. Schools, universities and even informal learning environments must incorporate practical, hands-on projects that teach how sustainability works in practice. For example, sustainability could be incorporated into subjects like mathematics (using environmental data), science (learning about ecosystems and renewable energy)and economics (understanding green economies and sustainable business models). This holistic approach will not only equip individuals with theoretical knowledge but also foster the skills required to lead a sustainable future.

Furthermore, there must be an emphasis on life-long learning. As sustainability challenges evolve, so too should our educational frameworks. By investing in sustainability literacy across all demographics, we ensure that the public and future leaders are well-equipped to address environmental challenges.

2. Global and Local Strategies for Achieving Carbon Neutrality: Priorities and Timelines for Decarbonization and Sustainable Development

Focus on Major Energy Sectors:

Reducing carbon emissions in India requires addressing major sectors that contribute significantly to national greenhouse gas

emissions: electricity, industry, transportation and domestic consumption. India must prioritize transitioning to renewable energy in the electricity sector, aiming for large-scale adoption of solar, wind and hydropower. This transition is vital for decarbonizing one of the country's largest carbon-emitting sectors.

In industry, energy-efficient technologies and sustainable practices should be implemented. For example, upgrading industrial equipment, using renewable energy for operations and improving process efficiencies can significantly lower carbon emissions. The transportation sector, particularly in urban areas, should focus on scaling Electric Vehicles (EVs) and enhancing public transportation systems to reduce emissions from fossil-fuel-based transportation.

Household energy consumption can be optimized by encouraging energy-efficient appliances, better insulation and awareness programs to reduce overall consumption. Incentivizing these practices can drive changes in consumer behavior, ultimately lowering national energy demand and associated emissions.

Transition to Renewable Energy:

India has a unique opportunity to become a global leader in renewable energy, especially solar power. With abundant sunlight, it can scale up solar capacity across the country, both in rural and urban areas. Wind and hydropower, too, offer significant potential for decarbonizing the energy grid. However, investing in the necessary infrastructure for renewable energy generation and grid integration is critical. The country should focus on building a robust grid system capable of integrating renewable energy, backed by smart technologies and energy storage solutions to balance supply and demand efficiently.

Furthermore, India should focus on a decentralized energy model where renewable energy is generated locally (such as rooftop solar panels). This would not only reduce transmission losses but also empower communities to take charge of their energy needs, creating a more resilient energy system.

Carbon Neutrality Targets:

India has set a long-term target of achieving carbon neutrality by 2070. This ambitious goal requires clearly defined milestones and sector-specific strategies. For example, reducing carbon emissions in key sectors like agriculture, transportation and industry will require focused interventions, with State Governments playing an important role in meeting local and regional targets. Tamil Nadu’s 2045 target serves as an example of how regional goals can align with national objectives, providing a roadmap for other states to follow.

India can measure its progress through the reduction of fossil fuel dependency, increasing the share of renewable energy in the national grid and improving the energy efficiency of industries. Each of these milestones can be tracked through data and continuous monitoring.





Short-Term Actions: In the short term, India can focus on actions that yield quick results, such as promoting the adoption of electric vehicles, reducing the use of coal in power plants and investing in energy-efficient technologies. The government should also implement policies that incentivize these immediate actions, such as subsidies for electric vehicles or tax breaks for companies implementing energy-efficient practices.

Tracking short-term goals will be essential for staying on course toward the 2070 carbon neutrality target. Regular progress reviews will allow policymakers to fine-tune their approach and address challenges promptly.

3. Paving the Way for Water-Secure India through a Circular Approach

Water as an Essential Resource:

India's water resources face immense pressure due to population growth, urbanization and climate change. Urban centers and agriculture are major contributors to this demand, often exacerbated by inefficient water management practices. Integrated water management strategies, including water harvesting, recycling and responsible usage, must be adopted to ensure water security in the long term.

Water conservation must be part of every sector's operational processes, with industries encouraged to adopt water-efficient practices. The government can also play a key role by setting regulations that incentivize water-saving technologies and penalize high water consumption. Public awareness programs can educate people about water scarcity, especially in regions facing seasonal droughts and drive behavior change toward more sustainable water use.

Sustainability through Technology and Innovation:

Technology plays a significant role in water management. Innovations like water leakage sensors in distribution systems can reduce water wastage and ensure efficient water usage. Additionally, improving river-to-lake connectivity can help manage water resources more effectively by ensuring a sustainable flow of water throughout ecosystems. Water management technologies, such as smart irrigation and water-efficient appliances, can drastically reduce water consumption in agriculture and households.

Governments needs to incentivize businesses to adopt such technologies and there should be a regulatory framework that encourages these practices at both the local and national levels. Financial support for research and development of water technologies can also help scale innovations that support water sustainability.

Circular Approach to Water Sufficiency:

A circular water system emphasizes reusing and recycling water across industries and urban areas. For example, wastewater from industries can be treated and reused for non-potable purposes



like cooling or cleaning, reducing the demand for fresh water. Industries can adopt water recycling systems and wastewater management plants can be upgraded to facilitate better treatment and reintroduction into the ecosystem.

In agriculture, promoting efficient irrigation practices and the use of treated wastewater for farming will help reduce reliance on freshwater resources. This circular approach will not only conserve water but also lower environmental impact.

Addressing Annual Water Challenges:

India faces annual water challenges, such as scarcity in the summer months and floods during the monsoon season. Proactive solutions like developing flood-resistant infrastructure, implementing rainwater harvesting systems and investing in sustainable water storage technologies are critical. Furthermore, incentivizing local water management solutions—such as community-run water management projects—will ensure that water systems are well-maintained and resilient to climate variability.

4. Integrating Gender and Eco-Inclusive Approaches for Sustainable and Circular Growth

Inclusive Sustainability Approach:

Sustainability efforts must involve diverse groups, including individuals with disabilities, women and the third-gender community. Sustainable development cannot be achieved without making sure these groups are actively included in decision-making processes and benefit from the opportunities that arise. Gender equality and social inclusion are integral to sustainable development, ensuring that policies, job opportunities and



sustainable practices are accessible to all. Empowering marginalized groups creates a more equitable society and fosters inclusive economic growth, which is central to long-term sustainability.

Practical Implementation of Sustainability:

To make sustainability a reality, organizations must embrace modern technologies and practices. Many industries still use outdated operational models, which hinder sustainability efforts. Moving towards digital solutions, such as automated tracking systems, data analytics and cloud-based operations, can improve efficiency, reduce waste and optimize resource usage. Embracing innovation ensures that sustainability is not just a concept but a practical, attainable goal.

Sustainability as a Necessity, Not a Luxury:

The conversation emphasized that sustainability must be viewed as a necessity rather than an optional luxury. Ecological crises such as climate change and resource depletion have direct implications on every facet of society, including food security, health and economic stability. Policies that make sustainable living accessible and practical for all, such as removing barriers to green alternatives and offering incentives, will foster a culture of sustainability that reaches every level of society.

Behavioral Change and Financial Support:

A collective understanding of the importance of sustainability is crucial for its success. Public awareness campaigns, coupled with financial support for sustainable technologies, are necessary to foster lasting behavioral change. Additionally, providing incentives for industries to adopt eco-friendly practices, like water recycling and waste reduction, will drive both corporate responsibility and consumer consciousness toward sustainability.

Confederation of Indian Industry

Mr Shankar Vanavarayar,

Convenor, Nilgiris Economic Dialogue &
Executive Director, ABT Industries Pvt Ltd

In conversation with

Dr Montek Singh Ahluwalia,

Distinguished Fellow, Centre for Social and Economic Progress & Former Deputy Chairman, Planning Commission of India





The discussion focused on the critical issues hindering India's economic development and the pivotal role that data, technology and policy must play in driving structural transformation. At the heart of the conversation was the acknowledgment of India’s economic potential, especially given its demographic advantages, but also a recognition of the significant challenges that impede progress. These challenges include a variety of structural barriers, particularly within the context of Micro, Small and Medium Enterprises (MSMEs), which are integral to the country’s economic growth. Although MSMEs represent the backbone of India’s economy, their capacity to thrive remains stunted due to policies, a lack of focus on enhancing productivity, innovation and inclusivity in economic growth. Without tackling these challenges, India’s full economic potential will not be realized.

1. India's Economic Potential and the Challenges in Realizing It

The discussion focused on the critical issues hindering India's economic development and the pivotal role that data, technology and policy must play in driving structural transformation. At the heart of the conversation was the acknowledgment of India’s economic potential, especially given its demographic advantages, but also a recognition of the significant challenges that impede progress. These challenges include a variety of structural barriers, particularly within the context of Micro, Small and Medium Enterprises (MSMEs), which are integral to the country’s economic growth. Although MSMEs represent the backbone of India’s economy, their capacity to thrive remains stunted due to outdated policies, a lack of focus on enhancing productivity, innovation and inclusivity



in economic growth. Without tackling these challenges, India's full economic potential will not be realized.

2. Addressing Employment and Skill Development Gaps

Economic Development and Employment Challenges

India's demographic dividend offers a unique opportunity for economic growth, particularly given its young and growing workforce. However, a key challenge remains the significant gap between job creation and the actual skill set of the available workforce. The nation faces a mismatch where the demand for jobs exceeds the number of opportunities and the skills possessed by the labor force do not align with the needs of employers. This skills gap stifles economic growth and restricts the ability to harness the potential of a youthful workforce. The lack of quality skill development programs and training opportunities exacerbates this issue, leaving millions of young people underprepared for the job market. To fully capitalize on India's demographic dividend, there needs to be a concerted effort to bridge the skills gap, develop targeted vocational training and improve job matching systems to create productive employment opportunities.

3. Leveraging Technology and Policy for Economic Transformation

The Role of Technology and Data

Data-driven insights and automation were recognized as pivotal tools for driving efficiency and innovation in key sectors such as healthcare, education, agriculture and manufacturing. The integration of modern technologies, including Artificial Intelligence (AI), machine learning, big data analytics and automation, can streamline processes, reduce inefficiencies and provide deeper insights into various sectors, enabling better policy decisions. In healthcare, for example, data analytics can help improve patient care, predict disease outbreaks and optimize resource distribution. In agriculture, the use of IoT (Internet of Things) and data analytics can help optimize water usage, track crop growth and improve yields. These technologies hold immense potential to bridge existing gaps in service delivery, access to resources and overall efficiency.

However, the conversation also emphasized that technology should complement human capital, not replace it. Technology-driven advancements must be leveraged in a way that enhances the quality of jobs, helps workers develop new skills and creates value-added opportunities. A collaborative approach between technology and human labor will be crucial for preventing mass unemployment while still embracing innovation. The key challenge lies in using technology to empower workers rather than displacing them.

Policy Design and Governance

An important issue raised during the discussion was the need for more targeted and effective policy design, particularly for MSMEs. Currently many government policies needs to be reformed to improve the effective collobration between government and private sectors. MSMEs, which play a crucial role in job creation and economic diversification, are often burdened by outdated policies, lack of access to finance and inadequate infrastructure. The panel suggested that to foster growth in this sector, policies should be designed to specifically address the unique needs of MSMEs, including access to credit, technology and markets and support for innovation. By ensuring that MSMEs are well-supported, the government can encourage

entrepreneurial activity and promote inclusivity in the economy. Moreover, policies should be evaluated regularly to ensure they are achieving the desired outcomes. A more agile and responsive governance framework will be crucial for addressing the evolving needs of the economy, particularly in the face of rapid technological advancements and shifting global trends.

4. Ensuring Inclusive Growth and Fostering Entrepreneurial Mindsets

Rural-Urban Disparity

Another critical issue discussed was the disparity between rural and urban areas in terms of access to resources, infrastructure and opportunities. While urban centers have witnessed rapid economic growth, rural areas often fall behind in terms of infrastructure, employment opportunities and income levels. This imbalance leads to regional economic inequality and limits the ability of rural communities to contribute fully to the nation's overall economic development. The discussion emphasized the importance of implementing policies that focus on boosting rural development, improving per capita income in rural areas and closing the infrastructure gap. Rural areas can benefit significantly from investment in infrastructure, such as roads, healthcare facilities, education and digital connectivity, which can empower local populations and foster inclusive growth. Addressing this urban-rural divide is also critical for reducing migration to cities, which puts additional pressure on urban infrastructure and resources. By making rural areas more viable for living and working, India can achieve more balanced and sustainable national development.

Inclusive Public Discourse and Youth Involvement

The need for more inclusive public discourse was another important theme. Creating policies that reflect the diverse needs and perspectives of all groups in society is essential for fostering inclusive growth. This inclusivity goes beyond ensuring that marginalized groups are represented in decision-making processes; it also includes incorporating feedback from various social, economic and cultural backgrounds to create policies that are equitable and broadly accepted. Furthermore, the involvement of the youth in policy-making and governance is crucial. As the younger generation will play a significant role in shaping the future of India, it is important to involve them in the decision-making process early on. Their ideas, particularly in areas related to technology, innovation and sustainability, are vital for creating forward-looking policies that will shape the country's future. Engaging youth in this way will also help ensure that the country's growth is driven by the ideas and energy of the next generation.





Sustainable Growth and Entrepreneurial Mindset

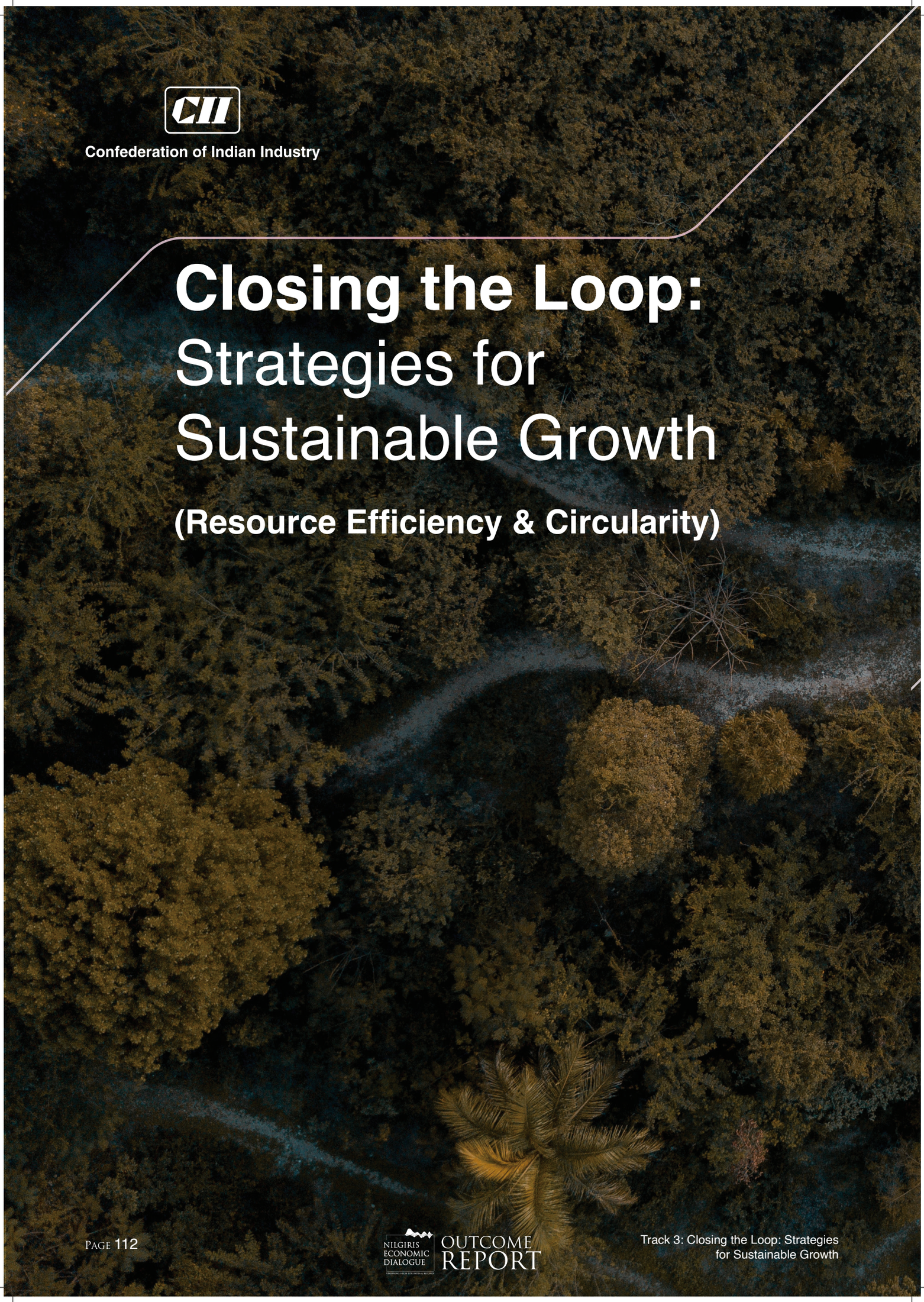
The session concluded with a call for fostering an entrepreneurial mindset among India's youth. An entrepreneurial mindset encourages risk-taking, creativity and problem-solving—all of which are essential for driving innovation and economic growth. By cultivating a culture of entrepreneurship, India can unlock new opportunities for job creation, innovation and wealth generation. Entrepreneurship also contributes to sustainable long-term growth, as it helps diversify the economy, reduce dependence on traditional sectors and promote the development of new industries, particularly in tech-driven and sustainable sectors. To achieve this, educational systems, governmental support and access to financing must be aligned to provide aspiring entrepreneurs with the tools and resources they need to succeed.

Day 2 Group Pic



Confederation of Indian Industry

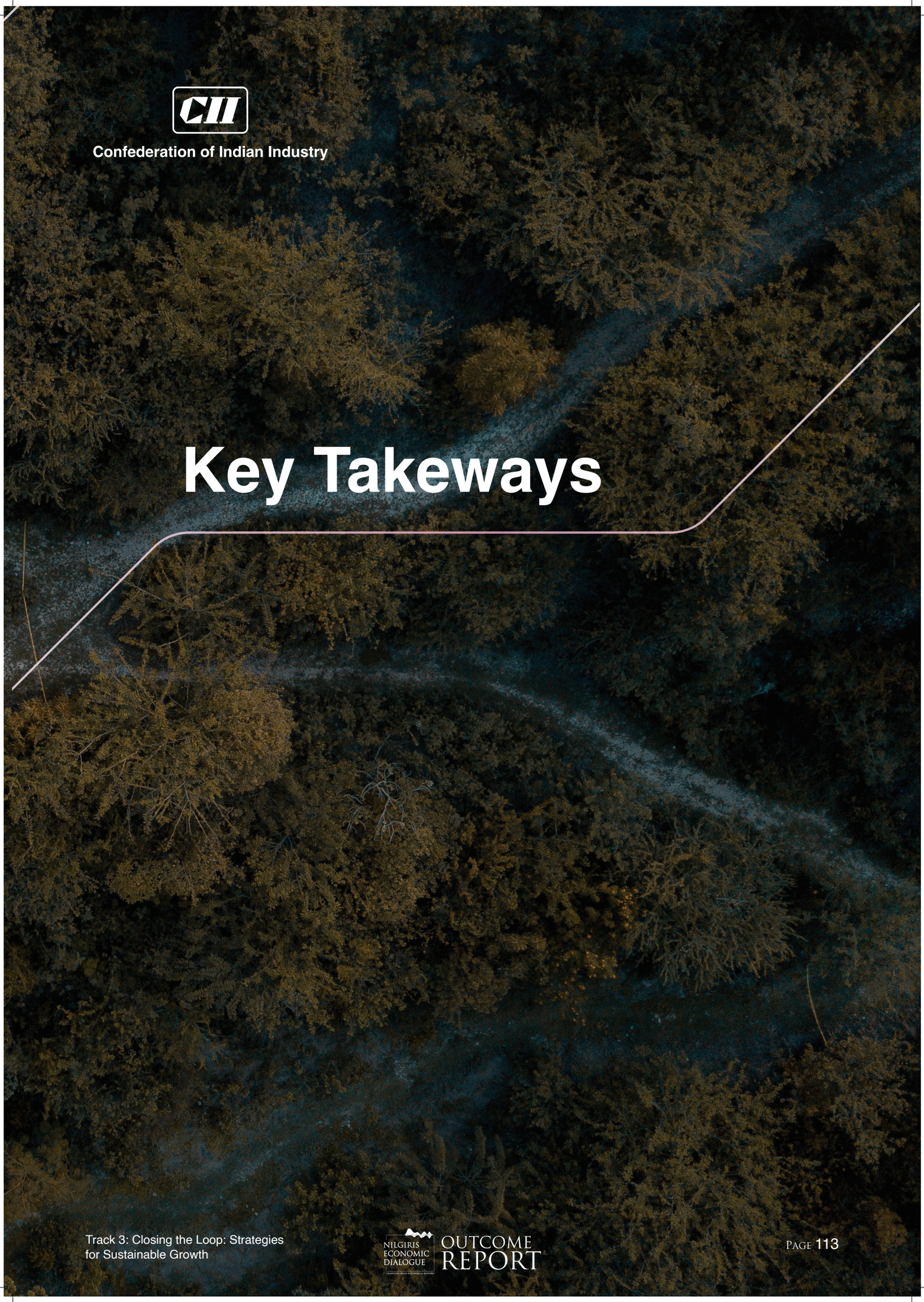




Confederation of Indian Industry

Closing the Loop: Strategies for Sustainable Growth

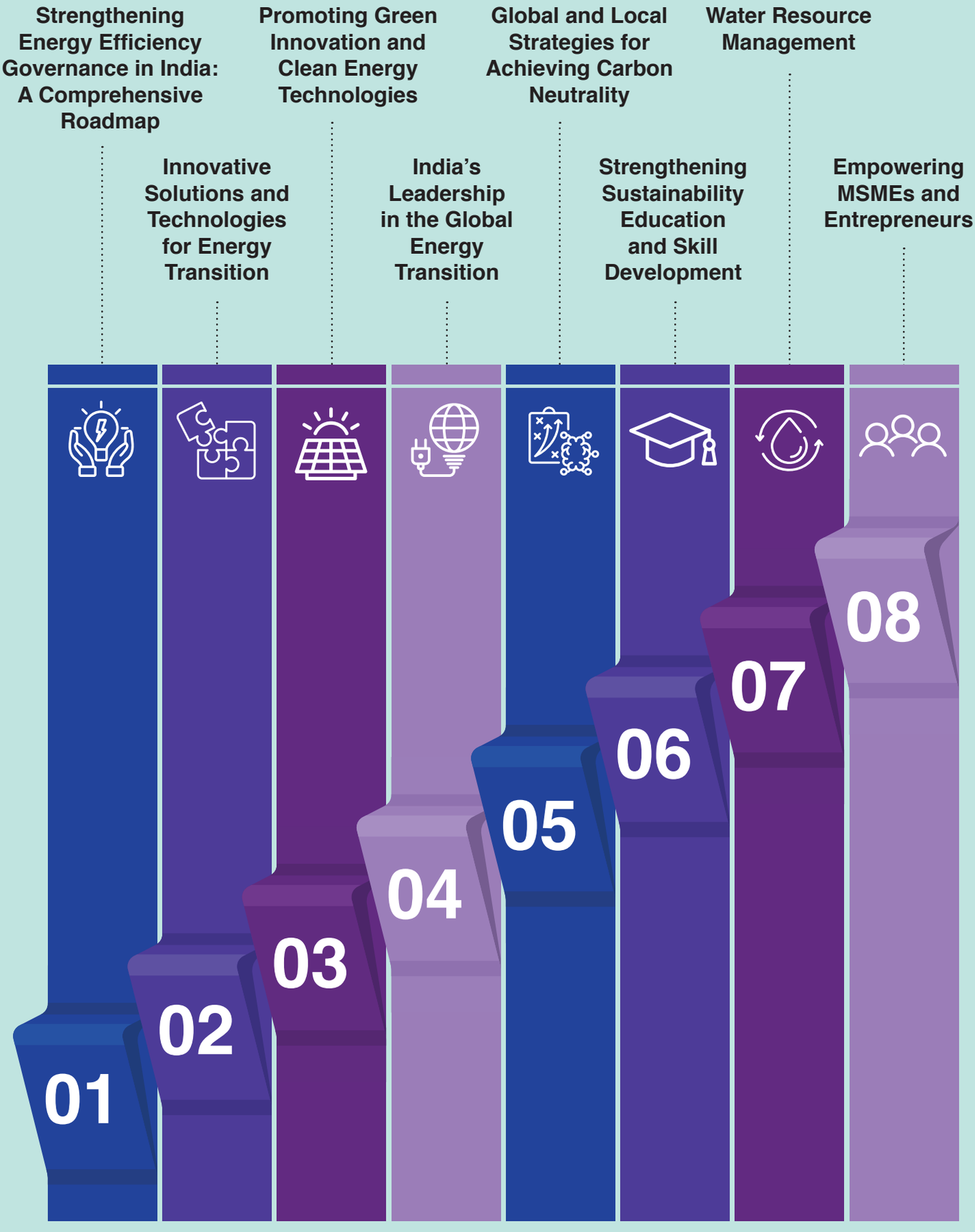
(Resource Efficiency & Circularity)



Confederation of Indian Industry

Key Takeways

PILLARS


Strengthening Energy Efficiency Governance in India: A Comprehensive Roadmap
Innovative Solutions and Technologies for Energy Transition
Promoting Green Innovation and Clean Energy Technologies
India's Leadership in the Global Energy Transition
Global and Local Strategies for Achieving Carbon Neutrality
Strengthening Sustainability Education and Skill Development
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PILLAR 1

Strengthening Energy Efficiency Governance in India: A Comprehensive Roadmap

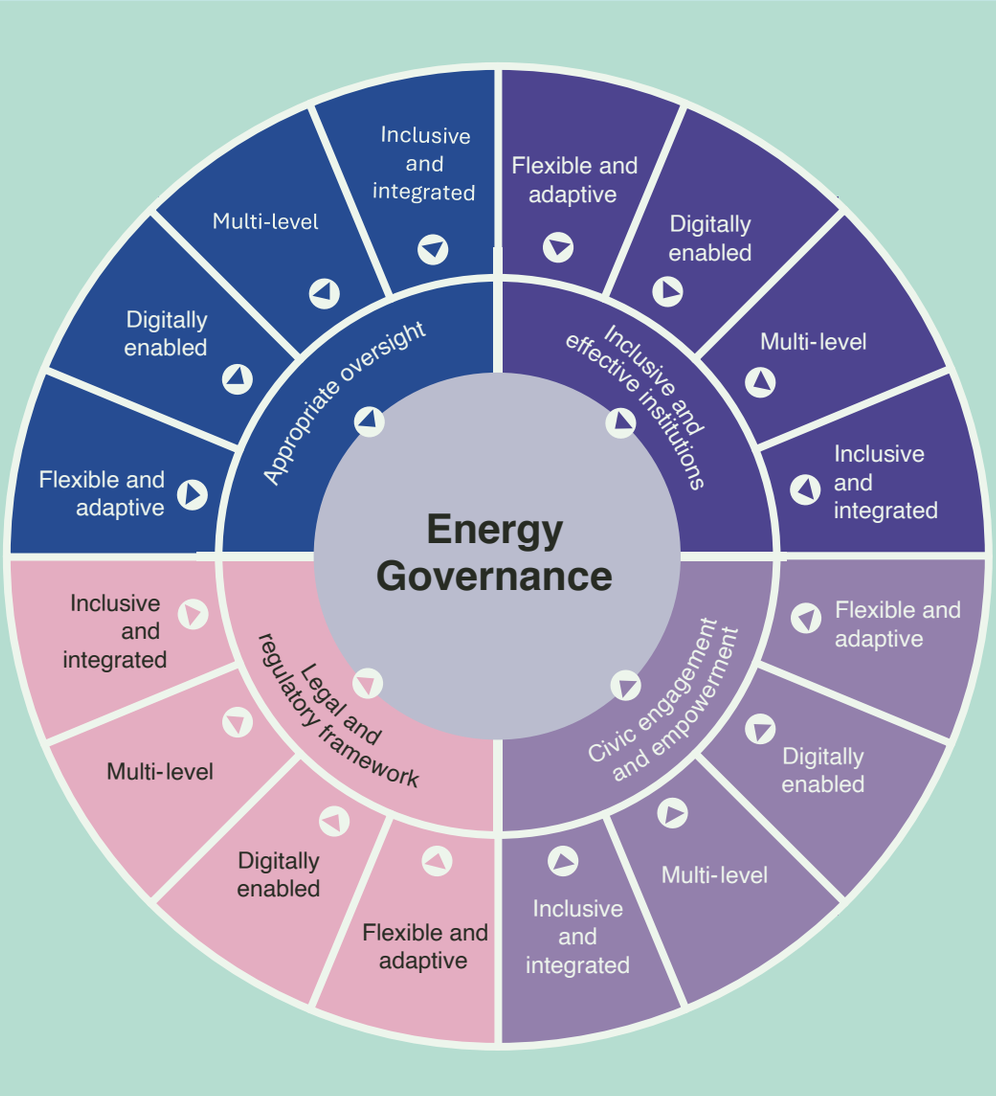
01

Energy Efficiency (EE) is crucial for India's energy security, economic growth and climate action. Mr Padmanaban's insights highlight the need for systemic reforms to accelerate EE adoption across industries, businesses and households. This document presents key recommendations, supported by facts and references.

1.1. Reimagining Energy Efficiency Governance

Strengthening Institutional Framework

Energy efficiency in India lacks policy urgency and coordination, leading to inefficiencies. To address this, EE institutions should be placed under the Prime Minister's Office (PMO) for centralized oversight and integration into national economic and environmental strategies. Japan's success with centralized EE policies underscores this need.



A National Energy Efficiency Council (NEEC), with stakeholders from industry, academia and government, should be established to set targets, monitor progress and adapt policies. A well-coordinated EE strategy could help India save up to 300 TWh of electricity annually, translating into cost savings exceeding ₹2 lakh crore.

Reforming the Bureau of Energy Efficiency (BEE)

BEE's current framework limits its adaptability to technological advancements. While programs like PAT and S&L have contributed to energy savings, BEE requires greater regulatory authority and financial autonomy.

Expanding BEE's mandate to include green hydrogen, energy storage, electric mobility and smart grids would ensure future readiness. A dynamic regulatory approach, with energy efficiency standards revised every three years, would align policies with technological innovation. Strengthening BEE could reduce industrial energy consumption by 10%, saving an estimated ₹75,000 crore annually.

1.2. Energy Efficiency as a National Movement

Public Engagement and Behavioral Change

Energy efficiency must be embraced as a collective national movement. Public awareness remains low and energy-saving habits are not widespread. A National Energy Efficiency Awareness Program, using media campaigns and education curricula, can help shift public perception.

Financial incentives, such as tax rebates and subsidies for energy-efficient appliances, would accelerate adoption. The UK's Energy Efficiency Obligation Scheme reduced residential energy use by 15% in a decade.

A similar approach in India could save households ₹50,000 crore annually.

Enhancing Energy Efficiency in Key Industries

Industries account for 56% of India's energy consumption, with steel, cement, petrochemicals and fertilizers contributing significantly to emissions. Despite programs like PAT, progress is slow due to financial constraints and lack of technical expertise.

Stricter EE regulations, including increasing PAT scheme targets and mandating annual efficiency improvements of at least 5%, are essential. Adoption of energy-saving technologies like waste heat recovery, high-efficiency motors and AI-driven energy management could optimize industrial energy use. Waste heat recovery alone could reduce cement and steel industry consumption by 15-20%.

Encouraging Sustainable Lifestyles

Consumer behavior significantly impacts energy consumption. The rising demand for single-use products and inefficient appliances worsens



India's energy crisis. Promoting sustainable choices through eco-labeling and stricter energy performance standards is essential.

Mandating efficiency labels on all consumer electronics and incentivizing sustainable alternatives can encourage responsible consumption. The circular economy—focused on recycling and waste reduction—should be integrated into India's sustainability strategy. Transitioning to energy-efficient appliances alone could reduce national energy demand by 200 TWh annually, equivalent to 10% of current electricity consumption.

1.3. Policy Recommendations for a Sustainable Future

Cross-Sectoral Integration of EE Policies

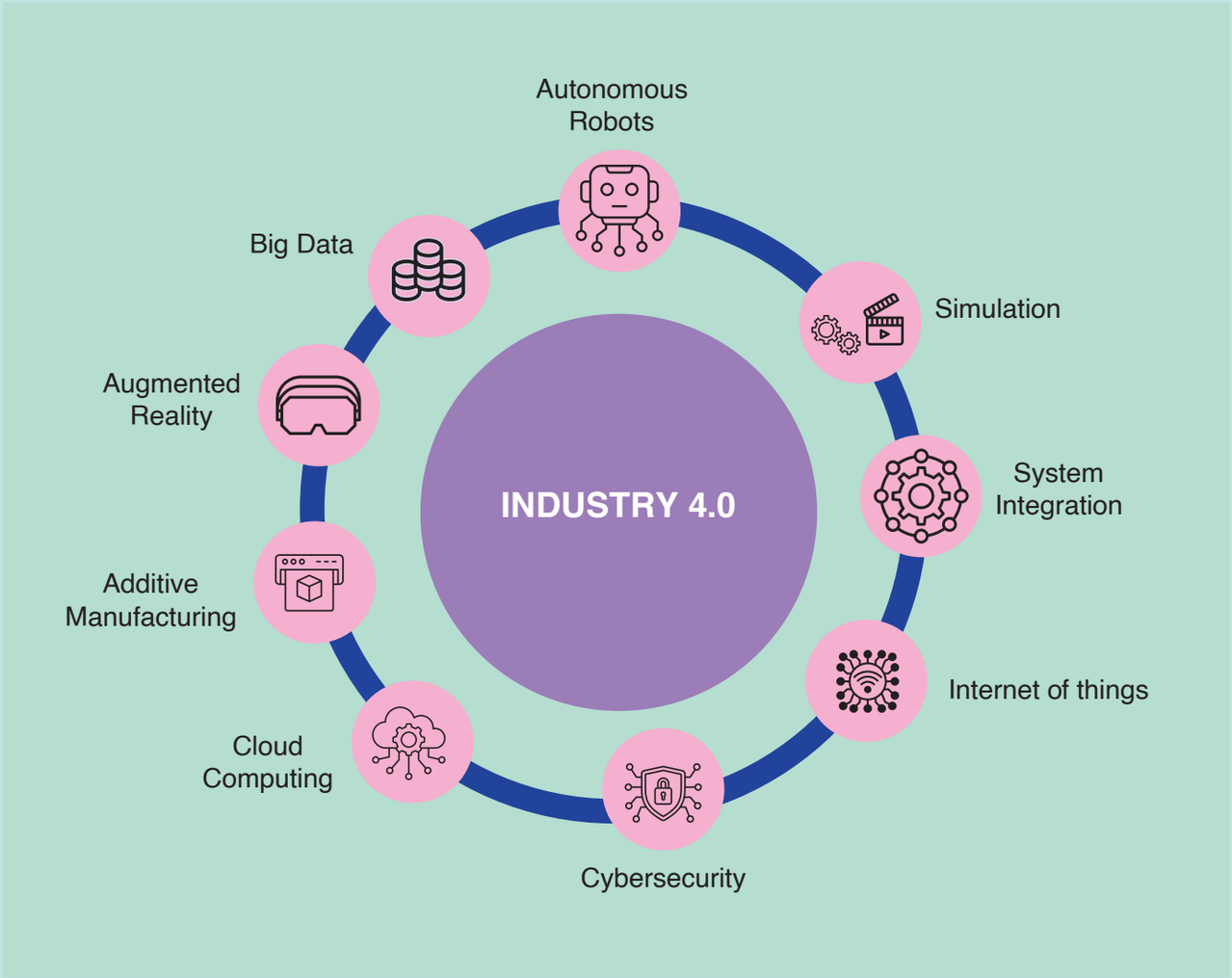
Aligning EE policies with India's Nationally Determined Contributions (NDCs) under the Paris Agreement is crucial. Integrating EE into the Smart Cities Mission would reduce urban energy demand by promoting sustainable infrastructure, smart grids and energy-efficient public transportation.

Strengthening Financing Mechanisms for EE

Expanding green financing options, including low-interest loans, can help businesses invest in EE upgrades. Creating energy efficiency funds backed by carbon credit revenues would further stimulate private-sector investment.

Leveraging Digital Technologies for EE

Artificial Intelligence (AI) and the Internet of Things (IoT) can revolutionize energy efficiency by enabling real-time monitoring and predictive analytics. The adoption of smart meters and grid automation would optimize electricity demand and reduce wastage. Data-driven energy management strategies will be key to India's long-term EE goals.



02

PILLAR 2

Innovative Solutions and Technologies for Energy Transition

2.1. Addressing Energy Challenges in AI and Data Centers

The rapid growth of Artificial Intelligence (AI) and data centers presents a significant challenge for energy efficiency in India. With AI-driven technologies such as cloud computing, machine learning and big data analytics gaining traction, data centers have become major energy consumers. Estimates suggest that global data centers currently consume about 1% of total electricity, a figure projected to increase as digitalization expands.

To mitigate this energy burden, India must prioritize energy-efficient server management and cooling systems, which account for nearly 40% of a data center's total energy consumption. Utilizing liquid cooling technology and optimizing airflow can significantly reduce energy demand. Additionally, integrating renewable energy sources like solar and wind into data center operations can curb reliance on conventional power. Given India's expanding digital economy, incentivizing energy-efficient AI infrastructure is critical to ensuring that growth in sectors such as healthcare, agriculture and manufacturing remains sustainable.

2.2. Advancing Integrated Energy Networks

The need for a more resilient and flexible energy infrastructure calls for the development of integrated energy networks that combine diverse energy sources, including renewables, nuclear and natural gas, while retaining coal in a transitional role. This hybrid approach allows for more efficient energy management, ensuring a stable power supply even as the country increases its share of renewables.

Investment in smart grid technologies will be crucial in optimizing electricity distribution, preventing grid overload and managing peak-hour demand. Studies suggest that incorporating smart grids could reduce transmission losses by up to 25%, improving overall energy efficiency. Additionally, expanding battery storage capacity will help India harness excess renewable energy during high-production periods and deploy it when needed, reducing dependency on fossil fuels and minimizing energy wastage.

2.3. Scaling Up Hydrogen as an Alternative Energy Source

Hydrogen is emerging as a key alternative to fossil fuels, particularly in hard-to-decarbonize industries such as steel and cement production. India has immense potential to leverage hydrogen for industrial applications, following the example of Sweden, where hydrogen-based steel production has cut emissions by over 90% compared to conventional coal-based methods.

To accelerate hydrogen adoption, India must invest in research and development while establishing policies that facilitate large-scale commercial deployment. The National Hydrogen Mission aims to produce 5 million metric tonnes of green hydrogen annually by 2030, which could significantly reduce industrial carbon emissions. If implemented effectively, hydrogen-powered industries could position India as a global leader in sustainable industrial practices while simultaneously meeting its decarbonization goals.

PILLAR 3

Promoting Green Innovation and Clean Energy Technologies

03

3.1. Establishing India as a Hub for Clean Technology

India should leverage its strengths in renewable energy, electric vehicles and sustainable infrastructure to become a global exporter of clean technologies. With the demand for sustainable solutions increasing, India has the opportunity to lead in manufacturing and exporting solar panels, battery storage systems and energy-efficient industrial technologies. Studies indicate that India's renewable energy sector attracted over $10 billion in investments in 2022, highlighting its potential as a green technology hub.

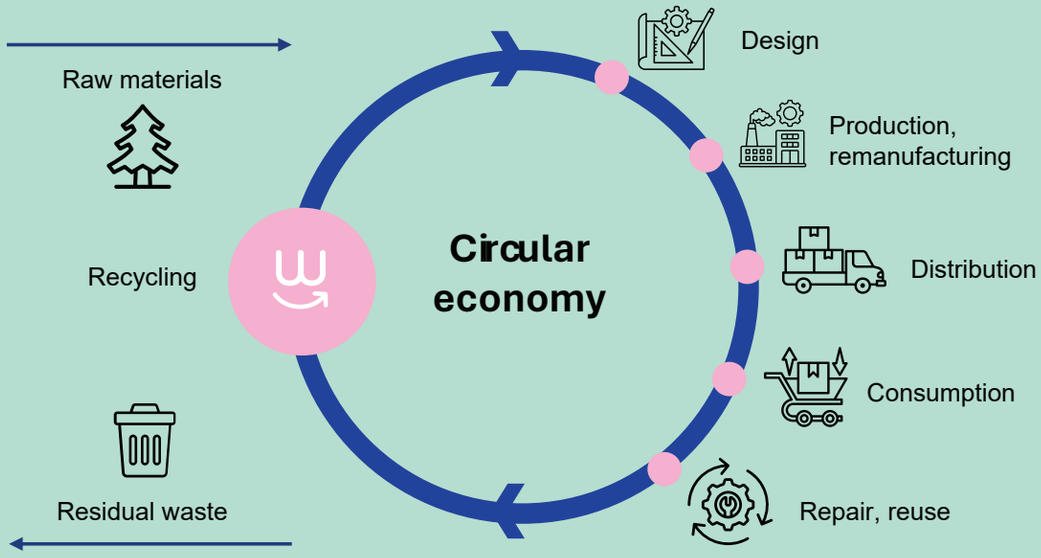
Strengthening Research and Development (R&D) in Green Technologies

Investments in R&D are crucial for advancing energy efficiency and decarbonization. By enhancing innovation in areas such as hydrogen fuel, advanced battery storage and carbon capture technologies, India can further strengthen its position in the global energy market. Government support through tax incentives and subsidies for R&D will accelerate the adoption of breakthrough technologies.

3.2. Expanding Global Trade and Strategic Partnerships

Fostering International Collaboration

India should enhance its participation in global clean energy initiatives by forming strategic partnerships with international organizations and countries leading in renewable energy.



Collaborative research and knowledge-sharing initiatives can help India develop cutting-edge solutions and expand its global footprint in clean technology exports.

Developing a Competitive Renewable Energy Market

The global renewable energy market is expected to reach $1.1 trillion by 2030, presenting an opportunity for India to expand its manufacturing and export capabilities. By improving regulatory frameworks and ensuring ease of doing business, India can attract foreign investments and establish itself as a leader in renewable energy exports.

3.3 Strengthening Policy and Governance for Energy Transition

Ensuring Political and Policy Stability

Consistent policy support is necessary for long-term energy transition goals. Political stability and regulatory certainty will encourage investments in clean energy and infrastructure. India should implement policies that provide long-term incentives for renewable energy projects and emissions reduction initiatives.

Implementing Robust Carbon Pricing and Trading Mechanisms

A well-regulated carbon pricing mechanism can help industries transition to low-carbon alternatives. Expanding India's carbon trading market can drive emissions reductions while providing economic incentives for industries adopting green technologies.

3.4. Addressing Global Political Challenges

Strengthening India's Role in Climate Diplomacy India must play an active role in global climate negotiations, advocating for more ambitious international climate agreements. Engaging in platforms such as the G20 and COP summits will enable India to shape global sustainability policies and push for greater commitments from developed nations.

Maintaining Resilience Amid Global Policy Shifts

Given that international climate policies are often influenced by political changes, India must remain committed to its sustainability goals despite fluctuations in global leadership. Ensuring a resilient energy transition strategy will help India stay on course even amid geopolitical uncertainties.

3.5. Driving Economic Growth Through Sustainable Development

Creating Green Jobs and Industries

The clean energy sector has the potential to create millions of jobs in India. Estimates suggest that renewable energy deployment could generate over 3 million new jobs by 2030. Training programs and skill development initiatives should be expanded to equip the workforce for opportunities in solar, wind and hydrogen energy sectors.

Enhancing Infrastructure for Sustainable Growth

Investments in smart grids, energy storage and electrified transport systems will strengthen India's energy infrastructure. By integrating advanced digital technologies and AI-driven energy management, India can optimize energy use and reduce carbon footprints across industries.

3.6. Planning for the End-of-Life Transition of Thermal Power Plants

As India transitions to cleaner energy, proper planning for the decommissioning of outdated thermal power plants is crucial. Older coal-fired plants are not only inefficient but also major sources of pollution, contributing to nearly 50% of India's power sector emissions.

Replacing inefficient plants with advanced supercritical and ultra-supercritical technologies can improve thermal efficiency by 10-15%, reducing both emissions and fuel costs. However, the long-term strategy should focus on accelerating the shift toward renewable energy. Solar and wind energy adoption is already on the rise, with India achieving over 170 GW of renewable energy capacity in 2023. To further expedite the transition, financial incentives and policy support should be provided to encourage utilities to retire aging coal plants and invest in cleaner alternatives.

PILLAR 4

India's Leadership in the Global Energy Transition

04

4.1. India's Opportunity to Lead the Low-Carbon Transition

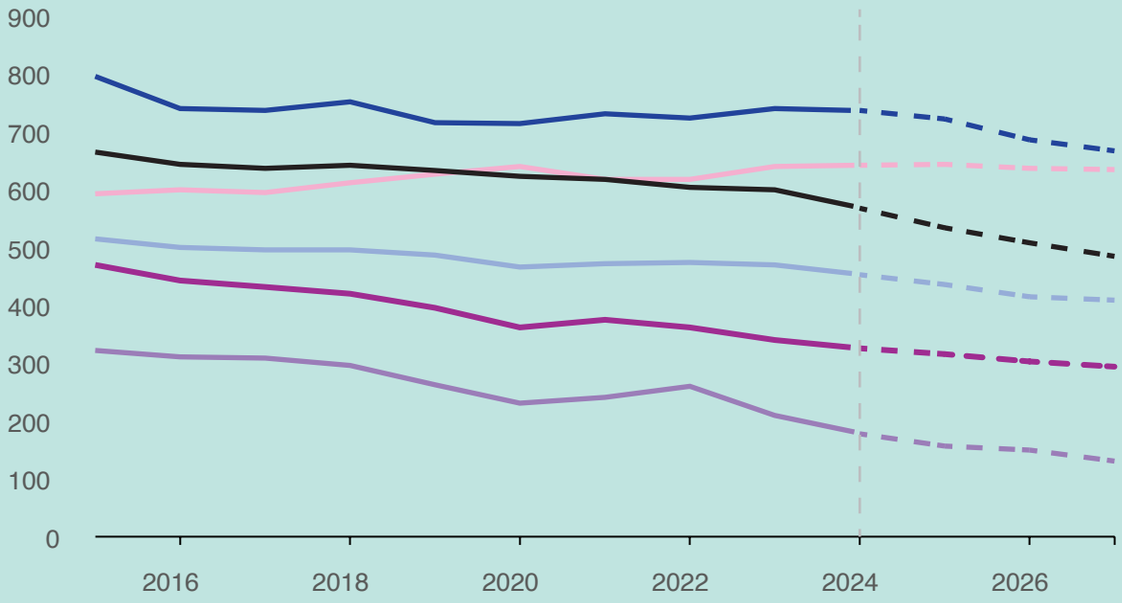
As the world's third-largest emitter of CO_2, India has a critical role to play in the global energy transition. With a population exceeding 1.4 billion and one of the fastest-growing economies, India must demonstrate that economic development and sustainability can go hand in hand. The country has already made significant strides, ranking among the top five nations for renewable energy capacity, with solar power alone reaching 70 GW in 2023.

India's leadership in green technology is essential not only for its domestic sustainability goals but also for shaping global energy policies. By sharing best practices and collaborating with other emerging economies, India can set a precedent for balancing industrial growth with environmental responsibility. Expanding international partnerships on clean energy technologies, such as hydrogen and smart grids, will further strengthen India's position as a global leader in sustainable development.

4.2 Strengthening Green Industrial Policies

To sustain its leadership in the clean energy transition, India must integrate energy efficiency and decarbonization targets into its industrial policies. Strengthening regulatory frameworks, such as tightening emissions standards and expanding carbon trading mechanisms, can encourage industries to adopt cleaner technologies.

Furthermore, increasing investments in renewable energy infrastructure and green manufacturing could create millions of jobs while reducing carbon footprints. Studies indicate that every $1 million invested in renewable energy generates three times as many jobs as the same amount invested in fossil fuels. By positioning itself as a hub for clean technology innovation, India can drive economic growth while achieving long-term energy security and climate resilience.



PILLAR 5

Global and Local Strategies for Achieving Carbon Neutrality

05

5.1. Prioritizing Key Energy Sectors for Decarbonization

To reduce emissions, India must focus on electricity, industry, transportation and domestic energy consumption. Transitioning the electricity sector to solar, wind and hydropower is essential. Energy efficiency in industries, such as upgrading equipment and adopting renewables, will further reduce emissions. Urban transportation should emphasize Electric Vehicles (EVs) and expanded public transport networks.

5.2. Encouraging Energy Efficiency in Households

Household energy consumption can be optimized through energy-efficient appliances, better insulation and public awareness campaigns. Incentives and rebates will encourage consumers to adopt energy-saving practices, reducing overall national energy demand.

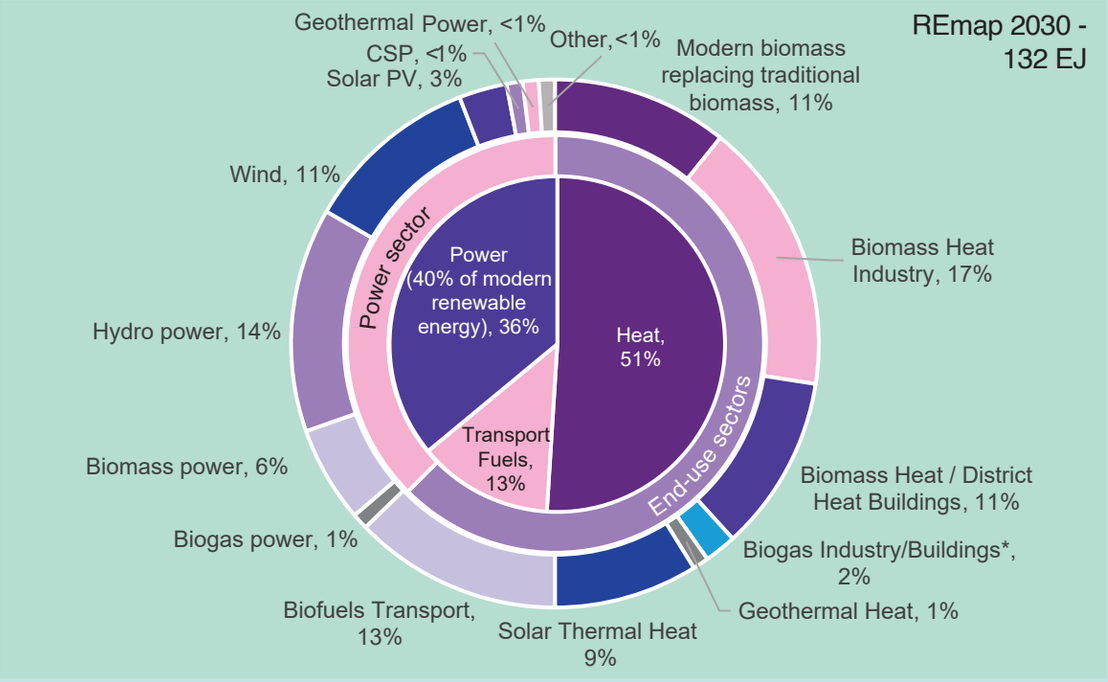
5.3. Transitioning to Renewable Energy Leadership

Scaling Up Solar, Wind and Hydropower Infrastructure

India's vast solar potential can be harnessed through large-scale projects and rooftop solar installations. Wind and hydropower expansion will complement solar energy, ensuring a diversified and resilient energy mix. Smart grids and energy storage investments are necessary for seamless renewable energy integration.

5.4. Strengthening Green Energy Investments

With the global renewable energy market projected to reach $1.1 trillion by 2030, India should attract investments through favorable policies and incentives. Expanding green finance options, including low-interest loans for renewable projects, will accelerate clean energy adoption.



*Including combined heat and power (CHP) and district heat

06

PILLAR 6

Strengthening Sustainable Education and Skill Development

6.1. Integrating Sustainability into Early Education

Early engagement is essential for embedding sustainability knowledge. Schools and communities should lead sustainability education efforts, incorporating both theoretical learning and hands-on activities. Programs such as school recycling initiatives and energy-saving challenges will foster eco-conscious behaviours from a young age.

6.2. Embedding Sustainability Across Educational Curricula

Sustainability must be integrated into various subjects: mathematics (using environmental data), science (studying ecosystems and renewable energy) and economics (understanding green business models). Practical projects will help students apply sustainability concepts in real-world contexts, ensuring lifelong learning and adaptability to evolving environmental challenges.



07

PILLAR 7

Water Resource Management

7.1. Flood Resilience & Infrastructure

With 40% of India's population affected by annual monsoon floods, investing in elevated roads, modular drainage and urban green spaces is critical. Chennai's permeable pavements reduced flooding by 30% in pilot areas. Scaling such solutions in flood-prone states like Bihar and Assam could curb annual economic losses exceeding $7 billion.

7.2. Rainwater Harvesting & Storage

Only 8% of India's 1,000 mm annual rainfall is harvested. Mandatory rainwater harvesting in Rajasthan and Tamil Nadu boosted groundwater recharge by 25–40%. Nationwide adoption could meet 35–50% of urban water needs. Modern storage technologies, like Maharashtra's "Jalyukt Shivar" project (benefiting 11,000 villages), can reduce evaporation losses from traditional systems by 40%.

7.3. Community-Led Governance

Allocating 15–20% of state water budgets to local management bodies, as seen in Odisha's "Pani Panchayats" (supporting 2 million farmers), ensures maintenance and climate resilience. Kerala's participatory models reduced water conflicts by 60%, proving scalability.



08

PILLAR 8

Empowering MSMEs and Entrepreneurs

8.1. Modernizing Finance and Policy

MSMEs contribute 30% of India's GDP but face a $380 billion credit gap (IFC, 2020). Streamlining compliance (e.g., Rajasthan's single-window system reducing approvals by 70%) and expanding low-interest loans, like MUDRA Yojana's ₹3.2 trillion disbursement, can boost productivity. Gujarat's tech-adopting MSMEs show 25% higher efficiency, urging nationwide scaling of AI tools and cluster-based industrial parks.

8.2. Bridging Skill and Employment Gaps

Aligning Training with Market Needs

Only 5% of India's workforce is formally skilled (NSDC, 2023). Scaling Telangana's industry-linked IT training (30% rural employability gain) and Tamil Nadu's internship schemes (500,000 students) can close gaps. Vocational programs must target sectors like manufacturing, where automation risks displacing 9% of jobs by 2030 (McKinsey, 2021).

8.3. Reducing Rural-Urban Divides

Infrastructure and Digital Equity

Rural areas receive only 30% of infrastructure funding despite housing 65% of the population (NITI Aayog, 2023). Doubling investments in roads, healthcare and BharatNet expansion (targeting 250,000 villages) can mirror Bihar's 98% rural electrification success. Only 35% of rural households have internet—Odisha's "Digital Saksharta" trained 1 million farmers, a replicable model.

8.4. Inclusive Governance and Youth

Diverse Representation

Women and marginalized groups hold under 10% of leadership roles (UNDP, 2022). Mandating 33% representation in policy bodies, as in Kerala's urban planning, ensures equitable growth. Rajasthan's youth councils shaped 15% of state policies, proving intergenerational collaboration's value.

8.5. Entrepreneurship and Education

Building Ecosystems

Startups create 60,000 jobs annually but face 90% failure rates (Inc42, 2023). Expanding Startup India's seed fund to ₹5,000 crore and integrating entrepreneurship courses in 10,000 institutions (only 5% currently offer them) can ignite innovation.



Confederation of Indian Industry

Conclusion: The Way Forward

India is at a crucial juncture in its transition toward resource efficiency and circularity, driven by rising consumption, resource depletion and environmental challenges. A circular economy offers a sustainable model that minimizes waste and maximizes resource utilization, ensuring both economic and environmental benefits. Achieving this requires a multi-pronged strategy involving policy reforms, technological advancements, industry collaboration, consumer awareness and financial support.

Strengthening Policy and Regulation

A well-defined regulatory framework is essential to promote circularity. Policies should enforce Extended Producer Responsibility (EPR), set clear waste management standards and incentivize sustainable practices. Sector-specific guidelines can help industries like manufacturing, construction and packaging integrate circular solutions. Additionally, government-backed programs for skill development and research funding will enable businesses to transition effectively.

Leveraging Technology for Circular Solutions

Innovative technologies such as AI-driven waste management, biodegradable materials and blockchain for supply chain transparency can enhance efficiency. Investment in smart waste segregation, resource-efficient production and alternative materials will be key to reducing environmental impact while improving sustainability.

Industry Collaboration and Business Model Transformation

Businesses must adopt circular strategies that prioritize waste minimization, resource recovery and closed-loop supply chains. Large corporations can lead the way, while SMEs require financial and policy support to transition. Public-private partnerships will be crucial in scaling sustainable solutions across industries.

Consumer Awareness and Sustainable Behavior

Public participation is essential for a circular economy to succeed. Awareness campaigns, incentives for sustainable purchases and formalizing the informal waste sector can drive consumer engagement and responsible consumption. Eco-labeling and sustainable product certifications can further encourage informed decision-making.

Financing the Circular Transition

Adequate financial mechanisms, including green bonds, sustainability loans and tax benefits, will drive investments in circular practices. Government and private-sector funding must support R&D, infrastructure and startups focusing on sustainability. The insurance sector can help mitigate risks associated with circular investments.

India's Role in Global Circular Economy Leadership

With its large market and growing expertise, India can emerge as a global leader in circularity. International collaborations, sustainability partnerships and knowledge-sharing can accelerate progress while positioning India as a model for developing nations.

A Collective Path to Sustainability

India's transition to a circular economy depends on coordinated efforts between government, industry and consumers. A strategic focus on policy, technology, business innovation, consumer behavior and finance will drive long-term sustainability and economic resilience. By embedding circular principles into its development framework, India can foster growth, create jobs and ensure environmental sustainability for future generations.

Business Case Study: ITC Limited – A Leader in Sustainability and Circular Economy Practices

ITC Limited, one of India's leading conglomerates, is renowned for its diversified portfolio across sectors such as FMCG, hotels, paperboards and packaging and agribusiness. ITC's approach to sustainability is integrated into its core business strategy, aligning resource efficiency with circular economy principles. The company has consistently focused on creating shared value for all stakeholders while addressing the critical sustainability challenges of India.



Circular Economy Initiatives at ITC

01

Sustainable Sourcing and Resource Efficiency

ITC's 'Farm-to-Fork' program ensures sustainable farming practices by promoting water conservation, reducing pesticide usage and supporting soil health. In its paperboard and packaging segment, ITC sources materials from sustainable plantations, cutting down environmental impact and ensuring long-term resource availability.

02

Green Manufacturing

ITC focuses on green factories, adopting solar energy, waste heat recovery and energy-efficient systems to lower emissions. The company also uses 100% recyclable packaging and reduces plastic waste by integrating biodegradable films into its products, supporting a circular supply chain.

03

Waste Management and Recycling

The company has implemented a 'Zero Waste to Landfill' initiative, ensuring that 100% of its waste is recycled or repurposed. ITC's commitment to recycling extends to its packaging, using post-consumer recycled content and promoting plastic waste management programs in India.

04

Water Stewardship

Through its 'Water Positive' initiative, ITC ensures more water is replenished than consumed. By promoting water-efficient practices in its manufacturing and agricultural supply chains, ITC helps conserve water, making it an essential part of India's circular economy movement.

05

Circular Economy in Hospitality

ITC Hotels implements zero-waste strategies, focusing on composting organic waste and using solar energy. The hotel chain also works to eliminate single-use plastics and incorporates recycled materials into its construction projects, demonstrating sustainable hospitality practices.

Confederation of Indian Industry

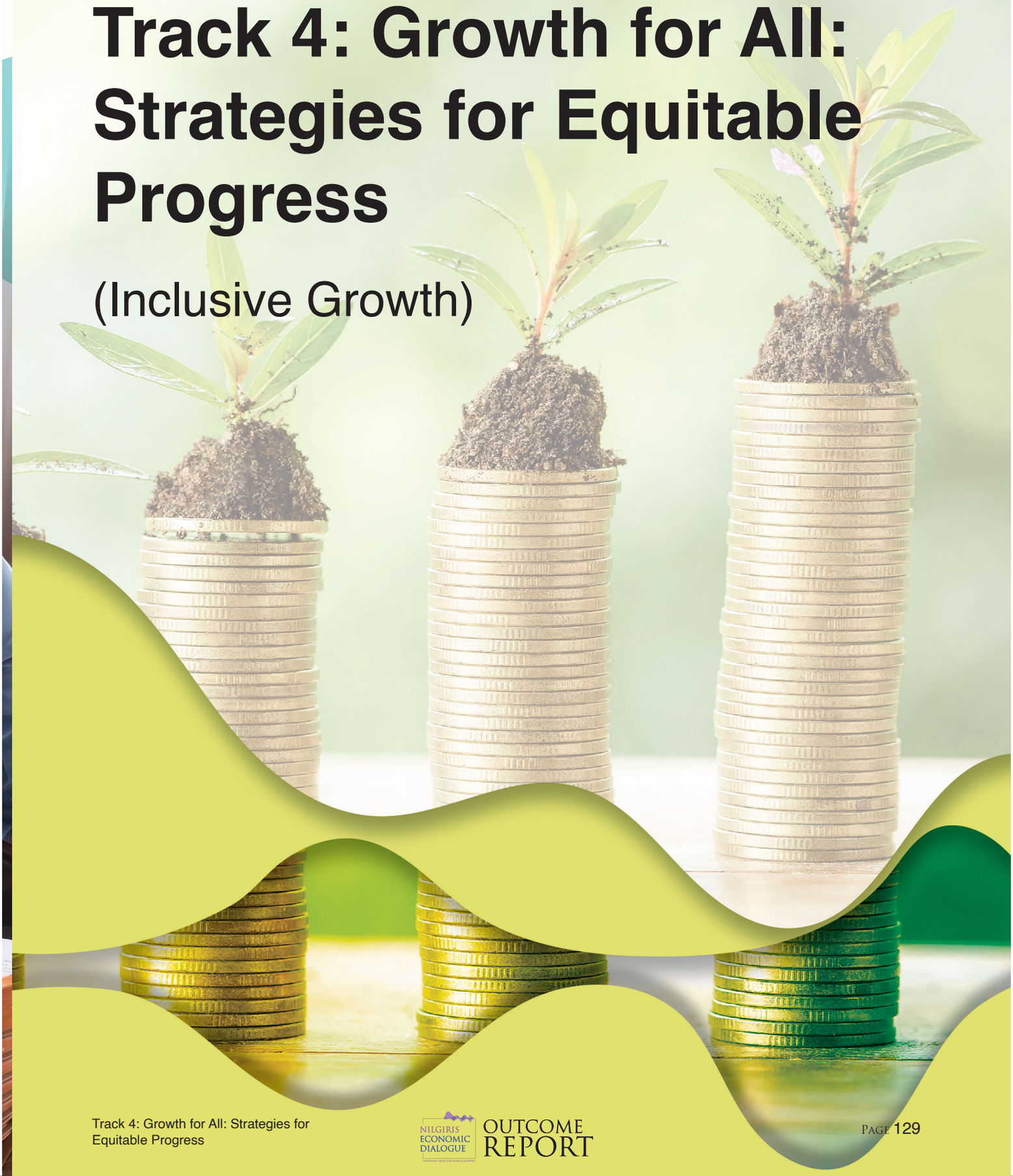
Day 3 Sessions



Confederation of Indian Industry

Track 4: Growth for All: Strategies for Equitable Progress

(Inclusive Growth)



Introduction

India is the world's fifth-largest economy, with a GDP of approximately $3.7 trillion in 2023. However, despite its rapid economic growth, several disparities persist within the country. The benefits of development have not been equitably distributed and vast sections of the population continue to face significant barriers to accessing quality education, healthcare and employment. The current scenario can be better understood by examining key facts and figures that highlight the nature of these challenges:

Economic Inequality and Regional Disparities

India's economic growth has largely been concentrated in urban areas, leaving rural regions lagging behind. According to the NITI Aayog's Multi-Dimensional Poverty Index (MPI), as of 2021, 25% of India's population still lives in poverty, with significant regional disparities. The poverty rate is much higher in rural areas, where approximately 32.6% of the rural population lives below the poverty line, compared to 13.7% in urban areas. These figures demonstrate the significant gap in access to resources and opportunities between rural and urban populations. Furthermore, India's GDP per capita is around $2,600 as of 2023, a stark contrast to more developed nations, where average per capita income is significantly higher. States like Bihar, Uttar Pradesh and Madhya Pradesh continue to rank among the lowest in terms of income and Human Development Index (HDI) indicators, despite contributing to a large portion of the country's population.

Education and Skill Development Gaps

India has made remarkable strides in expanding its education system, with literacy rates improving to 77.7% in 2025. However, the quality of education remains a challenge, especially in rural and economically disadvantaged regions. The Annual Status of Education Report (ASER) 2020 found that nearly 30% of children in rural areas between the ages of 14-18 are not enrolled in secondary school, indicating a significant gap in access to education. Moreover, there is a fall back of vocational training opportunities that can prepare students for the workforce. According to the National Skill Development Corporation (NSDC), India needs to skill approximately 500 million people by 2022, yet only 10-12% of the workforce has received formal vocational training. As industries such as AI, data science and renewable energy expand, the education system must evolve to address the emerging skills gap. While India produces a large number of engineering graduates annually, there is a mismatch between their skills and the demands of the modern job market.

Gender Inequality

Gender inequality continues to impede India's path to inclusive growth. While the Global Gender Gap Report 2023 ranked India 127th out of 146 countries, highlighting the significant gender disparities in education, health, economic participation and political empowerment. Women in India still face significant barriers in accessing quality education, healthcare and employment opportunities. According to the World Bank, India's female labor force participation rate stands at 21%, one of the lowest in the world. Additionally, women are underrepresented in leadership positions across industries, with only 34% of women in senior management roles, as per Grant Thornton's International Business Report 2024. This gender gap is compounded by societal barriers, including limited access to

reproductive health services, lack of supportive workplace policies and pervasive discrimination in male-dominated sectors such as manufacturing and technology.

Healthcare Access and Rural-Urban Divide

India's healthcare system, while improving, remains plagued by inefficiencies and disparities. According to the World Health Organization (WHO), India spends just 1.3% of its GDP on healthcare, far below the global average of 6-7%. Despite efforts like Ayushman Bharat, which aims to provide healthcare coverage to 500 million people, the system still faces significant challenges in rural and remote areas. The rural-urban healthcare gap remains significant, as 60% of India's population resides in rural areas where healthcare infrastructure is relatively limited. According to the Rural Health Statistics 2020, India has just 0.7 doctors per 1,000 people in rural areas, compared to 2.1 doctors per 1,000 people in urban regions. This unequal distribution of healthcare resources has a direct impact on health outcomes, particularly in marginalized and underserved communities. Additionally, rising healthcare costs and inadequate insurance coverage mean that a significant portion of the population cannot afford medical treatment. Health insurance coverage in India is currently around 37%, which is insufficient to cover the entire population, especially in lower-income segments.

Refugee and Migrant Integration

India also faces significant challenges in managing the integration of refugees and migrants, especially from regions such as Kashmir and neighboring countries like Bangladesh and Myanmar. The refugee crisis in Jammu and Kashmir, for instance, has resulted in thousands of displaced individuals, many of whom live in overcrowded conditions with limited access to basic services. While India has been host to large numbers of refugees, including those from Tibet, Sri Lanka and Afghanistan, the National Migration Policy and related legislation need to address issues such as refugees' legal status, access to social security and economic integration. In the absence of a clear and systematic framework, refugees face significant challenges in securing employment, housing and healthcare. The integration process remains ad hoc and lacks a cohesive policy, which can result in both economic instability and social tensions.

The issues outlined above are creating significant roadblocks on the path to national success. Our speakers have thoroughly addressed these challenges and provided valuable insights to tackle them effectively.

Confederation of Indian Industry

Track 4 Speakers



N S Nisha
Superintendent of Police, The Nilgiris District



R Gopalakrishnan
Author & Business Commentator



Artei Sianni
Chief of Mission United Nations High Commissioner for Refugees (UNHCR)



M Vijayabaskar
Add. Fulltime Member, TN State Planning Commission



N K Ranganath
Member, Curators Council Nilgiris Economic Dialogue & Director, Strategy Catalysts Pvt Ltd



Giridharan Ramasubramanian
Chief Operating Officer, Ramco



Unni Krishnan
Chairman, Living Machine Institute



Tarsh Thekaekara
Director, The Real Elephant Collective, Trustee, The Shola Trust & Member, State Board for Wildlife, Government of Tamil Nadu

Confederation of Indian Industry

TOPIC:

The Importance of Long-Living Institutions in National Development

Mr Unni Krishnan
Chairman, Living Machine Institute

in conversation with

Mr R Gopalakrishnan,
Author & Business Commentator



Discussion Outcome

The Significance of Long-Lasting Institutions

Institutional Sustainability

The idea that institutions are akin to living organisms that need continuous nurturing is a powerful metaphor for understanding institutional sustainability. Just like living organisms, institutions require constant care, attention and evolution to thrive and adapt across generations. This goes beyond just ensuring financial stability—it involves fostering a strong culture, adapting to changing environments and continuously innovating. The leadership in these institutions plays a critical role in ensuring their longevity by setting a clear, long-term vision and ensuring that their operations are resilient to external shocks. Institutions that focus on sustainability actively plan for the future, integrating sustainability principles not only in their operations but also in their governance, decision-making and social responsibilities.

Long-lasting institutions contribute positively to society, promoting stability, trust and long-term value for all stakeholders involved. Whether it's a corporation, a non-profit, or a governmental body, a sustainable institution creates lasting value by contributing to economic, social and environmental well-being, making it indispensable in creating a positive impact for future generations.

High Corporate Mortality Rate

Challenges Faced by Early-Stage Companies

A significant issue discussed in the session was the high failure rate of early-stage companies, particularly startups. Many startups face an early demise due to a variety of reasons, with burnout being a key contributor. Founders often overextend themselves, pushing for rapid growth without adequate resources or support. Additionally, financial mismanagement can lead to cash flow crises or inability to meet operational demands. Startups are often forced to prioritize short-term financial results and growth, which can undermine long-term viability.

A major concern is the overemphasis on short-term success driven by investor pressures, which can discourage long-term strategic planning and risk-taking. In many cases, founders, influenced by the venture capital model, may neglect the more sustainable path for achieving growth. For example, chasing high profits or market share without creating a solid business foundation can lead to eventual collapse.



Corporate Collaborations and Partnerships

The Power of Collaboration

The discussion drew an insightful analogy between corporate partnerships and marriages, emphasizing that meaningful collaborations lead to far greater success than isolated efforts. In business, partnerships can be mutually beneficial in ways that individual efforts cannot achieve. When companies join forces, they bring together complementary strengths, resources and expertise. These collaborations allow businesses to achieve economies of scale, access new markets, innovate more effectively and overcome challenges they might struggle with individually.

Successful partnerships are built on trust, shared goals and respect and just like in a successful marriage, they require ongoing communication,

compromise and alignment. The value of these long-term relationships lies in their potential to create synergies that contribute to greater innovation, resilience and sustainability. Collaborative business models, such as joint ventures or alliances, allow companies to share risks, resources and rewards. A key takeaway from the discussion was that partnerships should not just be transactional, focused on immediate gains; rather, they should be based on a long-term vision, aiming for sustainable mutual benefit. One important point raised was that businesses often overlook partnerships, focusing instead on competition. However, in today's globalized and interconnected market, collaboration can drive more meaningful, scalable and impactful success than competition alone.

Critique of Short-Term Capitalism

The Obsession with Quick Success

A significant critique discussed in the panel was the capitalist culture's obsession with quick returns and rapid success, which often leads to detrimental outcomes. This focus on short-term profits can be likened to a form of "bad parenting," where unrealistic expectations for rapid success stifle growth and create an unsustainable environment for both businesses and their employees.

In this context, "bad parenting" refers to a failure to nurture and guide a business toward sustainable, long-term growth. Just as children require time, care and appropriate milestones to develop and mature, businesses need time to grow, adapt and build a strong foundation. The rapid growth mindset fueled by quick returns or quarterly profit targets discourages businesses from thinking about the long-term consequences of their actions. For example, in the race for fast profits, companies might engage in environmentally harmful practices, exploit labor, or overextend themselves, which may lead to long-term risks.

The Japanese Model: An Eastern Approach to Business

Longevity of Japanese Companies

The longevity of many Japanese companies, some of which have thrived for over a thousand years, was a key reference point in the session. These companies, such as the construction firm Kongo Gumi (founded in 578 AD) and other long-standing businesses in Japan, have demonstrated the power of long-term thinking, deep-rooted values and a focus on sustained evolution rather than rapid, short-term success.

Eastern Business Philosophy

Unlike the Western model that often emphasizes speed, efficiency and profit maximization, the Japanese approach to business prioritizes evolution, resilience and rebirth. This approach focuses on adapting to changes in the market and society over time, allowing businesses to evolve naturally with the flow of time. The key tenets of this philosophy include:

- **Continuous Improvement**: Through concepts like Kaizen (the practice of continuous improvement), Japanese businesses steadily





evolve and adapt rather than seeking rapid, disruptive change.

- **Sustainability**: Japanese businesses tend to view sustainability not just as an environmental issue but as a long-term strategic priority, focusing on maintaining social responsibility and ensuring intergenerational continuity.
- **Community and Social Harmony**: The Japanese business model also tends to emphasize the importance of community, employee well-being and fostering relationships rather than simply pursuing profit maximization.

MSME Sector and the Need for a Shift in Perspective

Reimagining MSMEs in India

India's Micro, Small and Medium Enterprises (MSMEs) sector is a key contributor to the nation's economic growth, with over 63 million enterprises. However, despite this massive number, India still lacks a strong base of globally competitive, large-scale companies. The sector is often fragmented, with many small businesses operating in traditional sectors and too many face challenges in scaling up, maintaining sustainability and achieving long-term growth.

Shift from "Zombie Capitalism":

The session called for a shift away from the concept of "zombie capitalism," which refers to businesses that survive without truly thriving—often by relying on short-term profits or subsidies rather than sustainable growth. In India, this culture has led many MSMEs to focus on immediate survival rather than long-term growth. As a result, the sector often struggles with issues such as inadequate access to capital, outdated technologies, lack of skilled manpower and insufficient infrastructure.

To remedy this, the session advocated for the development of a unique, Indian philosophy of industrialization that promotes long-term vision, creativity and resilience. This would involve:

- Moving away from relying on unsustainable business models and focusing on building capacity for long-term growth.
- Encouraging innovation, technology adoption and skill development to help MSMEs scale up.
- Promoting sustainability and social responsibility as core values for growth.
- Creating a more supportive policy and regulatory environment that nurtures small businesses rather than merely focusing on short-term fiscal rewards.

The ultimate goal would be to build a strong, sustainable MSME ecosystem that grows organically and plays a key role in India's long-term economic prosperity.

Business as an Evolving Entity

Business as a Flowing River

One of the most important metaphors discussed was treating business like a *flowing river*. Just as a river is not static, but constantly evolving and adapting to the landscape, businesses should not be viewed as fixed entities that must achieve immediate success. Instead, businesses should be seen as dynamic, evolving systems that adapt over time, learning from challenges, responding to market changes and growing at a natural pace.

This philosophy encourages businesses to:

- Focus on *steady growth*, evolving with the changing needs of society and the environment.
- *Embrace adaptability* in business models, allowing for continuous innovation and transformation.
- Recognize that *failure is part of the process* and rather than rushing to "fix" everything immediately, companies should learn from setbacks and adjust gradually.
- Build a culture that values long-term vision, sustainability and resilience rather than quick wins.

Long-Lived Companies

The session concluded with a reflection on the companies that have stood the test of time. The most successful and enduring businesses are those that manage to balance profitability with social responsibility and impact. Companies like Toyota, Honda and others in Japan have exemplified this approach by integrating societal and environmental goals into their business strategies, creating long-lasting value for both their shareholders and the communities they serve.

Key characteristics of such businesses include:

- **Ethical Practices**: These companies operate with a strong ethical foundation, prioritizing fair wages, worker safety, environmental sustainability and responsible sourcing of materials.
- **Commitment to Community Well-Being**: Successful companies invest in the well-being of their communities, ensuring that their growth benefits not just the business but also the people who are part of their ecosystem—whether employees, customers, or suppliers.
- **Long-Term Profitability**: While profitability is important, these companies recognize that financial success cannot come at the expense of society or the environment. They invest in sustainable business practices that ensure long-term, stable profits.



Call to Action: Focusing on Longevity and Well-Being

The session concluded with a powerful call to action for Indian businesses. It emphasized that businesses should focus on longevity—not just the success of the companies themselves but also the well-being of the people within them. Nurturing sustainable institutions creates a stronger foundation for the broader economy and society. When businesses focus on long-term growth, employee welfare and community development, they contribute to national prosperity and stability.

To achieve this, the speakers recommended:

- **Sustainable Business Practices**: Companies should adopt practices that not only benefit their bottom line but also positively impact the environment and society. This could include reducing their carbon footprint, promoting social justice and investing in employee well-being.
- **Strategic Vision:** Indian businesses should prioritize creating a vision that goes beyond profit maximization and instead focuses on contributing to the long-term well-being of the nation.
- **Collaboration for National Prosperity**: It is also important for businesses, governments and civil society to collaborate to build a more sustainable and prosperous future.



Special Address – Mr DVS Rao, Headmaster, Lawrence School

Early Leadership Development

From an early age, Lawrence School fosters leadership qualities by offering students numerous opportunities to engage in student-led initiatives, decision-making roles and character-building activities. This approach not only helps develop their academic skills but also teaches them critical life skills such as teamwork, problem-solving and accountability. These opportunities encourage students to step into leadership roles early in life, preparing them to face challenges with confidence and maturity as they grow into responsible citizens.

Sustaining Large Institutions

A key to the success of Lawrence School is its ability to remain relevant and impactful over generations. This longevity can be attributed to its ability to balance strong values with adaptability in the face of changing educational needs. The effective governance within the institution ensures that its educational standards evolve, yet remain rooted in a tradition of excellence and discipline. This stability provides students with a consistent, high-quality education, allowing them to thrive in a rapidly changing world.

Significance of Location

The strategic location of Lawrence School adds a unique dimension to its educational approach. Set in a serene and conducive environment, the campus encourages deep learning and personal growth. The natural surroundings help create an atmosphere of tranquility and focus, allowing students to engage in their studies with greater attention and mindfulness. The peace and solitude provided by the location also offer students the space they need to reflect, self-assess and develop a balanced approach to life and education.

World-Class Infrastructure

Lawrence School boasts state-of-the-art infrastructure that plays a crucial role in its educational framework. Modern classrooms, laboratories, sports facilities and recreational areas all contribute to a dynamic learning environment. These world-class facilities not only support academic excellence but also encourage students to pursue a variety of extracurricular activities, ranging from sports and arts to leadership and social services. By offering a holistic experience, the infrastructure enables students to become well-rounded individuals who excel in both academic and personal pursuits.

Strong Alumni Network

A defining characteristic of Lawrence School is its robust alumni network, which continues to support the institution long after students have graduated. This network provides invaluable mentorship opportunities, helping current students connect with alumni who are established leaders across various sectors. These connections create a continuous cycle of learning and legacy-building, as alumni offer guidance and inspiration to the next generation of students. This network not only contributes to the personal and professional growth of individual students but also strengthens the community spirit of the school.

Panel Discussion

Mr NK Ranganath
Member, Curators Council Nilgiris Economic Dialogue &
Director, Strategy Catalysts Pvt Ltd (Moderator)

Mr Giridharan Ramasubramaniam
Chief Operations Officer, Ramco

Ms Artei Sianni
Chief of Mission, United Nations High Commissioner for Refugees (UNHCR)

Mr M Vijayabaskar
Add. Fulltime Member, TN State Planning Commission

Mr Tarsh Thekaekara
Director, The Real Elephant Collective,Trustee, The Shola Trust &
Member, State Board for Wildlife, Government of Tamil Nadu



Panel Discussion outcome



Economic Growth and Education in Tamil Nadu

Tamil Nadu has seen significant economic growth and much of this progress is directly linked to the state's education system. The focus on education, particularly in improving literacy rates and promoting access to higher education, has contributed greatly to social development. The state has made remarkable strides, especially in empowering women, who now make up 40% of the workforce. This increase in female participation in the workforce reflects broader social changes, such as improved access to education for girls and young women. Moreover, the universal access to electricity, transportation and roads across Tamil Nadu's villages has played a crucial role in driving progress. These infrastructural advancements, coupled with a strong education system, have helped stimulate economic activities and improved the overall quality of life, particularly in rural areas, making Tamil Nadu one of India's most progressive states economically and socially.

Balancing Conservation and Indigenous Communities

The traditional conservation model, which often involves removing indigenous communities from protected areas in order to conserve natural ecosystems, has led to several ecological challenges. While the intention is to safeguard biodiversity, this approach has inadvertently caused negative environmental consequences, such as the spread of invasive species. These species often disrupt the local ecosystem and endanger native flora and fauna. The conversation highlights the urgent need for inclusive conservation policies that not only protect the environment but also empower local communities. By integrating indigenous knowledge and practices into conservation efforts, we can ensure that these communities actively contribute to preserving their surroundings. This model ensures that ecological integrity is maintained while respecting the rights and knowledge of indigenous people, creating a synergistic approach that benefits both nature and people.

Corporate Sustainability and ESG Integration

Corporate sustainability is increasingly becoming a priority for businesses and many are now adopting Environmental, Social and Governance (ESG) principles to guide their operations. The Rajapalayam Masterplan 2041, for instance, is

a strategic initiative that seeks to foster citizen-centric development, ensuring that business growth benefits the community and the environment. However, despite these positive steps, challenges remain in coordinating the various stakeholders involved. There are still significant gaps in policy awareness and implementation, particularly in ensuring that ESG principles are fully integrated into the business culture. Companies often struggle with aligning their operations with sustainable practices and regulatory frameworks need to be strengthened to promote greater compliance. Nonetheless, the integration of ESG principles into business operations is an essential move towards ensuring equitable growth and environmental stewardship, marking a shift from profit-driven motives to more responsible corporate actions.

Climate Change and Displacement

Climate change is emerging as a powerful driver of displacement, with predictions suggesting that climate refugees—people forced to leave their homes due to climate-related issues—will soon surpass those displaced by conflict. With approximately 37 million refugees worldwide, the numbers are projected to continue rising due to factors such as rising sea levels, extreme weather events and droughts. India, with its vast coastal areas and vulnerability to climate-related disasters, must establish a national framework for refugee management to address the growing issue of climate-induced displacement. This would involve strengthening governance structures to support displaced individuals and communities, offering them shelter, livelihoods and legal protection. India's ability to adapt to this challenge will not only determine its capacity to cope with displacement but also play a critical role in maintaining regional stability and humanitarian efforts on a larger scale.

Education and Employment Gap

The education and employment gap remains a significant challenge, particularly for the youth. Short-term skill development programs have had limited success in tackling youth unemployment due to their inability to provide long-term, sustainable solutions. The discussion emphasized the importance



of quality technical education, pointing to the successful models adopted by countries like Singapore and Taiwan. These countries have integrated strong vocational education systems into their economies, which has directly contributed to their lower unemployment rates and higher youth employment. Furthermore, there is a shortage of qualified teachers in India, exacerbating the skills gap. Expanding successful initiatives like Naan Mudhalvan—which focuses on skill development for youth—into primary education could be an effective way to lay a strong foundation early on and better prepare students for the workforce.

Inclusive Conservation Policies

Traditional conservation models often exclude the local communities that live in or around protected areas, making it harder for these communities to benefit from natural resources they have traditionally relied on. The spread of invasive species, such as lantana, which has disrupted local ecosystems, is one example of a growing environmental challenge. Invasive species pose ecological risks by competing with native species for resources and their unchecked growth can be detrimental to biodiversity. However, current laws—such as the Wildlife Protection Act—restrict communities from participating in the management of invasive species, even though these communities could play a crucial role in mitigating the damage. Reforming these laws to allow for inclusive conservation policies would provide local communities with the authority and resources to actively engage in environmental protection, turning them into guardians of biodiversity. This reform would not only address ecological issues like invasive species but also enable communities to derive economic benefits from conservation efforts, leading to a win-win for both nature and the people who depend on it.



Role of Businesses in Refugee Integration

The increasing climate change and conflict-driven displacement are creating large numbers of refugees, which places additional strain on host countries' social and economic systems. Businesses have a critical role to play in helping integrate displaced populations into society by offering skill development programs, apprenticeships and employment opportunities. Refugees often possess valuable skills and through workforce integration, they can significantly contribute to the local economy. Moreover, businesses can benefit by tapping into new markets that refugees bring with them, as displaced populations often maintain connections with their regions of origin, thus facilitating cross-border trade and cultural exchange. Refugees can also help meet labor shortages in various industries, further fostering economic growth. A long-term integration strategy that includes access to quality education, skills training and stable employment is necessary for achieving sustainable outcomes for refugees and the broader community.

Inclusive Efforts: Who Should Lead?

Creating a sustainable, inclusive society requires collaboration between three key sectors: civil society (Samaj), government (Sarkar)and businesses (Bazar). These sectors must work together to address the wide-ranging challenges faced by marginalized communities, ensuring that their voices are heard and their needs are met. Civil society organizations play an essential role in advocating for social justice, raising awareness about inequities and mobilizing communities to take collective action. The government, as the policymaker, has the authority to create frameworks that ensure inclusive growth, providing the necessary regulatory support and funding for public welfare programs. Businesses, on the other hand, can drive change by adopting inclusive practices within their operations, ensuring equal opportunities for all employees and integrating sustainable development principles into their supply chains. By working in partnership, these sectors can develop holistic, long-term solutions that address economic, social and environmental challenges simultaneously.

Topics of Roundtable discussion

Maximizing Impact: Enhancing Transparency and Accountability in Corporate Social Responsibility (CSR) Initiatives for Long-Term Sustainability

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Leveraging India's Demographic Dividend: Collaborative Strategies to Align Workforce Skills with Emerging Economic Opportunities and Disruptive Technologies.

Empowering India's Informal Workforce: Bold Policy Measures for Transitioning to the Formal Economy and Enhancing Productivity

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Inclusive Policies for Refugee Integration: Promoting Economic and Social Cohesion in India

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Inclusive Healthcare Systems for National Growth

Bridging the Gap: Turning Sustainable Development Goals into Tangible Impact for Inclusive Growth

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The Power of Inclusivity: How Individual Empowerment, Especially of Women, Drives National Development

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Promoting Inclusive Growth in India: Roles of Key Stakeholders in Reducing Inequality and Ensuring Sustainable Development









Roundtable – Outcome

Maximizing Impact: Enhancing Transparency and Accountability in Corporate Social Responsibility (CSR) Initiatives for Long-Term Sustainability

- **CSR and Community Engagement**: Corporate Social Responsibility (CSR) initiatives should move beyond basic compliance with regulations and focus on creating long-term, meaningful impact for the community. Companies should engage deeply with local communities, understand their needs and support initiatives that foster local development. Effective CSR programs can help in building stronger communities, improve livelihoods and promote sustainability. It's essential that companies provide resources, share knowledge and empower communities through education and skill development.
- **Sustainability as an Investment**: Sustainable practices should no longer be viewed as an additional cost but as a strategic investment for the future. Companies that embrace sustainability not only help preserve resources but also enhance their long-term profitability. By integrating eco-friendly practices into their operations, businesses can reduce waste, lower energy consumption and build stronger brand equity. These efforts, in turn, contribute to a better quality of life for society at large, ensuring long-term value creation.
- **Aligning Business Practices with SDGs**: Aligning business activities with the United Nations Sustainable Development Goals (SDGs) is crucial for fostering sustainable growth. Companies should ensure that their operations are contributing positively to global goals such as good health (SDG 3), clean water (SDG 6), clean energy (SDG 7) and responsible production (SDG 12). By integrating these goals into their business strategies, companies can drive change, mitigate their environmental impact and play an essential role in global development.

Empowering India's Informal Workforce: Bold Policy Measures for Transitioning to the Formal Economy and Enhancing Productivity

- **Formalizing India's Informal Workforce**: The informal economy in India includes a significant portion of the labor force, often characterized by income instability, lack of social security benefits and irregular employment. To address this, gradual policies should be introduced that encourage the transition from the informal to the formal economy. Key sectors like retail, construction and agriculture require tailored approaches. Incentives such as financial literacy, access to banking services and social security benefits should be offered to these

workers, enabling them to benefit from the advantages of formalization. Clear incentives for the workers, such as Provident Fund (PF), Employee State Insurance (ESI)and regulated wages, will help alleviate the uncertainty and barriers to formalization.

- **Policy Recommendations for Labor Formalization**: Simplifying processes for small businesses and workers is key to facilitating formalization. Government policies should aim to streamline tax compliance, reduce bureaucratic hurdles and provide easy access to legal services. A single-window clearance system for businesses can help remove complexities and ease the transition into the formal economy. Additionally, enforcing a minimum wage act and introducing mandatory social security contributions from businesses ensures that workers are provided with essential benefits and protections.

- **Sector-Specific Strategies**: For sectors like agriculture and rural labor, policies need to create organized structures such as cooperative societies and provide financial support such as Minimum Support Prices (MSPs). These strategies will protect workers from income instability and provide social security, leading to improved productivity and inclusion.

Inclusive Policies for Refugee Integration: Promoting Economic and Social Cohesion in India

- **Managing Refugee Integration with National Priorities:** India must strike a delicate balance when managing refugee populations, especially in conflict-prone regions like Kashmir. While offering humanitarian support is essential, national security concerns must also be prioritized. Refugee policies must take into account the unique geopolitical challenges of the region and ensure that security isn't compromised while providing adequate care and opportunities for refugees. These policies should focus on providing refugees with healthcare, education and employment while maintaining the integrity of national security and resources.

- **Vetting and Selective Immigration**: Refugee populations are diverse, with some fleeing from persecution and others seeking economic opportunities. A rigorous vetting process is necessary to distinguish between refugees who genuinely need protection and those who may not. India needs to ensure that only individuals in genuine need of asylum are granted refugee status, preventing potential security threats. Background checks, interviews and assessments of refugees' potential contributions to the economy should be incorporated into the immigration process.

- **Priority to Indian Citizens**: The welfare of Indian citizens, especially marginalized groups already struggling with unemployment and poverty, must be the primary focus of any refugee-related policies. Any efforts to integrate refugees should not compromise the resources or opportunities available to Indian citizens. A careful, well-planned approach should ensure that the integration of refugees doesn't lead to competition for jobs or exacerbate poverty in vulnerable sections of society.

- **Controlled Refugee Integration**: Creating Special Economic Zones (SEZs) could be a viable solution for refugee integration. By designing controlled environments, where refugees can contribute economically, we can create a system that benefits both refugees and the host economy. This controlled integration would allow refugees to access employment opportunities, contribute to the economy and simultaneously manage resource allocation more effectively.

Inclusive Healthcare Systems for National Growth

- **Healthcare Accessibility and Inclusivity**: Rural and marginalized communities face significant healthcare challenges, including inadequate infrastructure, a shortage of medical personnel and limited awareness of health issues. Targeted efforts to improve healthcare access in these areas are critical. Investment in healthcare infrastructure, training of medical professionals and awareness campaigns about preventative care are essential for improving the quality of healthcare services in rural regions.
- **Raising Awareness and Training**: It's essential to increase awareness about common health issues, symptoms and preventive measures, particularly among tribal

and marginalized communities. This can lead to early diagnosis, better treatment outcomes and reduced healthcare costs. Additionally, training healthcare professionals, especially in underserved areas, is key to providing high-quality care. Programs to upskill healthcare workers, improve diagnostic capabilities and foster expertise in rural settings can help meet the growing healthcare demands.

- **Leveraging Technology for Better Access**: The integration of technology in healthcare can revolutionize access to services. The use of digital medical records, telemedicine and health monitoring applications can bridge the gap in healthcare access, especially in remote areas. Additionally, technology can streamline the referral process, ensure the efficient transfer of patient information and reduce the redundancy of medical tests, making healthcare more accessible and affordable.

Bridging the Gap: Turning Sustainable Development Goals into Tangible Impact for Inclusive Growth

- **Sustainability in Business and Education:** Businesses and educational institutions both play a pivotal role in ensuring sustainable development. For businesses, sustainability should be seen as an investment in long-term success. Rather than perceiving it as an added expense, companies should embed sustainability into their core business models, whether it's through energy-efficient operations, waste reduction, or community-oriented programs. Businesses that integrate sustainable practices often see benefits like cost savings, improved customer loyalty and a competitive advantage.
- In education, achieving the Sustainable Development Goal (SDG) of **Quality Education (SDG 4)** involves shifting from traditional rote learning to a more hands-on, practical approach that empowers students with the necessary skills for the real world. This transformation requires improving teacher training programs, introducing SDG concepts into curricula and ensuring equitable access to education for marginalized communities. Bridging the digital divide and promoting inclusive learning technologies can ensure that students, regardless of their socio-economic background, have equal opportunities to thrive.



- The role of businesses in this transformation is to provide resources, partner with educational institutions and create job opportunities for graduates. In turn, the educational system must supply a workforce that meets the growing demand for skills in sustainability-related fields, from clean energy technologies to sustainable agriculture and urban planning.
- **Aligning Business Practices with SDGs:** Companies must integrate the Sustainable Development Goals into their corporate strategies. This means aligning their operations with goals such as Good Health and Well-Being (SDG 3), Clean Water and Sanitation (SDG 6), Affordable and Clean Energy (SDG 7)and Responsible Consumption and Production (SDG 12). Businesses can achieve this by reducing their carbon footprint, ensuring ethical supply chains and implementing waste management practices that support SDG 12.
- Businesses that focus on aligning their practices with SDGs not only help contribute to the global development agenda but also build a sustainable business model that attracts responsible investors, enhances their reputation and fosters long-term growth. Companies can play a significant role in advancing inclusive growth by helping to close the resource gaps in energy, healthcare and education, among others, through their core operations, CSR activities and stakeholder collaborations.

The Power of Inclusivity: How Individual Empowerment, Especially of Women, Drives National Development

- **Gender Equality and Inclusivity in Society:** The empowerment of women and the provision of equal opportunities are fundamental to unlocking national potential. By ensuring that women have equal access to education, employment and healthcare, societies can leverage a powerful force for national development. When women are educated and have access to economic opportunities, they contribute significantly to the economy. Studies have shown that closing the gender gap in education and employment could increase global GDP substantially.
- Women's empowerment extends beyond the individual; it positively affects families and communities as well. Educated and economically independent women invest more in their families, leading to improved health, education and financial stability across generations. Societies that promote gender equality experience improved social stability and stronger economic performance.
- **Overcoming Challenges in Male-Dominated Fields:** Women often encounter barriers to entry in male-dominated sectors, particularly in fields like STEM (Science, Technology, Engineering and Mathematics), manufacturing and leadership roles. These barriers include



gender bias, limited mentorship opportunities and a lack of supportive infrastructure. Overcoming these barriers requires active policies that promote women's participation through mentorship programs, professional development and leadership training.

- Creating a supportive work culture is critical to retaining women in these industries. Employers must create inclusive environments that promote gender equity through policies like flexible work hours, equal pay for equal work and maternity/paternity leave. Additionally, initiatives aimed at fostering women's leadership at all levels within organizations can lead to more diverse decision-making, which enhances creativity and innovation in the workplace.
- **Corporate Initiatives for Gender Equity:** Many businesses are leading the way in advancing gender equity by introducing initiatives like gender-balanced hiring practices, upskilling programs for women and leadership pipelines to ensure that women have equal opportunities for career progression. In sectors such as technology, engineering and finance, gender equity initiatives are becoming increasingly critical to tapping into underutilized talent pools and ensuring that businesses reflect the diversity of the world they operate in. This helps foster a work environment where creativity and innovation thrive.
- Companies that prioritize gender equity not only contribute to social justice but also reap the benefits of higher employee satisfaction, retention and improved organizational performance. Gender-diverse companies have been shown to outperform their competitors financially and foster stronger corporate cultures. Therefore, corporate-led initiatives for gender equity can drive both social change and organizational success.

Promoting Inclusive Growth in India: Roles of Key Stakeholders in Reducing Inequality and Ensuring Sustainable Development

- **Poverty, Welfare Spending and Economic Policy:** A comprehensive reevaluation of India's welfare policies is necessary to reduce dependency on subsidies and foster long-term, sustainable growth. Although subsidies have historically played a key role in alleviating poverty, they are not a permanent solution. Redirection of funds from subsidies into areas like infrastructure development, education and skill-building programs will have a more significant impact on creating sustainable employment opportunities. This will help reduce economic inequality and offer long-term solutions to poverty.
- Infrastructure development, particularly in rural areas, is essential for providing opportunities for job creation and improved living standards. By improving rural roads, sanitation and access to utilities, the government can create conditions for business growth and enhance the livelihoods of local populations. Additionally, a focus on skill-building and education will prepare individuals for jobs in emerging industries, fostering a more resilient and diversified economy.
- **Economic Divide and Education:** Education is often one of the most effective tools for reducing economic inequality. However, the increasing privatization of education, especially at the primary level, has led to a growing divide between the wealthy and disadvantaged groups. Those who can afford private schooling have access to better quality education and better prospects, while marginalized groups are left behind. Public education must be improved to offer equal opportunities to all, regardless of economic background.

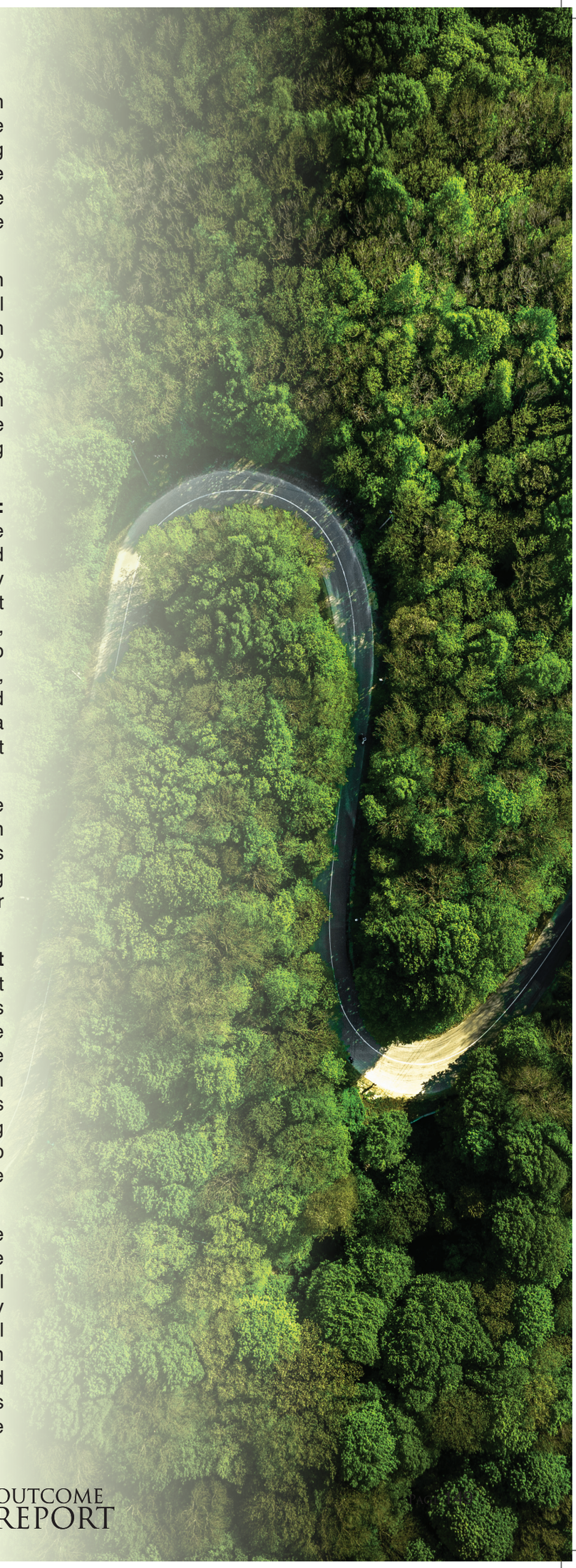
  The government must prioritize investment in the public education system, ensuring it provides high-quality, equitable access to education. Along with this, vocational training programs should be expanded to equip youth with the skills they need to participate in the workforce. Bridging this education gap and providing affordable learning opportunities will help break the cycle of poverty and inequality.

Leveraging India's Demographic Dividend: Collaborative Strategies to Align Workforce Skills with Emerging Economic Opportunities and Disruptive Technologies

- **Education and Employment:** India's demographic dividend—a large, young population—offers an opportunity to fuel economic growth and innovation. However, to harness this dividend, India must focus on aligning the skills of its workforce with the

needs of emerging industries, particularly in disruptive technologies such as AI, machine learning and clean energy. Expanding educational programs that teach these technologies from an early stage will ensure that the future workforce is prepared for the jobs of tomorrow.

- Government and private sector collaboration will be crucial in developing these educational programs. By aligning the curriculum with industry needs, creating internship opportunities and encouraging partnerships between schools and businesses, India can ensure that its workforce is equipped with the skills required to thrive in a rapidly evolving economy.
- **Reforming Education for Emerging Needs:** The traditional education system, while valuable, must adapt to the challenges posed by emerging technologies and an increasingly globalized economy. The focus must shift from rote learning to more applied learning, where students are encouraged to develop practical, problem-solving skills. Additionally, partnerships with the private sector and industry experts can help ensure that curricula remain relevant and up-to-date with the latest technological trends.
- Educators should also be upskilled to handle the evolving needs of students and the modern workforce. This means providing teachers with training on new technologies, teaching methodologies and the skills required to foster innovation and critical thinking.
- **Vocational Training and Dropout Prevention:** With many students dropping out of school due to socio-economic pressures or lack of interest, it's crucial to introduce vocational training programs at an early stage in the education system. Vocational education can provide students with marketable skills that align with local job opportunities, reducing the dropout rate and addressing the skills gap in industries such as construction, healthcare and IT.
- By integrating vocational training into the secondary education system, students will be better prepared for local job markets and will have more career options that don't necessarily require a traditional academic degree. This will also create a more resilient economy that can meet the demands of different industries and sectors, boosting overall employment rates and ensuring that no group is left behind in the labor market.

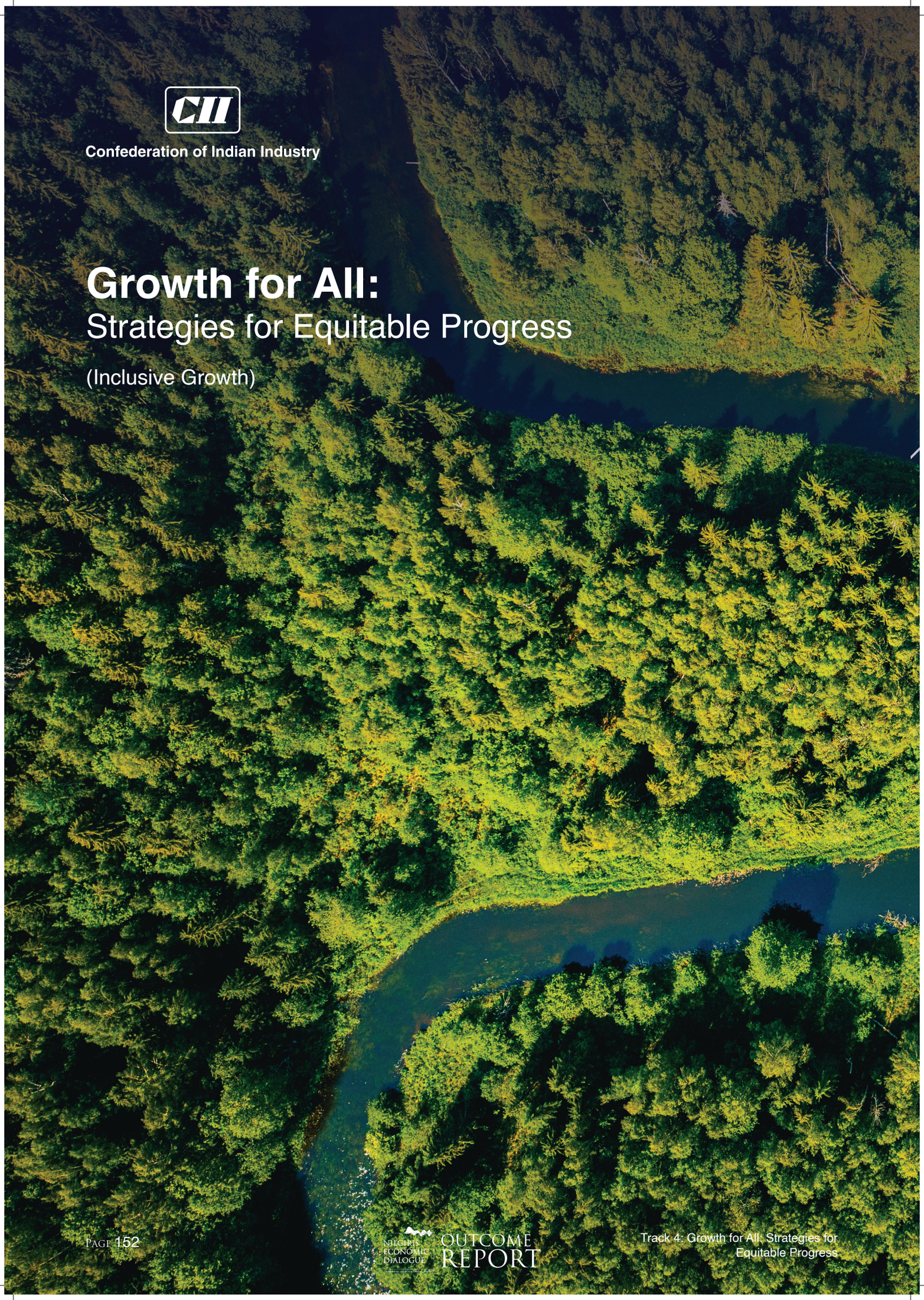


Day 3 Group pic





Confederation of Indian Industry



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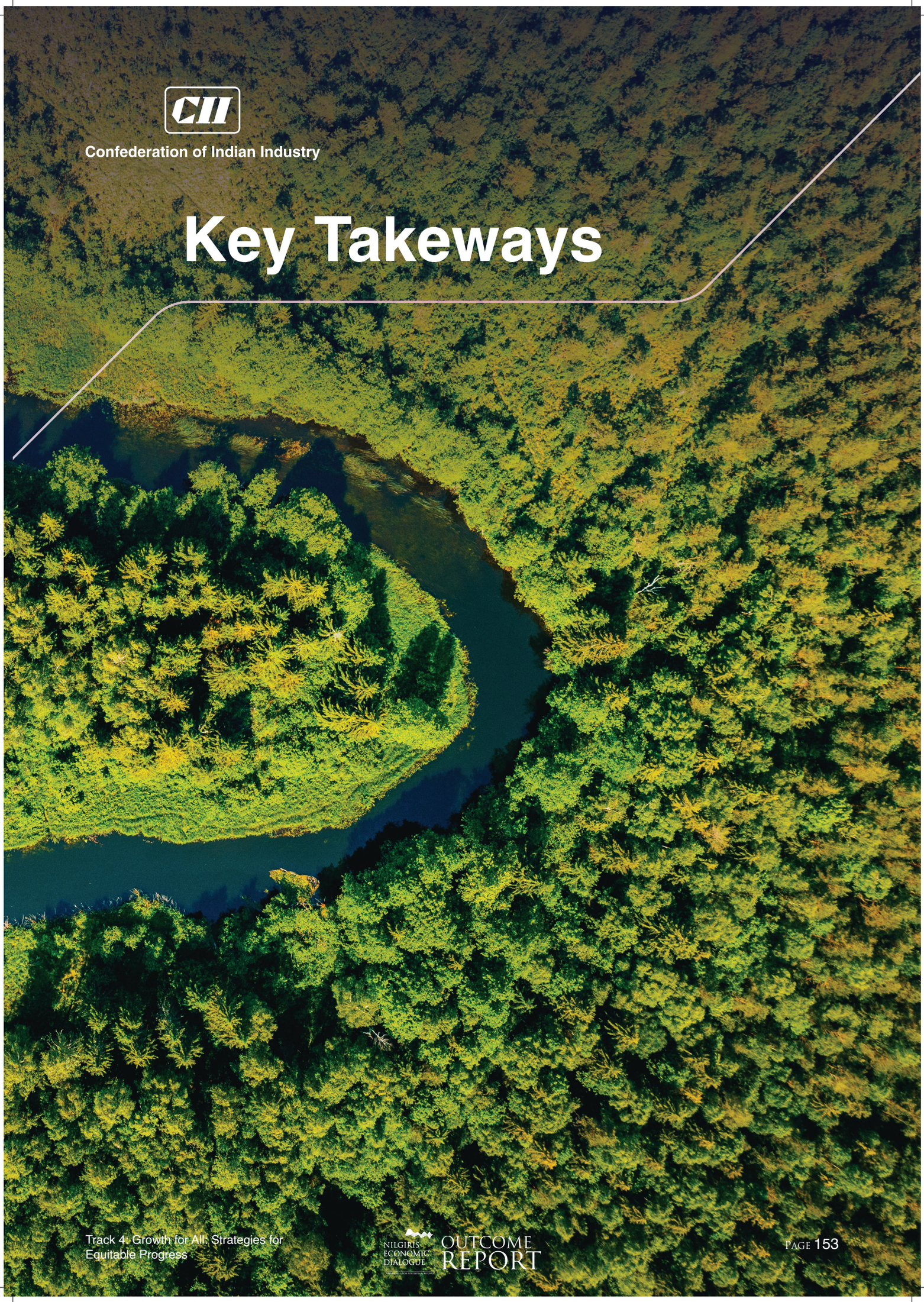
Growth for All:
Strategies for Equitable Progress

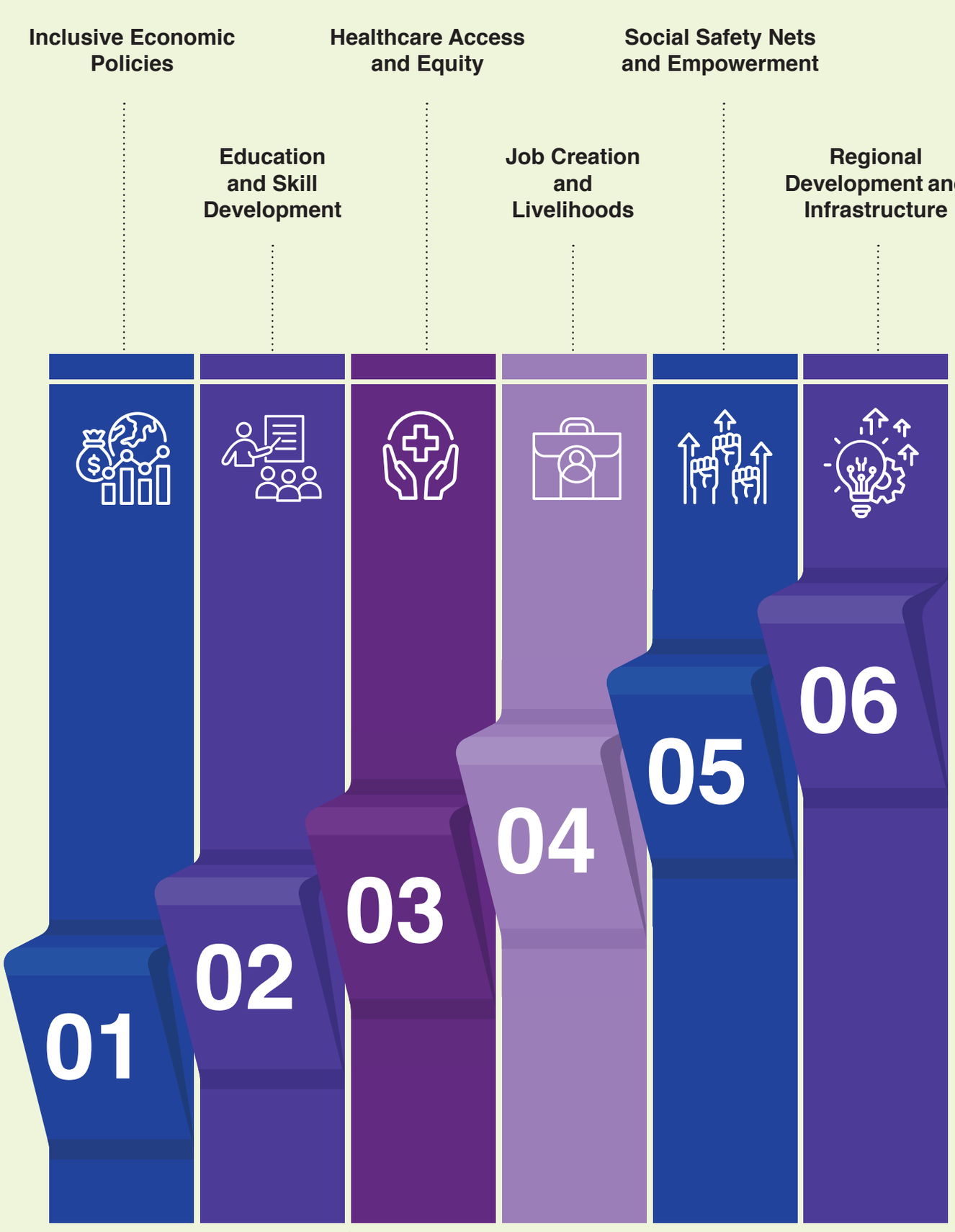
(Inclusive Growth)



Confederation of Indian Industry

Key Takeways

PILLARS


Inclusive Economic Policies
Education and Skill Development
Healthcare Access and Equity
Job Creation and Livelihoods
Social Safety Nets and Empowerment
Regional Development and Infrastructure
01
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PILLAR 1

Inclusive Economic Policies

01

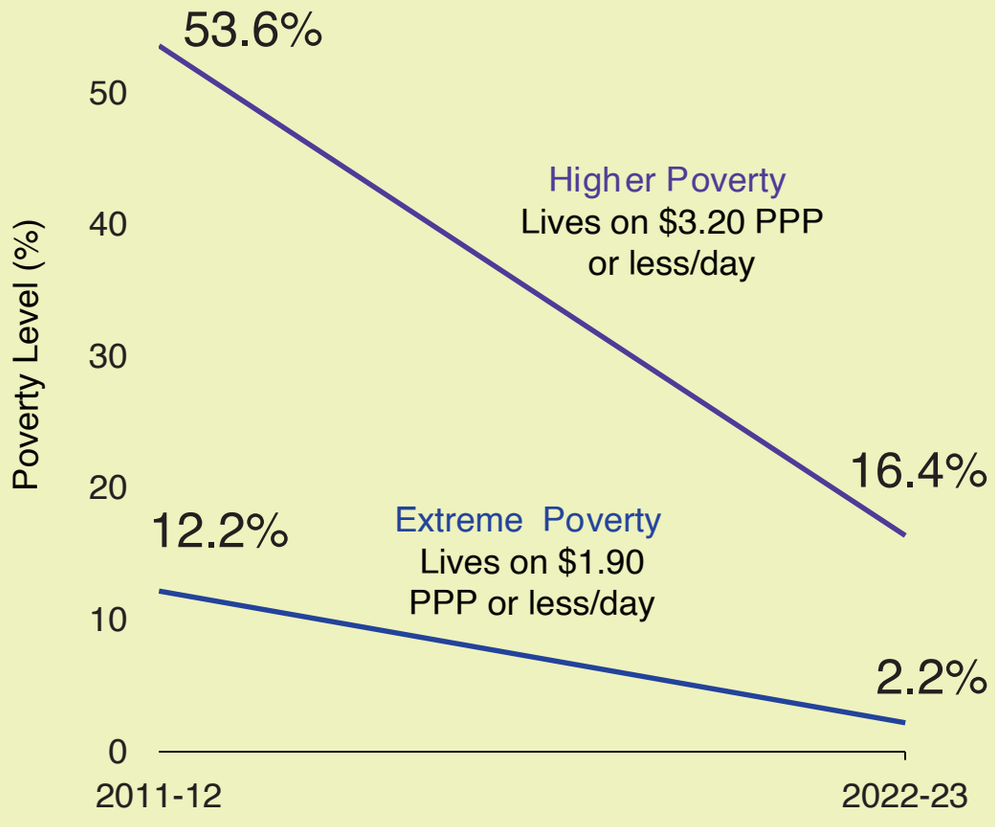
1.1 Pro-Poor Economic Reforms

Pro-poor economic reforms are essential to ensure that economic growth benefits all sections of society, especially the marginalized. To further this goal, India should continue implementing initiatives such as the Pradhan Mantri Jan Dhan Yojana (PMJDY), which aims to promote financial inclusion by bringing millions of unbanked citizens into the formal financial system. This initiative can be expanded to ensure greater outreach, facilitate digital literacy programs and provide tailored financial products that meet the needs of low-income households, thus empowering them economically.

1.2. Rural Development and Infrastructure

For inclusive growth, it's critical that rural areas are equipped with the infrastructure to unlock economic opportunities. The Pradhan Mantri Gram Sadak Yojana (PMGSY) has already made significant strides by improving rural road connectivity. However, there is still a need to enhance access to education, healthcare and markets in these areas. Policymakers should focus on improving the rural road network, expanding digital infrastructure for e-commerce and remote education and promoting agro-based industries to provide rural communities with sustainable livelihoods and greater access to global markets.

Decade – long efforts lead to substantial decreases in extreme and higher poverty



1.3. Social Security Programs

Expanding and strengthening social security programs is vital to safeguard vulnerable populations from economic shocks. Initiatives such as Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) have been essential in providing wage employment to rural households. To make these programs more effective, they should be designed to target skills development, allowing workers to acquire marketable skills in fields such as construction, agriculture and technology. Furthermore, social safety nets should be broadened to include informal sector workers, ensuring they have access to health insurance, pensions and unemployment benefits.

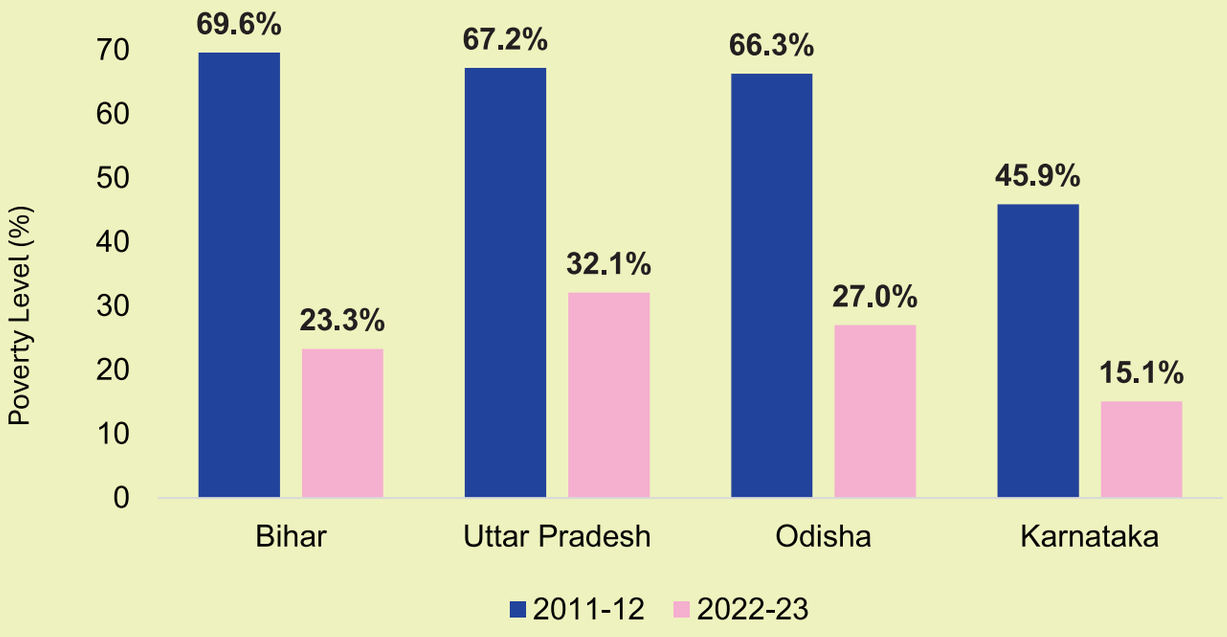
1.4. Affirmative Action Policies

India's affirmative action policies for Scheduled Castes (SCs), Scheduled Tribes (STs)and Other Backward Classes (OBCs) aim to provide equal opportunities in education, employment and business. To enhance the effectiveness of these policies, it is crucial to ensure that these communities have access to quality education, skills development programs and job opportunities. Policymakers should introduce more targeted scholarships, mentorship programs and entrepreneurship schemes to facilitate upward mobility for these groups, while also monitoring the effectiveness of existing policies through data and regular assessments.

1.5. Promoting Micro, Small and Medium Enterprises (MSMEs)

MSMEs are the backbone of India's economy, especially in providing jobs and economic opportunities in local communities. To further support MSMEs, programs like the Pradhan Mantri Mudra Yojana should be expanded to offer easy access to capital, low-interest loans and business development services. Moreover, the government should work on reducing the regulatory burden on small businesses, offer tax incentives and improve access to markets through digital platforms. Encouraging MSME clusters and promoting technology adoption will help small businesses scale, create jobs and contribute to the economy's diversification.

States with Major Changes in Poverty rate



02

PILLAR 2

Education and Skill Development

2.1. Universal Education for All

India has made remarkable progress in advancing universal education, with the Right to Education (RTE) Act ensuring free and compulsory education for children between the ages of 6 to 14. This has contributed to improved literacy rates across the nation, particularly in urban areas. However, there remain substantial disparities in education quality between urban and rural regions. To bridge this gap, India should focus on increasing investment in rural education infrastructure, including building more schools, improving teacher training and introducing digital classrooms to provide equitable access to quality education. Policymakers should also prioritize initiatives aimed at addressing drop-out rates and enhancing school retention, especially for marginalized communities.

2.2. Vocational Training and Skill Development

India's demographic advantage lies in its youth population, but the country must ensure that these young individuals are equipped with the right skills for the evolving job market. The Skill India Mission plays a crucial role by training millions of youth in various trades, which improves employability and fosters entrepreneurship. However, there needs to be a greater emphasis on vocational education and skill training, especially in rural and underserved areas. Expanding partnerships between industry and educational institutions to create



targeted skill development programs, aligning training with market demands and introducing flexible learning models are crucial to maximizing the potential of the workforce.

2.3. Higher Education Accessibility

Access to quality higher education is fundamental for long-term inclusive growth. While India boasts some world-class institutions, many students from economically disadvantaged backgrounds still face barriers to higher education. To improve accessibility, scholarships and financial aid programs must be expanded, especially for underprivileged students. The government should also focus on increasing the number of public and private universities, ensuring that there are ample opportunities for higher education at an affordable cost. Moreover, promoting regional higher education institutions in underserved areas will ensure that students from rural or economically disadvantaged backgrounds have easier access to tertiary education without having to relocate to urban centers.

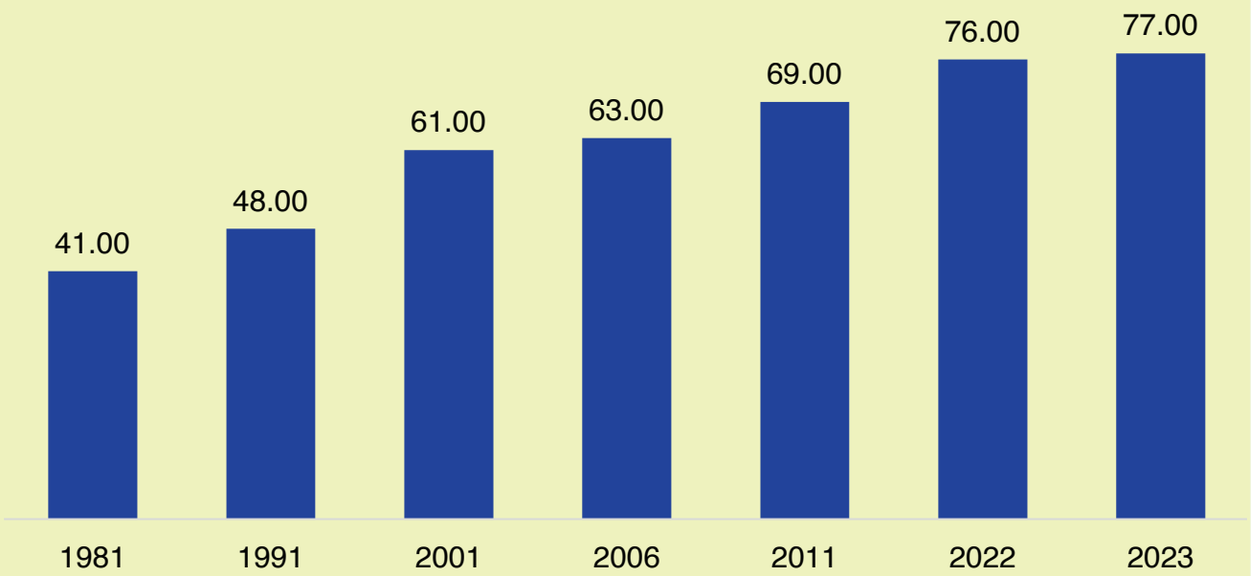
2.4. Gender Inclusivity in Education Gender disparity in education

Continues to be a challenge, particularly in rural and conservative regions of India. Programs like Beti Bachao Beti Padhao have made significant strides in raising awareness and encouraging families to educate their daughters. However, persistent gender biases in education and societal norms hinder the full inclusion of girls in educational systems. To address this, there must be a stronger focus on policies that ensure safe and supportive learning environments for girls, particularly in rural areas. Further investments in female teachers' training and mentorship programs can help bridge gender gaps and ensure that young women are not only educated but also empowered to pursue higher education and career opportunities.

2.5. Promoting Digital Education Digital literacy is

A crucial tool for ensuring that students have access to modern learning resources and opportunities, regardless of geographic location. Initiatives like SWAYAM (Study Webs of Active Learning for Young Aspiring Minds) have opened doors to online courses and resources that improve the accessibility and quality of education for students in remote areas. However, there is still a significant digital divide between urban and rural students. To ensure inclusive digital education, India must expand broadband access, introduce affordable devices for students and enhance digital literacy programs for both students and teachers. Additionally, encouraging private sector partnerships to provide innovative e-learning platforms can enhance education and reach students in underserved areas.

Literacy rate in India



Source : Global economy

03

PILLAR 3

Healthcare Access and Equity

3.1. Universal Health Coverage (UHC)

is central to ensuring that all individuals, particularly those from economically disadvantaged backgrounds, have access to essential health services. The Ayushman Bharat initiative is a key step in providing health insurance to over 500 million people, helping the most vulnerable sections of society access medical care without financial hardship. However, for UHC to be fully effective, it is essential to strengthen the healthcare infrastructure, particularly in rural and underserved regions. Expanding and improving health insurance schemes, integrating private sector support and enhancing the reach of public health systems are necessary steps to make healthcare truly accessible to all.

3.2. Expanding Primary Healthcare Infrastructure Primary healthcare

forms the foundation of an equitable healthcare system, but it remains underdeveloped in many rural and remote areas. Programs such as the National Rural Health Mission (NRHM) and the National Health Mission (NHM) aim to strengthen primary healthcare delivery, focusing on improving health services in these underserved regions. To achieve better health outcomes, the government must invest in building more healthcare facilities, upgrading existing infrastructure and training more healthcare professionals in rural areas. Ensuring adequate medical supplies, better transportation and telemedicine services can also improve access to primary healthcare in distant and rural locations.

3.3. Affordable Healthcare Solutions Affordability

remains a significant barrier to healthcare access, especially for the economically disadvantaged. To make healthcare more accessible, the government has implemented generic drug policies and public-private partnerships, which help make medicines and



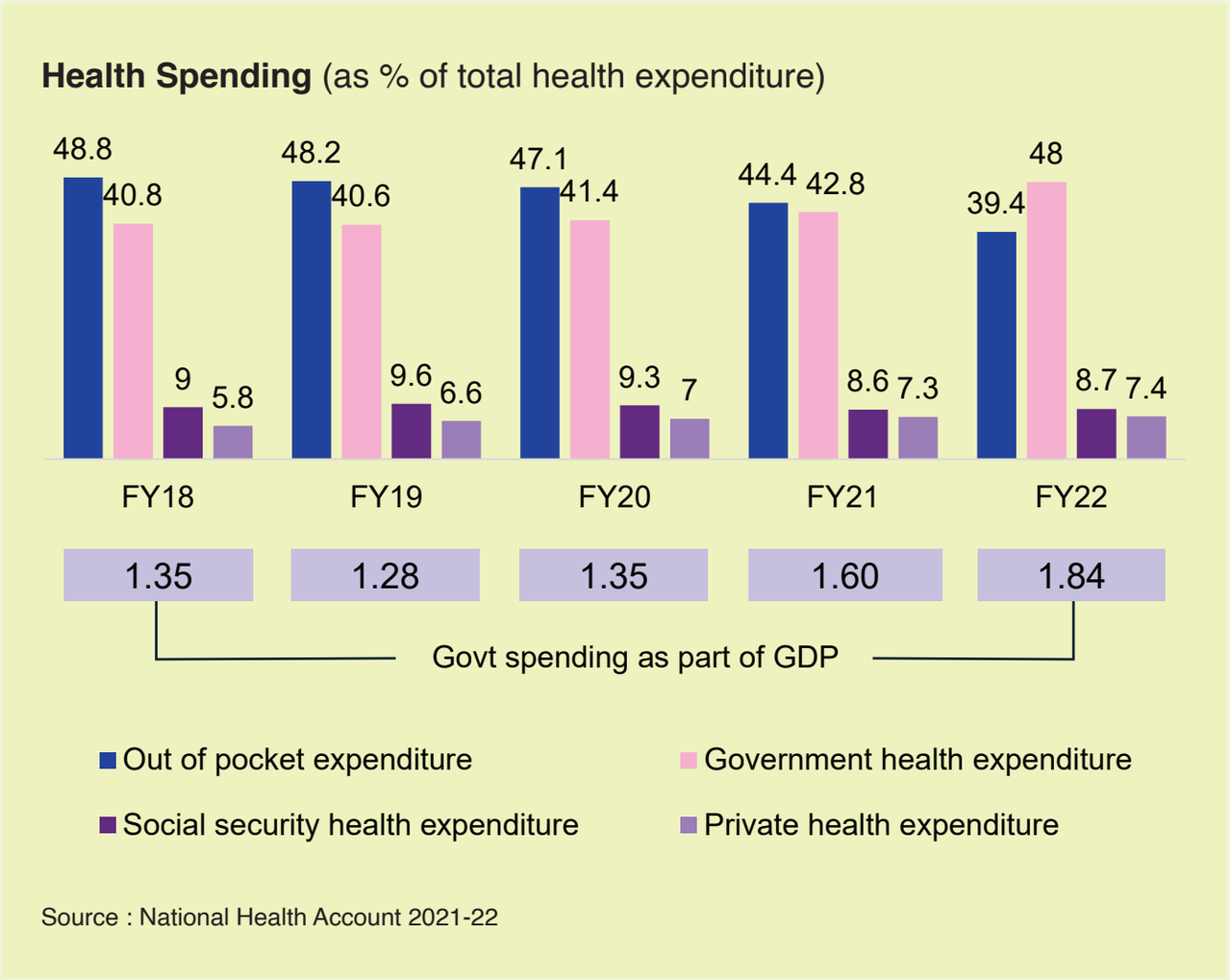
treatments more affordable for all citizens. Additionally, further steps should be taken to reduce the out-of-pocket expenses for healthcare services. Expanding government-run hospitals, introducing subsidized healthcare schemes and regulating private healthcare costs can ensure that affordable healthcare is available to all sections of society, regardless of their economic background.

3.4. Improving Maternal and Child Health

India has made significant strides in improving maternal and child health, but significant gaps still exist, especially in rural and remote areas. High maternal and child mortality rates remain a challenge, despite advances in healthcare access. Programs like Janani Suraksha Yojana, which provide financial support for pregnant women in rural areas, have helped reduce maternal mortality, but there is still a need for comprehensive strategies. Strengthening maternal healthcare services, improving nutritional support for women and increasing awareness about antenatal care can further reduce mortality rates. Additionally, increasing the availability of skilled birth attendants and immunization coverage for children will help save lives and promote healthier families.

3.5. Preventative Healthcare Initiatives

Prevention is an essential aspect of public health and India must continue focusing on preventative healthcare strategies to reduce the burden of disease and improve overall health. Initiatives like the Polio Eradication Program and National Immunization Days have been successful in reducing preventable diseases and are a testament to the effectiveness of large-scale health campaigns. To improve the nation's overall health, India should expand its vaccination programs, focus on health education campaigns to raise awareness about preventive measures and encourage healthier lifestyles. Addressing environmental health risks, ensuring safe drinking water and promoting hygiene education will also contribute to reducing the incidence of preventable diseases.



Source : National Health Account 2021-22

PILLAR 4

Job Creation and Livelihoods

04

4.1. Creating Employment Opportunities

Job creation is the cornerstone of equitable economic growth and it is critical to provide sustainable employment across diverse sectors. Government initiatives like Make in India and Start-Up India are aimed at spurring industrial growth and encouraging entrepreneurship. These programs focus on attracting foreign investment, building manufacturing capabilities and fostering innovation in small businesses. To ensure inclusive growth, these initiatives should be expanded to include rural areas, where employment opportunities are scarce, with a particular focus on diversification and skills enhancement. Additionally, infrastructure development in underserved areas will help establish new business hubs and create job opportunities that contribute to national development.

4.2. Skill Development for Job Readiness

With the rise of emerging sectors such as information technology (IT), renewable energy and construction, it is essential to ensure that India's workforce is adequately prepared for the challenges of these industries. The National Skill Development Corporation (NSDC) has been working tirelessly to upskill millions of individuals, particularly in rural areas, to meet the demands of these evolving job markets. Skill development programs must be aligned with the needs of the future job market and there should be a focus on advanced technology sectors and green energy jobs to keep pace with global trends. Encouraging private-public partnerships to develop specialized training centers and certification programs will help individuals acquire the practical skills required for job readiness and boost their employability.

4.3. Support for Informal Sector Workers

The informal sector is a significant contributor to India's economy, providing employment to millions. However, workers in this sector face many challenges, including lack of job security, social benefits and access to credit. Government initiatives like Pradhan Mantri Garib Kalyan Yojana (PMGKY) offer financial aid, health insurance and social security benefits to these workers, particularly during times of crisis. Expanding such programs



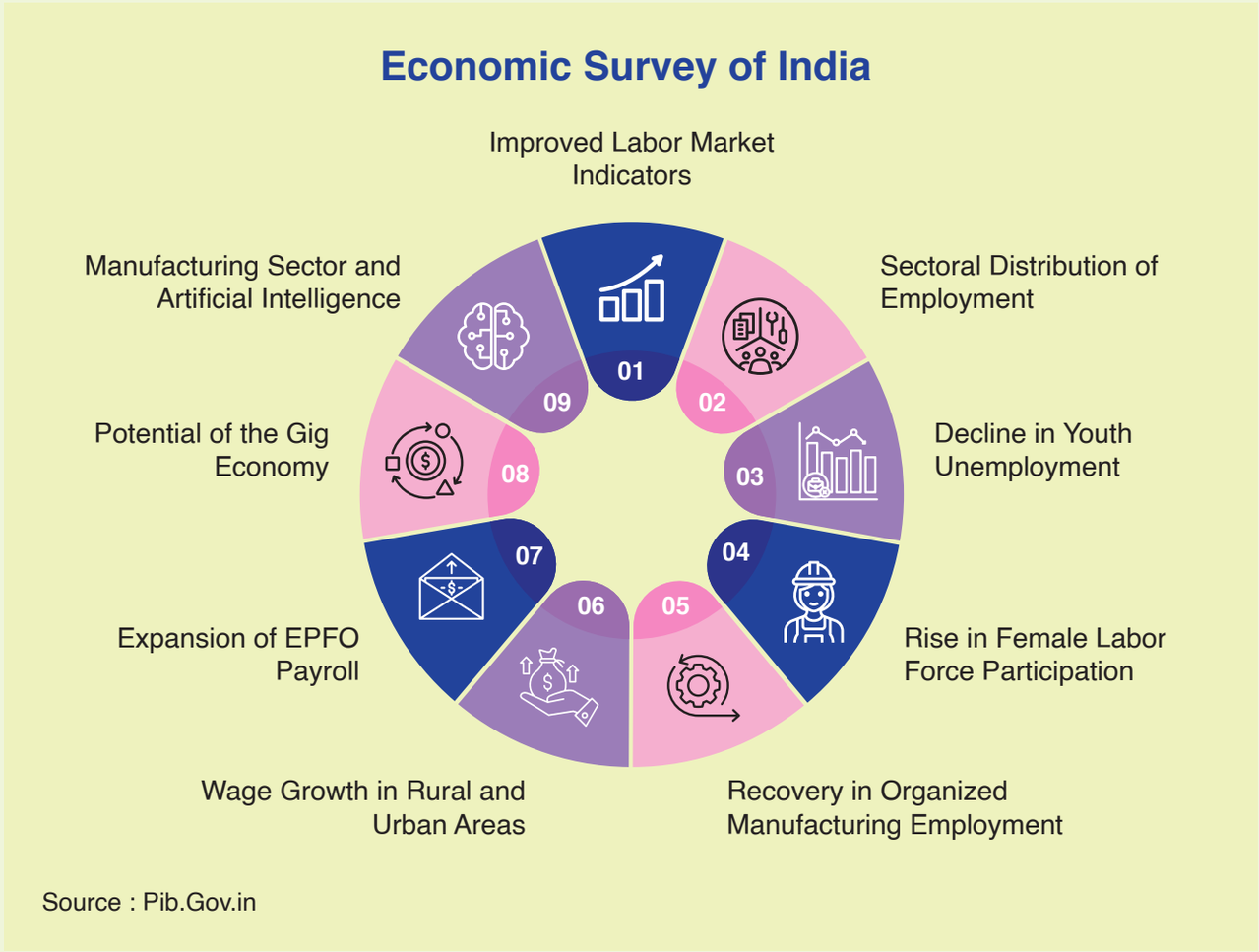
to include healthcare, retirement benefits and insurance coverage for informal workers will enhance their financial stability and social security. Furthermore, transitioning informal workers to the formal economy through incentives such as tax breaks, access to loans and legal protections will increase job security and contribute to sustainable economic growth.

4.4. Encouraging Entrepreneurship

Entrepreneurship is a powerful engine for job creation and economic growth, especially in marginalized communities. The government supports entrepreneurship through various schemes like Stand Up India and MUDRA, which provide financial and technical assistance to small businesses and start-ups. To promote inclusive entrepreneurship, there is a need to focus on empowering entrepreneurs from women, scheduled castes (SCs), scheduled tribes (STs) and other backward communities. By providing easier access to financing, mentorship and business incubation, aspiring entrepreneurs can grow their ventures and generate employment. Furthermore, fostering entrepreneurial ecosystems in rural areas by offering resources such as training programs, low-interest loans and business networks will encourage individuals to explore entrepreneurship as a viable path to economic independence.

4.5. Women in the Workforce

Gender inclusivity in the workforce is not only a matter of social justice but is also a powerful driver of economic development. India must encourage greater participation of women in the workforce to ensure inclusive growth. Initiatives like Mahila Coir Yojana and the promotion of Self-Help Groups (SHGs) are designed to empower women by encouraging entrepreneurship and job creation. These initiatives have seen significant success in improving women's economic standing, but more can be done to bridge gender disparities in formal employment and entrepreneurial opportunities. Policies that support workplace diversity, such as providing flexible working hours, childcare support and safe working environments, will encourage more women to join and stay in the workforce, contributing to economic growth and national development.



05

PILLAR 5

Social Safety Nets and Empowerment

5.1. Direct Cash Transfers

The implementation of Direct Benefit Transfers (DBT) has significantly improved the efficiency and transparency of welfare schemes by ensuring that financial assistance reaches the intended beneficiaries directly, reducing middlemen and minimizing corruption. Programs like PM-Kisan provide direct financial aid to farmers, empowering them economically and supporting their livelihood. Expanding DBT to other sectors such as education, healthcare and unemployment benefits can further ensure that government subsidies and support programs reach the most vulnerable segments of society. By creating a streamlined and transparent system, DBT reduces inefficiencies and ensures that welfare funds are used effectively.

5.2. Affordable Housing

Housing is a fundamental aspect of social and economic development. The Pradhan Mantri Awas Yojana (PMAY) addresses the issue of housing for low-income families by offering affordable housing options and providing financial assistance for home construction or improvement. These initiatives ensure that disadvantaged communities have access to basic living conditions, including access to clean water, sanitation and healthcare services. Expanding affordable housing projects, particularly in urban and peri-urban areas, will not only improve the living standards of millions of low-income families but also contribute to reducing the urban-rural divide and fostering more equitable economic growth.

5.3. Social Inclusion Programs

Targeted social inclusion programs are vital to ensuring that marginalized and backward communities are not left behind in the development process. Policies such as the Scheduled Castes Sub-Plan (SCSP) aim to uplift the Scheduled Castes, Scheduled Tribes and Other Backward Classes by providing access to quality education, healthcare and employment opportunities. To foster true inclusivity, the government should continue to strengthen these programs, ensuring that they address the specific needs of these communities and promote their active participation in economic growth. Creating avenues for social mobility and fostering equal opportunities will be essential for reducing disparities and fostering an inclusive society.

5.4. Empowering Women and Marginalized Groups

Empowering women and marginalized groups is not only a moral imperative but also a crucial step towards inclusive growth. Programs like Self-Help Groups (SHGs) provide a platform for women to come together, build livelihoods, access micro-credit and contribute to their family's welfare. By offering financial inclusion, skill development and entrepreneurship support, these programs enable women to improve their socio-economic standing. Additionally, the government must continue to focus on providing better access to education, healthcare and employment for marginalized groups, empowering them to contribute more effectively to the economy and society. Empowerment leads to greater productivity and ensures that no group is excluded from the benefits of national development.

5.5. Disaster Risk Reduction

Natural disasters often disproportionately affect vulnerable and marginalized communities, exacerbating existing socio-economic inequalities. India's National Disaster Management Authority (NDMA) focuses on improving disaster preparedness and resilience-building, particularly for the poor and vulnerable groups. Strengthening disaster risk management frameworks, increasing awareness and providing adequate infrastructure for disaster response are crucial to protecting the livelihoods of the most vulnerable. Additionally, ensuring that disaster relief efforts are equitable and accessible to all will help mitigate the socio-economic impact of such events and facilitate faster recovery, ensuring that marginalized communities are not left behind in rebuilding efforts. By prioritizing disaster risk reduction, India can create a safer, more resilient environment for its citizens.



06

PILLAR 6

Regional Development and Infrastructure

6.1. Balanced Regional Growth

India's economic growth has often been concentrated in urban areas, leaving rural and backward regions underserved. To address this, the government must promote policies that ensure balanced regional growth. Special Economic Zones (SEZs) in backward areas, along with targeted investments in infrastructure, can create jobs and foster regional development. By incentivizing industries to set up in less developed regions, the government can encourage entrepreneurship, reduce migration to metropolitan areas and ensure that the benefits of growth are more evenly distributed. Regional equity is essential to reducing the socio-economic disparities between urban and rural areas, promoting sustainable development across the country.

6.2. Improving Rural Infrastructure

Infrastructure development is a crucial element in bridging the urban-rural divide. Rural areas often face challenges related to poor road connectivity, inadequate energy access and lack of digital infrastructure, which limit economic opportunities. The Bharatmala Project and Smart Village Campaign are strategic initiatives aimed at improving rural infrastructure by enhancing road connectivity, providing reliable energy and expanding internet access in remote regions. Strengthening infrastructure in rural areas will not only improve livelihoods by connecting farmers to markets and facilitating easier transportation but will also stimulate local economies, enabling inclusive growth in these areas.

6.3. Developing Tier-II and Tier-III Cities

Promoting growth in tier-II and tier-III cities is key to decentralizing development and addressing the growing pressure on major metropolitan areas. By focusing on sustainable urban planning, affordable housing and the development of smart cities, the government can create new economic hubs that attract investment, generate employment and improve living standards. These cities are often underutilized resources, with untapped potential for industrial, commercial and service sector growth. By fostering job creation in these cities and improving infrastructure, the government can mitigate overcrowding in major urban centers, reduce migration and ensure a more balanced development across the country.

6.4. Agricultural Infrastructure

Strengthening agricultural infrastructure is vital for enhancing farmers' incomes and improving rural economies. Investments in cold storage, market linkages and efficient irrigation systems can reduce post-harvest losses, improve food security and ensure that agricultural products reach consumers in a timely manner. Additionally, improving irrigation systems can help combat the effects of water scarcity and support sustainable farming practices. By providing farmers with the necessary tools and infrastructure, the government can improve agricultural productivity, make rural economies more resilient and reduce dependency on traditional, less efficient farming methods.

6.5. Public-Private Partnerships for Infrastructure Development

Public-private partnerships (PPPs) are essential for accelerating infrastructure development, particularly in underserved regions. The collaboration between the government and private

sector can bring in much-needed investment, expertise and efficiency to large-scale projects. Programs like the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) focus on improving basic urban services such as water supply, sewerage and urban mobility, aiming to make cities more livable and sustainable. PPPs can also play a pivotal role in rural infrastructure development by facilitating the construction of roads, hospitals, schools and energy projects. These collaborations help create long-term, sustainable growth that benefits communities across the country.



Conclusion:

India's path towards inclusive growth and equitable progress demands a comprehensive and well-coordinated strategy that integrates economic, social and infrastructural development. To unlock the potential of its vast population, India must ensure that growth does not leave anyone behind, but rather benefits every citizen, regardless of their socio-economic status, gender, or geographic location. This can only be achieved through a holistic approach that empowers all segments of society, with a particular focus on marginalized communities, youth and women.

The six pillars of inclusive growth—Inclusive Economic Policies, Education and Skill Development, Healthcare Access and Equity, Job Creation and Livelihoods, Social Safety Nets and Empowerment and Regional Development and Infrastructure—form the foundation of this transformation.

India's economic policies must continue to prioritize the most vulnerable sections of society, ensuring that the benefits of growth reach rural areas, economically disadvantaged groups and marginalized communities. Pro-poor reforms such as financial inclusion initiatives, rural development programs and social security schemes like MGNREGA and PM-Kisan are pivotal in empowering those on the margins of society. These policies should be expanded and refined to ensure that every citizen has access to the basic building blocks of economic participation.

Education and skill development will be the cornerstone of India's future. To tap into its demographic dividend, India needs to invest heavily in both primary education and vocational training to create a skilled, adaptable workforce. With a focus on digital literacy and gender inclusivity, initiatives like the Skill India Mission and expanding higher education access will allow youth to thrive in a rapidly evolving economy. The emphasis on practical, industry-driven skills must also be prioritized to meet the demands of emerging sectors, creating jobs that are sustainable and meaningful.

In healthcare, expanding universal access through initiatives like Ayushman Bharat and improving primary healthcare in rural and underserved areas will play a crucial role in reducing health inequities. Public health initiatives, including maternal and child health programs, along with preventive care and affordable treatments, will ensure a healthier population, which is a prerequisite for national growth.

Job creation and livelihoods go hand-in-hand with economic reform and skill development. Initiatives like Make in India and Start-Up India, along with stronger support for MSMEs, are key to creating sustainable, long-term employment opportunities. It is equally important to support the informal sector, which employs a large portion of India's workforce, through social security benefits and financial inclusion. Encouraging entrepreneurship, particularly among women and marginalized communities, will also contribute to generating new employment opportunities and fostering inclusive economic growth.

Social safety nets remain critical in addressing the vulnerabilities of the poor, elderly and marginalized populations. Regional development and infrastructure are crucial in ensuring that growth is balanced across the country. Policies focusing on the development of tier-II and tier-III cities, rural infrastructure and improving agricultural systems will decentralize economic activity and bring prosperity to underserved regions. Public-private partnerships in infrastructure development will be vital in accelerating this process.

The way forward requires collaboration between the government, private sector, civil society and international partners. By aligning national strategies with local realities and by ensuring that every policy and program is designed with inclusivity and equity in mind, India can achieve sustainable, long-term growth. This integrated approach will not only lift millions out of poverty but will also create a society where every individual has the opportunity to succeed, contributing to the collective prosperity of the nation.

India stands at a crossroads, with the potential to become a global leader in inclusive growth. By maintaining focus on these six pillars and ensuring the active participation of all stakeholders, India can build a future where growth is equitable, social safety nets are robust and every citizen has the opportunity to thrive.

Case Study: Brazil's Inclusive Growth Policies

Brazil, over the past two decades, has undertaken several bold steps to promote inclusive growth and reduce inequality. The country's policies can offer valuable insights and lessons for India as it works to foster equitable progress.

01

Inclusive Economic Policies

Brazil's efforts in implementing pro-poor economic reforms have been quite impactful. The Bolsa Família program, a conditional cash transfer initiative, directly benefits low-income families by providing financial aid contingent on children's school attendance and regular health checkups. This program has lifted millions out of poverty and improved access to education and healthcare for marginalized groups. Similarly, Brazil has invested in rural development through policies aimed at improving the livelihoods of small-scale farmers and rural communities, promoting inclusive agricultural growth.

02

Education and Skill Development

Brazil has also made significant investments in education. The Fund for the Maintenance and Development of Basic Education (FUNDEB) ensures better allocation of resources to improve the quality of primary education, especially in poorer regions. In terms of vocational training, the National Program for Access to Technical Education and Employment (Pronatec) aims to provide young Brazilians with the necessary skills to enter the job market, focusing particularly on underserved populations.

Similarly, India's Skill India Mission and Right to Education (RTE) policy aim to provide universal access to education and enhance vocational training to improve employability. The emphasis on digital literacy is also being expanded in both countries.

03

Healthcare Access and Equity

Brazil's Unified Health System (SUS) has played a central role in making healthcare accessible to all citizens, especially in rural and underserved areas. The SUS ensures that basic healthcare services, including preventive care, vaccinations and maternal and child health services, are available free of charge. Brazil has also focused on universal health coverage (UHC) through government-funded health programs, aiming to reduce health disparities between different social classes.

India has taken similar steps with initiatives like Ayushman Bharat, which aims to provide health insurance to 500 million Indians and through strengthening its National Rural Health Mission (NRHM) to improve healthcare delivery in rural regions.



04

Job Creation and Livelihoods

Brazil's Minas Gerais state implemented the Economically Sustainable Development Program (PDS), which encouraged the development of local microenterprises and cooperatives to create jobs and enhance livelihoods. These initiatives have been particularly impactful in economically marginalized communities.

In India, schemes like Make in India and Start-Up India are fostering entrepreneurship and creating jobs, especially in the manufacturing and technology sectors. Additionally, India's PMGKY (Pradhan Mantri Garib Kalyan Yojana) provides support for informal sector workers, much like Brazil's efforts to formalize employment.

05

Social Safety Nets and Empowerment

Brazil's Bolsa Família is an example of a social safety net program that has empowered millions of low-income families. Additionally, Brazil has focused on gender inclusion and empowerment through policies that support women's rights, access to education and participation in the workforce. This holistic approach has helped Brazil reduce inequality.

India has its own set of social safety programs like MGNREGA, which provides guaranteed wage employment in rural areas and Pradhan Mantri Awas Yojana (PMAY), an affordable housing initiative. Policies such as Beti Bachao Beti Padhao and Self-Help Groups (SHGs) are aimed at empowering women and improving their participation in the economy.

06

Regional Development and Infrastructure

Brazil has worked to reduce regional disparities through targeted investment in infrastructure in the North and Northeast, which are economically disadvantaged regions. The Growth Acceleration Program (PAC) prioritized infrastructure development in these areas, focusing on transportation, housing and social services.

In India, the Bharatmala Project and Smart Village Campaigns focus on improving rural road connectivity, digital infrastructure and energy access to bridge the urban-rural divide. Additionally, India's focus on tier-II and tier-III cities through initiatives like Smart Cities Mission and AMRUT mirrors Brazil's efforts to promote balanced regional growth.

Case Study: South Korea's Inclusive Growth Policies

South Korea provides an insightful example of how a country can achieve inclusive growth through a combination of sound economic policies, robust infrastructure development and investment in education and healthcare.

Key Takeaways for India:

Balanced Growth: South Korea's success was built on balancing industrial growth with rural development, a principle that can be applied in India's approach to reduce regional inequalities.

Education and Skill Development: South Korea's investment in both universal education and vocational training is crucial for empowering a nation's workforce and India can further strengthen its Skill India Mission to create a skilled labor force.

Universal Health Coverage: South Korea's UHC model demonstrates the importance of accessible healthcare for ensuring social equity. India's Ayushman Bharat can expand and refine this model to reach even more underserved populations.

Social Safety Nets: South Korea's comprehensive social safety programs can serve as a reference point for India to enhance its own social security schemes, ensuring that all citizens, especially the vulnerable, have access to financial and social support.

By learning from South Korea's experience, India can tailor these strategies to its own needs, addressing challenges while fostering inclusive and sustainable growth.

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Vote of thanks by Shankar Vanavarayar

Mr Shankar Vanavarayar, in his vote of thanks, expressed sincere gratitude to all attendees, recognizing the key contributions that made the event a success. He began by acknowledging the presence of industrialists whose leadership and innovation continue to drive the country's progress. Their engagement was invaluable in fostering a productive dialogue.

He also thanked the businessmen for their entrepreneurial spirit and contributions, which play a crucial role in India's economic development. Academicians were recognized for their expertise, enriching the discussions with their research and knowledge on key issues.

Special appreciation was given to government representatives, whose support is vital for ensuring that policy discussions translate into actionable results for national development. The CII team was thanked for their excellent organization, ensuring the smooth running of the event and facilitating meaningful exchanges.

Lastly, Mr Vanavarayar extended his thanks to the external stakeholders, whose diverse perspectives brought depth to the discussions. In closing, his words emphasized the importance of collaboration among industry, academia, government and civil society to achieve inclusive and sustainable growth.

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VOICES OF IMPACT, ARCHITECTS OF CHANGE.

To the daring, the dreamers, and the doers.
To those who know that progress is not a solo journey,
but a collective pursuit.
To those who challenge the status quo.
To you –
the forerunners with a fire to make the impossible come true.

The future does not unfold on its own.
It is scripted by those who envision it ahead of time,
anticipating even the curveballs and wildcards.
It is shaped by those who act on it.
To you –
the stalwarts of the Nilgiris Economic Dialogue 2025.

This is a testament to the power of collaboration.
These are the many faces shaping tomorrow and leading
from the front –
driven by results, not recognition or reward.

Thanks you for your contribution!

Testimonials



Montek Singh Ahluwalia

Distuinguished Fellow, Centre for Social & Economic Progress
Former Deputy Chairman, Planning Commission India

I must congratulate CII and the other organizes for putting on a tremendous show. The sessions provide ample evidence of fresh thinking & enthusiasm among younger people to “engage” with the system.

I have one suggestion. In a world in which both technology & history are gaining importance, I would urge CII to prepare a booklet on the history of “Wootz Steel”. This is technological revolution which has its origin in South India and became the basis of Damascus Swords. The process of “Damascening” is well known. No one knows about “Wootz”.



R Gopalakrishnan

Author & Business Commentator

I greatly enjoyed participating in NED 2025. What a grand parade of ideas & debates!!

NED has great potential to grow and become a strong force for change in the future.

NED should explore juxtaposing with OLF (Ooty Lit Fest) so that a larger bang for the buck can accrue to participants in the future.

Montek has suggested preparing something in Wootz Steel. I have an excellent publication on this subject and I am happy to share my copy of the book with NED.



Mr Rajesh Subramaniam

Founder & CEO
embedUR systems

Thanks to the CII team for putting together this wonderful event. I also went to thank Mr Shankar & Mr Srivats for their enthusiasm to have them participate and contribute to the overall dialogue.

I totally enjoyed the panel I was part of and very excited having been part of many roundtables that were extremely innovative and also transformative.

I am looking forward to more of the CII events and look forward to NED 2026. Thanks.

Testimonials



Vanitha Venugopal

Chief Executive Officer
Tamil Nadu Technology Hub

In the heart of Verdant Nilgiris, the Nilgiris Economic Dialogue emerges as a beacon of sustainable progress and collective wisdom. This vibrant forum unites local voices, industry pioneers and thought leaders to explore pathways where economic growth harmonizes with environmental stewardship.

The conversations sparked innovative ideas, drawing on indigenous insights while embracing global perspectives. Amid the breathtaking landscapes each dialogue inspires a vision where tradition meets modernity, crafting resilient economic models for tomorrow.

This was not just a discussion. It is a celebration of community, creativity and the promise of a balanced future.



Sandeep Singh Sidhu

Managing Director
Craigmore Plantations India Pvt Ltd

A big thank you to the organizers for a great conduct of the NED 2025. This was a remarkable gathering of thought leaders and distinguished personalities from diverse backgrounds. Very well done and thanks to the curators team.



Giridharan Ramasubramanian

Chief Operations Officer
Ramco

My misconception got shattered that only defense forces can plan & execute the “Best”. But after attending NED 2.0, I realized they are better than the best. ‘BZ’ as we call it in defense to all those who made it happen.



B C Datta

Vice President
Ola Electric Technologies Pvt Ltd

Excellent path breaking initiative. Kudos to Shankar and the team. Please increase the activities, bigger canvas and PAN India approach. This should be our Davos.

Testimonials



P Dilip Krishna

CEO
Carpe Diem

Excellent platform to share our thoughts, ideas and perspectives develop out district, state & nation at large.

Extremely enriching experience, wonderful learning & made great friends.

Look forward to more such engagements.

All the very best. Keep winning.



Mr Tarsh Thekaekara

Director, Real Elephant Collective
Trustee, The Shola Trust &
Member, State Board for Life, Government of Tamil Nadu

Wonderful & Meaningful interactions!

Slightly a fish out of water here given my background, but enjoying it so far.



Aarti B Iyer

Entrepreneur, Mentor & Marketing Consultant
Cyan Agro

I am glad to be a part of this CII Nilgiris Economic Dialogue while many valid points were revised, I would like to see where it takes us since we need to implement the

1. How do we make it a people movement?
- Who will drive it?
- How do we drive it?

2. Innovation – How do we drive this?
- Can the change happen by educating people?
- Can we learn and accept our mistakes / failures instead of thinking we are great when we are not.. to change our outlook?

3. How can the education system change?
- How will we collectively work on?

Waiting to see these concepts come to effect. Willing to work on it.

Testimonials



Akhila Rajeshwar
Executive Director
TiE Chennai

It was wonderful being here!

Meaningful dialogues shape meaningful progress. NED brought together ideas, insights and innovation to drive economic growth.

As we move forward, looking forward to fostering collaboration, sustainability and inclusivity for a Stronger future.

Thanks again!



Anand Venkitraman
Chief Executive Officer
Nexup Partners LLP

I am happy to have decided to attend NED 2025. I was a really eye opener. Lot of learning, understanding different perspectives of decision makers at various levels.

Looking forward to interacting and continuing to dialogue with the participants I met during these dates. My best wishes.



Archana Chavan
Associate Director – Operations
Mentor Together

It has been as wonderful opportunity to be a part of NED for the first time!

Listening to experts & role models within the Space of Economics, Geo-politics, globalization has enriched a widened my understanding of the broader ecosystem which impacts the development of different societies & country at the end.

I had a chance to step out of the role and work I was occupied with, thinking & being focused on the issue I was committed to. These 3 days helped me to connect to critical themes which all this while impacted our work but never understood holistically.

Thank you for engaging comprehensive experience to connect to our work!

Testimonials



Ashwin Manohar

Proprietor
Associated Engineering traders

NED was an eye opener for me I would like to thank the organizers for putting this up. NED is a fantastic platform where there is a diverse spectrum of topics being discussed and visioning for the future of the nation. Please keep doing these and would like to contribute to my capacity.



Avanti Natarajan

Director – Student Affairs
Paavai Educational Institutions

Thank you for curating such a thoughtful, engaging & an enriching dialogue. I would say NED is a defining platform that bring together thought leader, Academicians, Policy makes, Industry pioneers, intellectually enriching resources.

I enjoyed all the panels with such diverse topics and speakers. Looking forward to a imbibe all the learning in our relevant field of education & design. I am sure NED serves as a catalyst for actionable insights and collaborative solutions.



Balaji Venkitrathinam

Executive Director – Operations
Solidpro Engineering Support Pvt Ltd

I came up with a very open mind to NED 2.0 networking. I thought it would be another summit or economic forum, where Keynote speakers and thought leaders will deliver a Speech and mostly a monologue.

But the very first day, my perception was completely changed, as the name calls, it was truly a dialogue, wherein I had a chance to participate in the discussions which made me feel happy & it truly demonstrated the inclusiveness of participants & thought leaders.

Would like to whole heartedly thank Shankar and the whole CII team for fantastically structuring the 3 day program & making arrangements & assisting all the participants. I am grateful to the organizers & love to participate in the next NED.

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Glimpses








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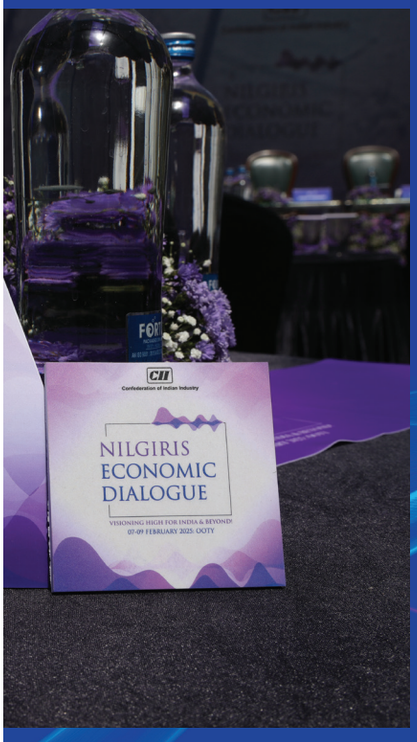
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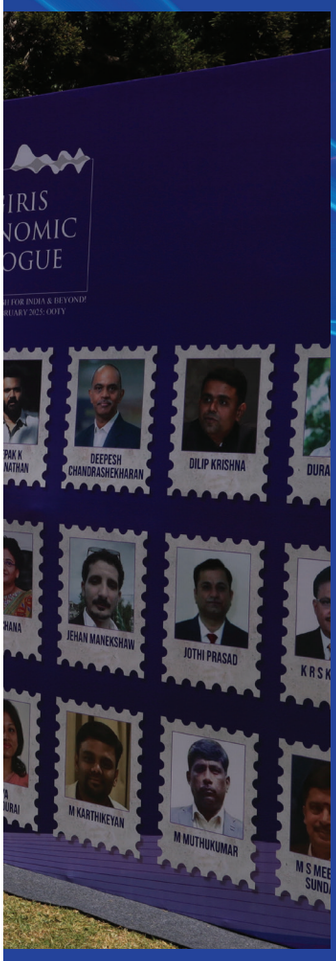
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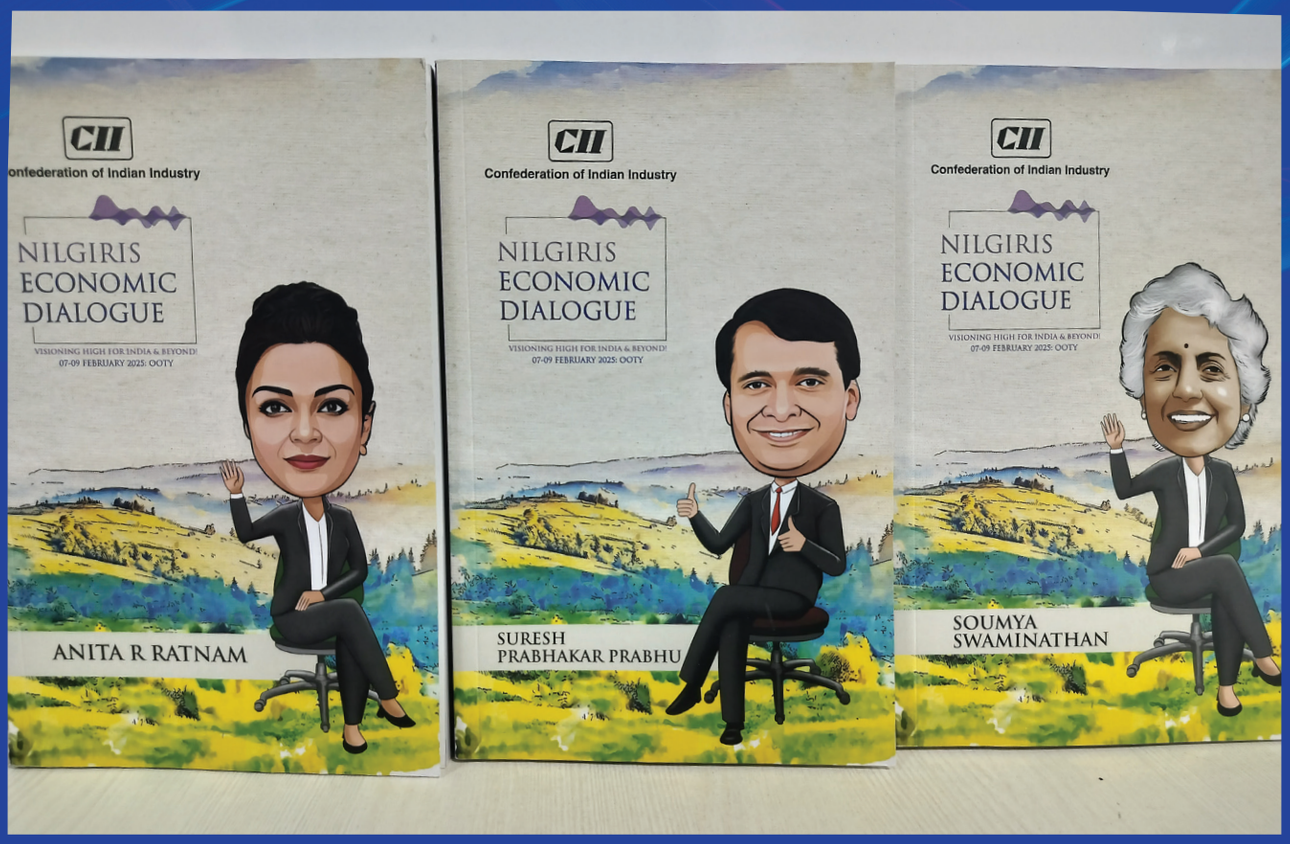
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Confederation of Indian Industry

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering Industry, Government and civil society, through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organization, with around 9,000 members from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 365,000 enterprises from 294 national and regional sectoral industry bodies.

For more than 125 years, CII has been engaged in shaping India's development journey and works proactively on transforming Indian Industry's engagement in national development. CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness, and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Through its dedicated Centres of Excellence and Industry competitiveness initiatives, promotion of innovation and technology adoption, and partnerships for sustainability, CII plays a transformative part in shaping the future of the nation. Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes across diverse domains including affirmative action, livelihoods, diversity management, skill development, empowerment of women, and sustainable development, to name a few.

For 2024-25, CII has identified "Globally Competitive India: Partnerships for Sustainable and Inclusive Growth" as its Theme, prioritizing 5 key pillars. During the year, it would align its initiatives and activities to facilitate strategic actions for driving India's global competitiveness and growth through a robust and resilient Indian industry.

With 70 offices, including 12 Centres of Excellence, in India, and 8 overseas offices in Australia, Egypt, Germany, Indonesia, Singapore, UAE, UK, and USA, as well as institutional partnerships with about 300 counterpart organizations in almost 100 countries, CII serves as a reference point for Indian industry and the international business community.

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