

TheIndiaDialog Working Paper Series

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The India Dialog²

US Asia Technology Management Center
521, Memorial Way, Knight Building
Stanford University

Institute for Competitiveness
155, National Media Center
Gurgaon, Haryana, India

¹ The views presented here are those of the authors and do not necessarily represent the position of either Institute for Competitiveness or Stanford University. Working papers are in draft form. This working paper is distributed for purposes of comment and discussion only.

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The India Dialog

Introduction

Over the past decade, India has witnessed significant changes in both its economic and social landscape. The country has forged a resilient path towards growth and development by implementing targeted policies. To evaluate these transformations in the Indian economy and the progress made in society in recent years, the Institute for Competitiveness (IFC) and the US-Asia Technology Management Centre (US ATMC) collaborated to convene leading experts who have expertise in the fields of economics, business, policy-making, and social development. The "India Dialog" is a co-created research initiative that focuses on conducting research, publishing findings, promoting interactions, and organizing events to enhance and build a better understanding of the Indian economy. The conference's central theme was 'The Indian Economy 2023: Innovation, Competitiveness, and Social Progress.' The primary objective of this event was to provide recent perspectives on India's journey towards attaining upper middle-income status by the year 2047.

The inaugural cohort of the conference featured 45 distinguished speakers, consisting of Mansukh Mandaviya, the Minister of Health and Family Welfare for the Government of India (GOI); Amitabh Kant, serving as the G20 Sherpa for the GOI; Param Iyer, the CEO of NITI Aayog; Bibek Debroy, Chairman of the Economic Advisory Council to the Prime Minister (EAC-PM); Nancy Jackson, the U.S. Deputy Assistant Secretary of State; Christian Ketels, an esteemed figure from Harvard Business School; Richard Damania, a representative from the World Bank; Kunal Kumar, associated with the Smart Cities Mission under the GOI, and others. The speakers and panellists deliberated a wide array of themes, including subjects such as Economic and Social Progress in India, Water Management, India's Digital Revolution, Enabling Social Progress through Social Policies, Providing Healthcare for All, and Transforming the Education Sector. The conference is moderated by Amit Kapoor, Stanford University Lecturer and Chairman of the Institute for Competitiveness, and Richard Dasher, Stanford University Director of the US Asia Technology Management Centre.

The first series of the conference intends to create conversations on India and delve deeper into what India is all about and how the country can be understood. India has progressed over a period of time, what are the kind of challenges we face, or what are the kind of opportunities that actually exist in the country? The dialogue highlighted the importance of understanding India better as a heterogeneous entity, in terms of delving into how we really look at the states/cities and enable meaningful conversations on various topics. The conference series aims to encourage in-depth discussions about India, with the objective of gaining a more comprehensive understanding of the nation. It seeks to explore deeper into the multifaceted aspects of India, shedding light on its progress, the challenges it confronts, and the potential opportunities that exist within the country. India's evolution is highlighted by its remarkable advancements in both its social and economic dimensions, representing the twin pillars of its development.

India became the world's fifth-largest economy, characterised by its resilient economic growth. Currently, the nation stands at a vital juncture as a young population predominates, with approximately 50 per cent of the population under the age of 30, and this demographic dividend is poised to persist for several decades. India stands as the fastest-growing major economy (World Bank, 2023), and boasts an ambitious population of 1.35 billion along with dedicated leadership. The country generates a substantial human resource pool annually, making significant contributions to its economic progress. In recent years, India has emerged as the third-largest

hub for startups, marked by an exceptional proliferation of unicorns, amounting to 108. Additionally, the launch of 'SETU,' an India-US startup platform, facilitates collaboration between American mentors and Indian startups, further promoting a thriving startup culture and cultivating a new generation of entrepreneurs.

Innovation plays a crucial role in India's economic landscape, contributing to both social progress and global competitiveness. Government policies have effectively attracted electronics manufacturing, particularly in response to pandemic-induced supply chain disruptions, necessitating the global need for diversified supply sources. India, as a nation, exhibits immense potential for evolving into a major manufacturing hub. It stands in a position to provide crucial inputs aligned with industry requirements, complemented by the productivity-linked incentive scheme that was introduced in 2021. The interplay between technology and social progress is evident, with technology acting as a catalyst for the increase in mobile internet usage, especially for financial transactions. In 2022, India recorded a noteworthy 2,400 UPI transactions per second, highlighting the country's technological advancements.

Factors Behind India's Recent Economic and Social Progress: The Impact of Government Policies

This discussion delves into an analysis of India's current and future trajectory. The complexity of the task is acknowledged, citing India's vast size and heterogeneity, with different states and union territories at various stages of development. Despite these challenges, the country's development and growth have been remarkable.

Seven significant pillars of transitions that have been unfolding in India, which are likely to continue into the future. These pillars provide a more comprehensive perspective on India's evolving landscape. The first pillar is the accelerating rate of urbanisation, a trend correlated with economic development. India, historically known for low urbanisation rates, has experienced a surge in urbanisation. However, managing this shift presents its own set of challenges. The second centers on the formalisation of the economy. This process involves both formalising enterprises and formalising labor contracts, with government policies encouraging these changes. The third lies within agriculture, including two aspects: a shift in the labor force from agriculture to off-farm employment opportunities and increased employment in commercial agriculture and diversification. The latter involves not only enhancing productivity but also addressing marketing and distribution challenges. The fourth is a related shift from subsistence-level self-employment to more secure employer-employee relationships, encouraging improved worker protections. The fifth pillar highlights the provision of basic necessities, such as physical and social infrastructure, leading to empowerment and financial inclusion, ultimately improving the lives of many Indians. Linked to this is the sixth pillar, Digital India, which is backed by a publicly supported and funded digital infrastructure, including the Aadhar card. This digital transformation has streamlined services and financial transactions for the population. Lastly, the seventh pertains to improved transport connectivity, especially in roads and highways, civil aviation, and railways, integrating the country and enabling the efficient movement of goods and people.

What the Indian economy means for the U.S.

This section highlights the significance of the U.S.-India relationship, describing it as one of the most consequential relationships for the 21st century. India's status as the world's largest democracy underlines its critical role in building an open, inclusive, and prosperous world. The breadth and depth of the U.S.-India relationship, including a wide range of collaborative efforts,

is emphasised. This includes their contributions to the world through the tech industry in Silicon Valley and Bangalore, cooperation in the Quad, and the bilateral defence partnership, which has seen an increase in joint military exercises.

Three key areas for the future growth in the U.S.-India relationship are described. Firstly, trade is emphasised as a domain with tremendous potential, given the record trade figures in 2021. The growing cooperation in critical and emerging technologies is seen as a catalyst for enhancing the trade relationship. The second area of focus is on strengthening people-to-people ties between the two countries. The vibrant connections between Indians and Americans, along with the role of the Indian diaspora in the United States, are highlighted. The talk underlines the importance of increasing student and scholar mobility between the two countries. In the third area, gender equality and women's empowerment are recognised as a priority. Gender parity in the Indian economy can lead to economic growth and prosperity. The U.S. government's strategy on global women's economic security is introduced, along with the U.S.-India Alliance for Women's Economic Empowerment. These initiatives aim to support women entrepreneurs and strengthen the bonds of friendship between the two nations.

Competitiveness Roadmap for India@100

India's labour force is predominantly young and continually growing, and this demographic advantage is expected to drive the country's economy forward in the coming years. Moreover, India has undergone significant policy changes, including improvements in infrastructure and regulatory reforms, which have endowed the Indian economy with valuable assets and capabilities. The full impact of these policies is anticipated to manifest over time. To leverage these fundamental forces and realise its economic potential, India should consider strategic policy choices outlined in the competitiveness roadmap. Achieving this will require a combination of action and a deep understanding of the complex dynamics within the country. Overall, the competitiveness roadmap report highlights the considerations and priorities that India needs to address. When comparing India's economic trajectory to its aspirations of reaching middle-income and eventually achieving high-income status, it is evident that there has been progress in terms of labour productivity, a key measure of competitiveness. However, India still has a long way to go in catching up to other middle-income countries. The recent policy changes have shown that prosperity depends on both labour productivity and labour mobilisation. Nevertheless, the recent trends in India's labour mobilisation have been less favourable. Therefore, structural changes are needed to bridge this gap and attain middle-income status.

Three persistent challenges facing India are the shared prosperity challenge, job creation challenge, and policy implementation challenge. These challenges must be addressed, considering the evolving global context and recognising that traditional growth mechanisms may need to be adapted to align with changing technology and economic dynamics. India must chart a new path to success to fully seize the opportunities before it. To begin with, the shared prosperity challenge includes several facets but essentially centers around the need to move beyond the traditional measure of GDP per capita changes and focus on improving the quality of life, especially for different segments and regions of the country. There are clear indicators on the kind of challenges India faces in terms of social progress, which has not kept pace with overall economic growth. Inequality has been on the rise in India, not because there aren't successful individuals, but because there isn't a clear path for the economically disadvantaged to move up. This challenge is compounded by the stark regional disparities across the country, where some regions are globally competitive while others remain disconnected from the broader Indian economy.

The second challenge is the jobs challenge. Despite some positive dynamics in the labour force, India has seen drastic changes in labour force participation over the last few decades, with limited net job creation every year. This trend raises concerns about the quality of job creation, as well as the formalisation of the labour market. There's a need to create better jobs that provide individuals with opportunities for education and a pathway to achieving middle-income status. The conventional narrative often blames policymakers for these problems, but it's not as simple as that. India has initiated various policy measures, including infrastructure development and educational reforms, over the last decade. The challenge lies in how these policies are being executed and integrated into a cohesive growth strategy.

The early stages of economic reforms in India were relatively straightforward, such as opening up to the global economy and removing regulatory barriers. However, the next phase of development involved more complex changes, including improving competitiveness fundamentals, which necessitate coordination between different levels of government, collaboration with the private sector, and the development of region-specific policies. The global landscape has also shifted, with India becoming a more attractive destination for businesses, especially those looking to pivot away from China. Digitalisation and climate change present both opportunities and challenges that must be factored into India's development strategy.

To address these challenges and seize the opportunities, a roadmap is proposed. The roadmap emphasises the need to focus on an inclusive definition of progress that comprises social well-being and sustainability, along with economic growth. India should aim to create a growth agenda that supports a diverse range of job opportunities, along with the less-skilled workforce. This will further involve sector-specific policies that encourage the growth of various industries. However, it's not about starting from scratch. India is already implementing numerous policies, but they must be adapted in a manner that the desired outcomes are achieved effectively. The four key areas of focus include location and sector-specific policies, integration of social and economic agendas, strengthening markets, and supporting the growth of competitive firms. It's essential to address the institutional architecture at both federal and local levels to ensure these policies are successfully implemented. The recent budget and ongoing policy initiatives show positive momentum, but there's a need to align them with the broader structural changes required to fulfil this roadmap.

India's success is not only in its own interest but also crucial for the global economy. Western countries must recognise their role in supporting India's journey to success as a prosperous economy.

Regional Insights Into India Performance and Outlook

This section delves into aspects related to regional differences, economic and social development, and the innovation ecosystem in India. Regional differences across states and cities play a crucial role in shaping the innovation ecosystem and contributing to economic and social development. The net State domestic product per capita, reveals substantial variations across different regions of India. There is a significant contrast between the western and southern states compared to the rest of the country. The northern region, which includes Delhi, Haryana, and Uttarakhand, also demonstrates unique characteristics. It's important to highlight the dynamic nature of these state rankings and how policy decisions can impact their trajectories, as exemplified by the decline of Punjab, a traditionally prosperous state.

Tap water connections is another indicator which shows that socio-economic development closely correlates with per capita income. However, the regional differences in access to essential services, such as clean water, highlight the significance of state-level governance within India's federal system. On delving deeper into district-level data and examining the concept of aspirational districts, which identifies areas in need of focused development efforts. These districts are often aligned with the per capita income distribution, some exceptions reveal the nuances in the development landscape. It's essential to navigate this terrain carefully, considering the complex selection process for aspirational districts. Transitioning from socio-economic aspects to economic activity, the focus shifts to business registration density. This factor plays a crucial role in driving economic growth and job creation. The geographical distribution of factory workers across states closely reflects their economic activity. It is essential to emphasize that this information is most meaningful when analysed in the context of the state's unique characteristics. Furthermore, considering telecommunications, tele density patterns highlight regional disparities, but the correlation with per capita income is less pronounced. This outlines the fact that while digital infrastructure is vital, other factors also influence socio-economic development. Exploring the dynamics of formal and informal business sectors, it becomes apparent that India has regions with a substantial influx of new businesses. However, understanding the size, sustainability, and value addition of these businesses is crucial for informed policy decisions.

In the services sector, similar regional patterns are observed, further emphasizing the importance of analyzing these dynamics at a subnational level. These factors include education levels, infrastructure quality, labour regulations, and financial inclusion, economic activity. Additionally, strong agglomeration economies in manufacturing sectors are critical for India's growth. These are often concentrated around towns and cities, where economic potential is at its highest. Thus, focusing on city development becomes imperative. On examining municipal finances, it is noted that Indian cities face challenges with low revenues relative to their economic contributions. This hampers their ability to direct economic growth autonomously. In contrast, China's local government structures provide a different model for decentralised governance. To encourage innovation, India's focus goes beyond unicorns. It is revealed that industrial R&D centers and higher technology R&D centers are concentrated in states with existing industrial bases featuring the need for both local and global innovation components.

In addition to policy initiatives, national missions have been instrumental in driving large-scale transformations. Projects like electrifying remote villages and ensuring access to electricity in every household have had a significant impact. The Jal Jeevan Mission, aimed at providing clean water, is another massive undertaking. These missions emphasise the capacity of the government to implement projects on a grand scale. However, engaging with state governments in India poses several challenges, primarily due to capacity constraints. The re-election rates of state governments have changed significantly over the years, with political stability becoming more common. When state governments change, it can lead to substantial shifts in policy direction, impacting businesses and investments. Furthermore, the decentralisation of power to cities remains a challenge. Many essential functions are still concentrated at the state level rather than empowering local governments. The issue of urbanisation and the importance of city development are central to India's growth. While India has made extraordinary strides in various policy initiatives and national missions, working with state governments presents a unique set of challenges. Transparency, capacity, and the shift towards urban development and local empowerment will be crucial for India's continued economic growth and prosperity.

The nation is in a unique position in terms of urban evolution. While the World Bank's agglomeration index from 2009 suggests India is already about 60% urban, other definitions

could place the country even higher, potentially reaching 70% urbanisation. This rapid urbanisation presents both opportunities and challenges related to local autonomy, particularly in infrastructure and service delivery. There is a need for a considerable shift in how to fund, support and achieve urban development by 2047, as conceptualised in the competitiveness roadmap report. One critical issue is the need to grant cities greater financial autonomy. The existing federal system must evolve to provide cities with more freedom to raise finances and make targeted investments in areas where they can yield the most impact. The challenge lies in understanding regional nuances, which have not been adequately studied. This lack of favourable policies and investments at the regional level has been a hindrance to sustainable urban growth. The importance of gathering more data for deeper analysis to development infrastructure development, financial planning, and policy actions must be emphasised.

A research study was presented using regional economic diversity and homogeneity criteria, defining regions with contiguous districts with similar characteristics. The data reveals that some regions are evolving at a faster pace than entire states. This highlights the need for inclusive policies and targeted investments for these regions. Among the key findings, regions with higher value-added (GVA) generally have higher urbanisation rates, but urbanisation varies considerably. Greater diversity in employment sectors is also associated with better regional performance, reflecting the importance of industry clusters. Economic complexity plays a role in a region's performance, but more research is required to understand the impact fully. To address the challenges and seize opportunities, several takeaways emerge. Businesses should diversify and focus on skills and workforce quality. Government initiatives should prioritise smaller cities and towns, recognising their potential for growth. Developing a regional framework for policymaking is crucial, but this requires diligent efforts to improve data systems. The matrix of required efforts based on a region's economic complexity can guide decision-making. Collaboration among cities, states, and the central government can transform local governments into economic development entities, promoting economic growth. Understanding the trade-offs between balanced regional development and economic imperatives is essential. An integrated mechanism at the national, state, and city levels can help harmonise economic growth efforts.

Moving on to the discussion of investors, the speaker highlights they typically consider national-level incentives, government policies, and digital initiatives led by organisations like NITI Aayog when contemplating investments in India. However, they ultimately function within particular states and cities, similar to how investment in different U.S. states like California, Arizona, or Illinois varies. Therefore, the choice of location holds the utmost importance for investors. Many Indian states are working on streamlining investment promotion processes. However, the technology and innovation landscape within a state significantly influences investors, especially from Silicon Valley. Companies from Silicon Valley play a substantial role in foreign investments in India, and their perspectives are critical. In the current investment landscape, major Silicon Valley companies have established a presence in various Indian cities. Their investments have created jobs and driven economic growth. In 2022, the Bay Area-based companies invested exceedingly in India, particularly in the ICT and electronics sectors. Karnataka, Maharashtra, and Telangana were the major beneficiaries of this investment. Venture investment is another vital aspect. Silicon Valley venture firms are actively investing in Indian startups. These venture investments are primarily concentrated in states that encourage innovation.

When considering future trends, digitalisation presents a massive opportunity. The digitization of various sectors, such as financial services and healthcare, is taking place at a rapid pace. Along with this, geopolitical dynamics, bilateral relationships, and the shifting landscape of global supply chains are shaping investment trends. While India's national-level policies and incentives are essential for investment, investors ultimately operate within specific states and cities. Human

capital, educational infrastructure, innovation ecosystems, state policies, and infrastructure significantly impact investment decisions. Additionally, India's prospects in basic manufacturing are promising, and lessons from successful cases like Apple's manufacturing in Chennai should be examined. These factors collectively influence the investment landscape for Silicon Valley companies in India.

At the same time, there are some challenges associated with manufacturing in India, a topic not widely discussed. While much of the focus has been on high-tech sectors, it's essential to recognise the significance of basic manufacturing in driving economic growth and reducing poverty. It has played a crucial role in poverty reduction in many countries. For example, Bangladesh's textile industry has been a key driver of economic growth and job creation. It's a sector that can absorb a large portion of the workforce. India has been keen on promoting its manufacturing sector, particularly through initiatives like 'Make in India.' However, there are barriers that have slowed down the growth of this sector. Some of these hurdles include archaic labour laws, regulatory complexities, and the challenges of doing business. India's labour laws, for instance, have been a point of contention. In addition, formalisation of the informal sector has also been a challenging process. It is also important to note that efforts have been made to address these issues, including labour law reforms, simplification of regulatory processes, and the introduction of the Goods and Services Tax (GST). However, much work remains to make manufacturing more attractive to investors and businesses.

Moreover, logistics and infrastructure play a critical role in the manufacturing sector. India's infrastructure has not always been conducive to efficient manufacturing operations, and improvements are needed in this area. Seamless movement of goods is vital for manufacturing. India's large trade deficit, especially in technology products, points out the need for the country to develop its manufacturing capabilities. Moving up the value chain in manufacturing can help reduce the trade deficit. These factors are central to the challenges and opportunities in India's manufacturing sector. Manufacturing can drive job creation, economic growth, and the reduction of trade deficits. The need for better access to legal services and reforms is a common concern not limited to India. Legal services are often expensive and can be a barrier for individuals and small businesses. Access to legal help is essential for understanding and navigating the complexities of law and regulations. It is encouraging to note that judicial reform on India's government agenda and initiatives to digitise legal processes and streamline court operations are underway. These reforms aim to make the legal system more accessible and efficient, which is crucial for promoting economic activities and protecting individuals' rights. Access to legal services is not only a necessity but also a fundamental right for any society, and efforts to improve this aspect will undoubtedly contribute to a more just and prosperous society.

Competitiveness and the Impact of Foreign Investment

The discussion was around the concept of competitiveness and how it is measured, particularly in the context of India. The speaker emphasised the importance of simplicity when measuring competitiveness, focusing primarily on productivity and rewarding nations for making the right decisions, such as increasing the workforce with skilled workers. Productivity is measured in terms of output per worker or output per hour worked. There are complex indices used to measure competitiveness, but they may not capture the full picture. The world doesn't neatly fit into a one-to-five or one-to-seven scale, as some countries may be hundreds or thousands of times less competitive than the best.

India's competitiveness trends are discussed, highlighting that the country has been gaining ground against the median, indicating positive movement. Key areas of focus included education,

infrastructure, and urbanisation, which are done efficiently and have made significant progress in the country. The discussion also entails foreign direct investment (FDI) in India, with an emphasis on stocks rather than flows. The speaker presents data on FDI from U.S. companies and explains that the real impact comes from the operations and value-added activities of these enterprises. While India attracts FDI, there's room for more improvement, and attracting FDI in different sectors, especially manufacturing, could be beneficial. The issues for attracting FDI in India consist of taxation, approval processes, infrastructure challenges, and the complexity of setting up and maintaining operations. The low profitability of some foreign investments is attributed to various factors, including startup costs, competition, and the willingness of companies to invest for future profits. The discussion is concluded with the different mechanisms of foreign investment which acknowledge that a more detailed analysis of specific cases is required to provide a comprehensive answer.

Overall, India's competitiveness trends exhibit positivity, but there remains a considerable journey ahead. Initial investigations suggest that alterations in India's approach towards Foreign Direct Investment (FDI) are already yielding positive results, with the promise of even greater outcomes in the future. However, a more comprehensive analysis is necessary to fully assess the extent of these impacts. A more insightful perspective emerges when the focus is on the interconnected dynamics of flow, stock, operations, and their combined impact in the context of FDI. This approach provides a more holistic understanding of the influence of FDI and should be an integral part of any policy or program analysis related to FDI.

Efficient and proactive management of the FDI process holds the most potential for reaping the benefits it offers while simultaneously minimizing its associated costs. Attracting FDI depends on several key factors, including the country's openness to foreign investment, its economic growth prospects, the quality of its infrastructure, and the consistency of its legal and regulatory framework.

Labor Force Transformation

The panel discussion began with initial remarks about the significant changes in India's labor landscape, particularly the emergence of women and youth in the economy, along with the role of technology in enhancing productivity, and the impact of investments in startups on job creation in the United States and India. These aspects have tremendous potential to drive economic growth in an economy.

The role of social development in shaping public policy was discussed, with a special focus on the data on female labor force participation in India, which reveals the lowest among other countries in the world. The "u-shaped" hypothesis of labor force participation suggests that women's participation should increase as a country develops, India appears to be an outlier in this regard. There has been a decline in female labor force participation in India over the last 15 years, raising questions about the factors contributing to this trend. Several possible factors were explored, including fertility rates, education levels, and occupational patterns. The data revealed that India's labor force participation varies across urban and rural areas, with women in urban areas facing lower participation rates compared to their male counterparts. Additionally, a curious trend was observed in education levels, where female participation decreased in the middle range of education but increased among graduates. The presence of young children in the household was also linked to reduced female labor force participation, especially for women with secondary education. The conversation highlighted the importance of addressing both the demand and supply sides of female workforce participation. While corporate leaders and venture capitalists can play a role in recruitment and training, resources such as childcare and basic

education are crucial to support women's entry and sustained participation in the workforce. The discussion emphasized the need for collaborative efforts between the government, private sector, and civil society to

address these challenges effectively. The conversation also covered the demographic dividend in India, with the growing number of young people entering the workforce. The panel recognized the importance of preparing, retaining, and enabling the thriving of these young individuals in India's economy. The discussion intended to explore the strategies and resources needed to harness this demographic potential and ensure its contribution to economic growth.

There are various opportunities and challenges associated with India's demographic advantage. The speakers stressed the need for skill development to bridge the gap between the available workforce and the required skill sets. The significant influx of new entrants into the job market and the untapped potential in tier two and tier three cities were discussed, but it was also noted that India faces a substantial deficit in employment. A large portion of the population remains unemployable, emphasising the need for skill development and academic improvements to meet the demands of the workforce. The talk outlined the innovation economy in India and the country's potential to transition from an outsourcing nation to an innovation hub. The importance of a strong education system, a robust flow of venture capital, and a culture of innovation and risk-taking were highlighted. The government can act as a catalyst in promoting startups and innovation. Various initiatives are taken by startups to bridge the gap between education and employable skills, especially in technology-related fields. There is an urgent need to decentralise opportunities and ensure that they are not concentrated in major cities. Workplaces must be diverse and inclusive, with access to opportunities from all segments of the society. In addition, disparities at various stages must be addressed. For instance, the issue of subconscious bias highlights that women and certain sections of society face bias in non-official ways, leading to a lack of diversity in various sectors. Hands-on experience in organisations plays a critical role in understanding how businesses operate and what challenges need to be addressed.

The discussion also incorporated the changing mindset of the younger generation in India and how startups have shifted the landscape by creating innovative solutions and products. Startups are viewed as bold and confident, offering unique approaches to problem-solving. There is still a long way to go, but the trajectory of innovation in India shows optimism. The conversation further delved into how public and private sectors can collaborate to drive innovation, focusing on the need for both to play distinct roles. The importance of implementing and executing effective policies related to education and technology was also emphasised to support the innovation economy in India. Additionally, the cost of labor in India has increased over time, leading to challenges for service providers like Tech Mahindra. Strategies such as training and providing skilled labor to customers were highlighted as innovative ways to adapt to these changing dynamics. To conclude, the unique challenges and opportunities for growth in India were reviewed, demonstrating the need for each sector to identify what they can contribute to maximise potential and address constraints.

Water Governance

The critical importance of water, both globally and in the context of India, was the key argument of this panel discussion. It highlighted how water is the foundation of many aspects of life, including food production and economic activities. Despite its significance, water is often taken for granted. On a global scale, a research study on 'water' depicted the growing challenge of water scarcity. It explained that water supply is relatively fixed across the world, but population

growth is increasing demand, resulting in water scarcity, particularly in South Asia and Africa. The scarcity of water resources often coincides with regions of fragility and conflict. The findings of the study showed that India faces a steeper decline and more severe water scarcity due to its high population growth. The monsoon season was discussed as a unique aspect of India's climate, with its inter-annual variability causing dry and wet shocks, affecting agriculture and livelihoods. The focus then shifted to India's irrigation practices. India has invested significantly in irrigation infrastructure, primarily relying on groundwater, making it the largest user of groundwater globally. This approach has improved food production and made India a significant agricultural exporter. However, this success has come at a cost. The excessive extraction of groundwater and the depletion of water resources have created a looming water crisis. The groundwater levels in India are much deeper than elsewhere in the world, highlighting the severe stress on this resource. The deepening of boreholes has been necessary due to the high demand for water, particularly for water-intensive crops like rice, sugarcane, and cotton. The talk also explained that when surface water irrigation infrastructure is developed, it often encourages the cultivation of water-intensive crops. However, the consequence of this is that the agriculture sector becomes more vulnerable to dry shocks due to water scarcity. In addition, the investment in surface water irrigation leads to more significant economic losses during dry shocks. Moreover, the impact of nitrogen pollution in water, primarily due to nitrogen fertiliser usage in agriculture, is becoming a growing concern worldwide, contributing to health issues and environmental problems. Excessive nitrogen usage has a significant impact on child development, leading to stunting in growth. Policies and regulations are essential to preserve the quality of water and protect it from pollution.

Various reforms on water governance, particularly the importance of local state governments in managing water governance. There is a need to emphasise how authority can re-centralize within state governments at the local level. Decentralisation does not always equate to a straightforward shift of power downwards but can lead to complex re-centralization. Secondly, institutions can reproduce inequality during this re-centralization process, which must be understood to address the challenges India faces today. Based on an in-depth study of the water bureaucracy in Tamil Nadu, decentralisation can lead to a redistribution of institutional authority rather than a direct shift of power. This can result in water governance becoming isolated from other sectors, ultimately leading to crisis management when competing water demands emerge. Second, water reforms can create and perpetuate inequality between metropolitan cities and smaller towns and peri-urban areas. This highlights the need for a more nuanced understanding of urban and rural dynamics. Also, the state may engage in extractive practices to address water scarcity issues, exacerbating inequalities. Lastly, the decentralisation process is influenced by the financial weaknesses of small towns and rural areas. Urban local bodies may struggle to secure private financing, weakening the rural bureaucracy's ability to manage agricultural water supply and demand. This leads to the integration of water user associations into the state bureaucracy.

Conversely, water security is a paramount challenge for India. This issue spans three critical areas: domestic water usage for agriculture, industry, and individuals, transboundary water management, and the impact of climate change. Domestic water security is essential for India's economic and national security. Ensuring reliable water sources, improving efficiency, and addressing water scarcity are top priorities. India's economic growth and stability are at risk if it cannot adapt to changing water dynamics effectively. Transboundary water issues pose unique security concerns, particularly with China and Pakistan. Competing territorial claims and water management practices can lead to tensions. Effective water management mechanisms and diplomatic engagement are crucial to preventing conflicts. The Indus Water Treaty between India and Pakistan, mediated by the World Bank, has successfully governed water resource

sharing for six decades. Although disputes have arisen, using dispute resolution mechanisms has been more common than abrogating the treaty.

Climate change is another factor which will complicate water governance and lead to challenges like managing reservoirs for potential floods and droughts. Addressing climate change is vital. India and its neighbours face complex challenges due to glacier melt, irregular monsoons, and increased climate-related risks. These issues can result in population displacement, food security concerns, and economic instability.

In addition, NGOs can play a crucial role in addressing water-related issues in India, but their effectiveness depends on various factors, including how they are supported by the state and the donor community. NGOs often initiate innovative projects and solutions; the challenge lies in scaling up these initiatives to have a broader impact. When they are successful, it is usually because of their long-term engagement with local communities, resource management, and negotiation with different stakeholders.

The effectiveness of NGOs can also vary depending on the local social and economic conditions. For example, they might face challenges in areas with complex caste realities and land distribution issues. In such cases, collaboration between NGOs and local institutions becomes essential. Local governments, like panchayats, have specific responsibilities and functions related to drinking water and irrigation, making them critical partners in addressing water-related challenges. Rather than excluding the state, decentralization and collaboration with state institutions can be a way to facilitate convergence between NGOs and local governments. This allows for the integration of government resources and infrastructure while building social capital over time. Capacity-building at the local level is essential, and NGOs can contribute to this by providing training and support. Hence, it's crucial that these NGOs establish meaningful connections with state institutions to ensure the sustainability of their efforts.

Importance of Education: Foundational Literacy and Numeracy

The concept of "learning poverty" and its impact is as detrimental as monetary poverty. Learning poverty, defined as the inability to read and understand a simple text by a certain age, is particularly prevalent among poorer children. It is argued that learning poverty restricts economic, social, and political opportunities just like monetary poverty does. Furthermore, there is interconnectedness between foundational literacy and numeracy with quality educational outcomes, the health of the education system, and the economic growth of a nation. The need to address wealth inequality alongside economic growth is significant. There has been an increase in learning poverty in India, especially in the aftermath of the COVID-19 pandemic. The report on 'Foundational Literacy and Numeracy' (FLN) is introduced as an instrument to combat poverty, specifically through language in the new education policy. The elements needed for a comprehensive literacy experience, especially in the Indian context, and the complexities of the Akshara-based script are critical to improving the learning outcomes of the learners. The discussion also underlines the challenges of teacher shortages, multi-grade classrooms, and the importance of parental awareness. Despite these challenges, it is acknowledged that progress is made through various interventions, particularly by the government systems and leadership. The enabling environment created by the National Education Policy (NEP) 2020 and budget allocations provides an opportunity to address learning poverty, urging stakeholders to work together to maintain momentum and transform the education system.

The discussion entails the need for early learning to address and promote gender-transformative education. Educational curriculum can help in shaping gender norms and foundational learning

should actively address gender stereotypes/biases to ensure equality from the very beginning. Mentorship can significantly impact the education system in a positive manner. Technology can be leveraged in supporting and providing accountability for mentors and teachers, allowing them to make the right decisions. It has the potential to serve as a "buddy" or coach, guiding educators and parents in providing effective support for children's learning. The notion of businesses getting involved in education is also discussed. A shared value approach must be encouraged, where businesses actively engage in solving education-related problems that align with their corporate interests. It is suggested that businesses invest in their human capital by involving their employees in volunteering and addressing educational challenges, emphasizing the long-term benefits of such investments.

To improve reading outcomes and create a solid foundation for basic numeracy and literacy, a holistic approach must be adopted. Drawing on lessons learned not just in India but from the education programs worldwide, the importance of collaboration is paramount. NGOs, government bodies, and academia need to work together to develop a common understanding and reach shared goals. Sustainable impact is another key focus, seeking to create lasting, meaningful programs that encourage students to stay in school and maintain enthusiasm for learning. Efforts are aimed to break down societal norms and barriers. It is essential to focus on a systems-level approach to ensure consistent and effective outcomes across different states. Efforts must be taken to identify and replicate best practices from one state to another, promoting a community of best practices. Every individual can play a role in transforming their communities and work closely with communities to develop solutions. Inclusivity is a top priority in all education programs.

Foundational learning is a critical part of the broader education system as it lays the foundation for every individual for a better future. Broadly, the discussion brought together diverse perspectives on gender-transformative learning, technology, and business involvement, highlighting the multifaceted approaches to improving foundational learning in India.

LiFE: India Walking the talk on Climate Action

Over the past eight or nine years, India has made significant strides in delivering services at an unprecedented scale and speed, not limited to just basic services but also catering to the aspirations of its people. The focus has been on enhancing the quality of life for its citizens. India's progress has been remarkable, even amidst global economic challenges, maintaining a growth rate of seven per cent. Additionally, the country has strengthened its macroeconomic fundamentals and achieved impressive milestones in various sectors. With 800 million internet users, a thriving fintech ecosystem, and high rankings in terms of retail development and state governance, India is positioning itself as a global leader in various domains. Under Prime Minister Modi's leadership, there's a clear vision to transform India into a developed economy by 2047, aligning with the 100th anniversary of its independence. While this is an ambitious goal, the achievements and momentum gained over the last decade suggest that India is on the right path.

One significant initiative was the Swachh Bharat Mission (Clean India Campaign), a bold move announced by Prime Minister Modi, setting the goal of making India open defecation-free by October 2, 2019, within just five and a half years. This mission aimed at more than just infrastructure; it focused on behavioural change and required a massive effort to transform the mindset of people. It involved a comprehensive approach, from mass media campaigns to ground-level behaviour change agents, making India open-defecation-free. The construction of 110 million household toilets was a testament to this mission's scale, enhancing the dignity and

safety of millions, especially women and girls. India also witnessed the distribution of 370 million LED bulbs, leading to significant energy savings and improved living conditions. The financial inclusion program, Jan Dhan Yojana, brought banking services to many unbanked citizens, particularly benefiting women and girls. The Jal Jeevan Mission, aimed at providing functional household tap connections in rural areas, is another massive effort, significantly enhancing the quality of life for those previously fetching water from afar. Housing for 30 million households, direct benefit transfers, electrification, and Ayushman Bharat, the world's largest health insurance scheme, have all contributed to improving lives at a remarkable scale. These examples illustrate how India, under Prime Minister Modi's leadership, has placed a strong emphasis on delivering basic services and infrastructure to its citizens, demonstrating impressive progress over the last eight to nine years. This has been a crucial part of India's journey towards becoming a developed economy by 2047, setting the stage for even more significant achievements in the future.

Health insurance under the Ayushman Bharat scheme, rural electrification, and improving road infrastructure are all part of the government's efforts to enhance the quality of life for its citizens. The digital revolution in India has been a game-changer, with the government emphasizing digital identity, inclusiveness, and paperless, cashless, and presence-less transactions. The India Stack, a digital public infrastructure, has played a crucial role in this transformation. The themes of digital economy and data for governance are critical discussions in the G20, and India seeks to be a voice for countries from the global south. India's startup ecosystem has also witnessed tremendous growth, with an ever-expanding number of startups and unicorns, making it a driving force of economic growth.

Healing the Economy: Estimating Economic Impact of Vaccination and Related Measure

Estimating the economic impact of vaccination and related measures is essential to build an understanding of the far-reaching consequences of the COVID-19 pandemic. Across the globe, the pandemic brought about significant negative impacts that reverberated through economies, causing a standstill. Amid this global crisis, India stood out with a response that was noteworthy in its magnitude and effectiveness. The Ministry of Health initiated numerous critical initiatives, including vaccination and vaccine development, which were crucial in India's comprehensive response to the pandemic. Together with the Ministry of Health, a research study was conducted, offering a closer look at the economic impact of these initiatives, reflecting the dedication and effort put forth to combat the pandemic's consequences.

The study highlights the significance of India's healthcare management during the pandemic, showcasing the involvement of various stakeholders and strategies adopted by the government to build a resilient healthcare system. The primary focus has been on delivering value to patients rather than merely reducing costs. By encouraging the free flow of information, the government has paved the way for value-based competition and innovation in healthcare, enhancing the overall patient experience. The study highlighted three crucial aspects of India's response to the pandemic: containment, vaccination, and economic relief. These areas are integral to understanding the holistic approach taken by India to mitigate the multifaceted impacts of the pandemic. Containment was one of the initial measures adopted to curb the spread of the virus. Lockdowns and restrictions had a direct economic cost, but they were necessary to save lives, prevent overwhelming the healthcare system, and buy time for healthcare infrastructure development. While containment measures had a negative impact on GDP, they were instrumental in averting the catastrophe. Vaccination emerged as a driving force in the battle against COVID-19. India embarked on an ambitious vaccination campaign, facing challenges ranging from vaccine hesitancy to logistical complexities in reaching diverse segments of its

population. To quantify the economic benefits, various methodologies were applied, including minimum wage, GDP per capita, and GDP per employed person. Relief packages provided by the government played an important role in supporting the economy during these challenging times. The relief extended to micro, small, and medium-sized enterprises (MSMEs) helped protect jobs and safeguard livelihoods. Moreover, relief packages encompassed several key sectors, and their substantial financial support provided a lifeline to those affected by the economic ramifications of the pandemic.

This comprehensive analysis reflects the complexity of India's response to COVID-19, emphasizing that the economic impacts cannot be viewed in isolation. The Indian government's multi-faceted approach to containment, vaccination, and relief highlights its commitment to saving lives, preserving the healthcare system, and stimulating economic recovery. While this analysis provides an initial estimate of the economic impact, a more refined assessment will emerge over time, providing valuable insights into India's proactive response to the pandemic. A careful examination of different relief packages was undertaken, resulting in various versions to assess their economic impact. The response to the pandemic in India was characterised by a strong emphasis on science and evidence-based decision-making, supported by political will and agility in adjusting strategies. Key elements included surveillance and containment, infrastructure preparedness, logistics, clinical management guidelines, human resource capacity building, risk communication, vaccination efforts, and financial and rehabilitation packages. The agility of the response allowed India to adapt quickly to changing circumstances and was a crucial factor in its effectiveness. Furthermore, the use of information technology played a crucial role in human resource capacity building and training. There was a focus on creating digital training modules for healthcare professionals to ensure uniformity in the response. The financial support provided by the government for health infrastructure was significant, and a continuation of this support was planned through various ongoing programs.

India's Transformation through digital public infrastructure

In the last two and a half decades, most tech innovations have come from big tech companies like Microsoft, Meta, Google, Apple and Alibaba. However, India has taken a different approach by creating a digital public infrastructure that allows private sector innovation at the top of a public foundation. This model has had a transformational impact in India, consisting of three key layers: identity, data empowerment, and payment. The first layer is identity, with every Indian having a digital identity. The second layer is data empowerment, which gives citizens ownership of their data and enables secure data sharing. The third layer is the payment system, known as the Unified Payment Interface (UPI), which allows fast, cheap, and interoperable transactions. India first established universal digital identities, and then opened bank accounts for hundreds of millions of people, linking them to digital identities. Today, nearly a billion smartphones are linked to these digital identities, facilitating seamless mobile-to-mobile transfers. India's digital public infrastructure is a set of digital public goods which are open source and affordable. This approach has led to low-cost development, broad accessibility, and wide-scale adoption. Moreover, India's modular open-source identity platform, the MOSIP, has been adopted by several countries worldwide. It offers an official proof of identity that can adapt to different contexts and internet connectivity levels. The Aadhar system, with over 1.3 billion unique IDs generated, has enabled widespread financial inclusion and secure, real-time transactions.

The digital infrastructure has delivered four key benefits: inclusion, direct delivery of social services into bank accounts, prevention of digital monopolisation, and enhanced security and privacy. It has facilitated the delivery of social services directly to beneficiaries' bank accounts, eliminating leaks and improving the effectiveness of government schemes. Most importantly, it

has prevented monopolisation in the digital space by allowing competition and innovation on a government-owned platform. The digital infrastructure has further expanded into various sectors, including education, healthcare, and taxation, contributing to the massive digitisation of India's economy. With an extensive network of banks and real-time consistent payments, India now conducts 11 times more transactions than the USA and Europe. India's digital infrastructure is also scalable and adaptable, making it accessible even in areas with low internet connectivity.

There is significant competition in the private sector, and India's digital public infrastructure has been made accessible and available in all regional languages. This inclusivity allows every Indian to access these services. As a result, the digital infrastructure's various components, starting with identity, have led to an incredible effect. Identity led to payment systems, which then enabled lending and personal finance. In this trajectory, it has become possible for users to create accounts for insurance and manage finances digitally. The world faces the challenge of four billion people without digital identities, two billion unbanked, and 133 countries without digital payment systems. India's model can potentially bring digital identity, banking services, fast payments, and streamlined government schemes to these populations. India's G20 presidency presents a unique opportunity to use this digital public infrastructure model to transform the lives of citizens in the global South. This approach aligns with the global movement towards digitalization and green technologies. The digital public infrastructure model could be the way forward to catalyse digital and green transformation worldwide.

At the same time, India's digital infrastructure has also faced criticism and challenges, especially regarding privacy. However, the outcomes speak for themselves, with substantial financial inclusion, direct welfare delivery, and prevention of digital monopolies. The digital ecosystem continues to grow and innovate. One important aspect of this transformation is the financial sector. Payment systems have become highly efficient, and numerous startups are leveraging India's digital infrastructure to provide solutions to millions. India's progress in agriculture is part of this broader transformation. The India stack, UPI, and related technologies are being used to revolutionise the agriculture sector, bringing innovative solutions to rural and agricultural communities. Addressing privacy concerns, India has established a data empowerment protection architecture, ensuring that individuals have control over their data and who can access it. The transition to digital has been well-received by the Indian population, and the financial sector has experienced a digital revolution. The government is also pushing for digital transformation in other sectors, including agriculture. While cash may still be in circulation, there has been a significant formalisation of the Indian economy. The formalisation process is marked by the growing use of digital payment systems, such as UPI and GSTN. Furthermore, there's a focus on ensuring that bank accounts are active, especially for women. The Pradhan Mantri Jan Dhan Yojana has significantly increased women's financial inclusion, with a substantial amount of money in active bank accounts.

India's digital public infrastructure has revolutionised the country's digital landscape, enabling inclusive financial services, direct welfare delivery, prevention of digital monopolies, and enhanced security and privacy. This approach, which promotes competition on a government-owned platform, serves as a global model for digital transformation.

Redefining Healthcare

Healthcare in India, in many ways, serves as a proxy for healthcare worldwide. India represents a first-world healthcare ecosystem in certain regions, a middle-income healthcare ecosystem in others, and underserved global health in underserved areas. The discussion covered why healthcare innovation is essential in India and the role of initiatives to support it.

A healthy population is crucial for sustained economic growth, with estimates suggesting that a two per cent annual growth could be compromised without a healthy society, resulting in a cumulative loss of two trillion dollars by 2030. Over time, India's disease burden has shifted from infectious diseases to lifestyle and chronic illnesses. The burden of non-communicable diseases now affects not only major cities like Delhi and Mumbai but also smaller cities and rural areas that are essential for the nation's future growth. The ability of these regions to grow economically is tied to their overall health. Despite increased government spending, healthcare in India still lags behind. The current trajectory leaves India far behind major global economies in terms of healthcare spending. To address India's healthcare challenges, the country needs to transition from a sick care system to a healthcare and wellness model. The current system primarily engages when individuals fall ill. However, to ensure sustained growth and prosperity, the focus must shift towards maintaining the health and wellness of communities and societies. The transformation from sick care to healthcare and wellness requires significant investment. The gap between the current healthcare system and the envisioned model is estimated to be a substantial 200 billion dollars per year. Digital health also holds great promise in India's future healthcare landscape, aligning with the global shift towards digital health solutions. During the COVID-19 pandemic, the need for innovation in healthcare accelerated. India invested billions of dollars in hundreds of healthcare startups during this period, highlighting the potential of this sector. However, the challenge is scaling these technologies to reach larger populations. A long list of hurdles, including regulation and healthcare infrastructure limitations, poses major challenges to scaling up these innovations.

India needs an extensive educational program focused on cultivating an innovative mindset across the entire healthcare value chain. Policy frameworks are necessary to ensure the smooth development and implementation of health technologies. India's potential in medical devices and health technologies could lead to a trillion-dollar industry, similar to its success in vaccine production. Broadly examining the state of global biomedical innovation reveals that we are currently experiencing a golden age of biotechnological advancement. With over 8,000 new medicines in development worldwide, many are first-in-class treatments for various diseases. These include 850 medicines for cancers, as well as those addressing rare, tropical, and neglected diseases. Challenges such as Alzheimer's treatment have proven incredibly difficult, with only four out of the last 146 drug candidates succeeding in clinical trials, resulting in a 97 per cent failure rate. Yet, pushing the boundaries of biomedical innovation forward can yield tremendous benefits for society.

Shared challenges extend across both developed and developing countries. Non-communicable diseases like cardiovascular disease, cancer, and diabetes account for 77 per cent of fatalities in developing nations. India, for instance, bears 80 per cent of the global cardiovascular disease death burden. Managing economic challenges presented by chronic conditions like diabetes and heart disease is a critical endeavour, given that 62 per cent of India's total disease burden is attributable to chronic diseases. Diseases like heart disease, stroke, and diabetes have a significant economic impact, reducing India's GDP by at least 1 per cent annually. It is crucial to acknowledge that innovative medicines, far from being drivers of healthcare costs, can actually help alleviate them. Digital infrastructure is another essential aspect, enabling remote biological services, including radiology and healthcare data management.

The world has made remarkable progress in various healthcare indicators, such as maternal and child mortality. Innovations in biotechnology and healthcare technologies have opened doors to addressing diseases previously thought untreatable. The ongoing technological revolution, including mRNA breakthroughs, offers hope for tackling some of the world's most pressing

health challenges. Health systems strengthening is another critical aspect. Beyond the physical infrastructure, the focus should be on the healthcare workforce, ensuring they are adequately compensated and addressing workforce shortages. A holistic approach to health systems that integrates both public and private healthcare services is essential for serving the entire population. A transition from vertical thinking to development assistance is necessary. The issue of national security versus global health security is a complex challenge. A collective response, where countries come together to share information and data, is necessary to prevent the failures we experienced during the pandemic. India's experience can inspire other countries in the global South to strengthen their capacity for pharmaceutical production and healthcare delivery.

Digital health should not be an end in itself but a means to improve healthcare outcomes and share information effectively. Transparency in data sharing, both within countries and among nations, can help decision-makers respond to outbreaks and prioritize investments more effectively. In essence, the focus should be on leveraging digital tools to ensure that the required information reaches the right hands at the need of the hour for better healthcare impact. Digital health and telemedicine can play a significant role in extending healthcare services to remote areas. This would require building a robust digital infrastructure and ensuring that the benefits of technology reach every corner of the country, even among those with limited resources. Furthermore, healthcare financing needs to be revamped. Implementing comprehensive health insurance schemes, promoting health savings accounts, and ensuring that no one is pushed into poverty due to healthcare expenses are crucial steps.

There are five A's in challenges of public health which need to be addressed. These challenges include awareness, access, adequacy of healthcare personnel, affordability, and accountability. Firstly, increasing awareness of best health practices among individuals is essential, as it empowers people to take control of their health. Followed by access to healthcare facilities, which is a serious challenge, with a vast urban-rural divide in healthcare infrastructure. Innovative solutions, especially using technology, should be employed to extend medical services to remote areas cost-effectively. Thirdly, the adequacy of medical healthcare personnel is another critical issue, with an estimated shortage of over 2 million doctors by 2035. Training and retaining healthcare professionals, especially in rural areas, is essential. Fourthly, affordability of healthcare is a concern for over 30% of India's population. Initiatives to provide financial protection for healthcare expenses are needed. Lastly, ensuring accountability in the healthcare system to deliver expected standards of service is paramount.

Therefore, in order to reimagine the healthcare system in India, particularly in the context of low-middle-income countries, it would need to be a comprehensive and equitable system. The first and most crucial step would be to prioritise universal healthcare coverage. This means ensuring that every citizen has access to a basic package of essential health services without suffering financial hardship. It can be achieved through a combination of public and private sector participation, with strong government oversight.

Entrepreneurship and Innovation for Sustainability

The panel discussion introduced the theme of sustainability in India's innovation and entrepreneurship ecosystem, emphasising the importance of considering sustainability beyond its environmental and societal aspects. The focus was on the role of innovation and entrepreneurship in driving India's economic growth and the unique path it is taking in this regard. The discussion begins with a brief on the stages of economic growth, highlighting the key phases in a country's development, from factor-driven to efficiency-driven and finally to innovation-driven. The path that India is currently on was noted as somewhat distinct, showing a

high GDP growth rate despite being in the factor-driven stage. This shift could be attributed to several factors, including innovation within the country and its growing presence on the global stage.

India's evolving economy was further elaborated, with a transition towards becoming an innovation-driven economy. There have been changes in business opportunities, the role of national champion companies, and the shift in economic growth drivers. The shift towards more diverse business models, greater innovation, and increased overseas revenue highlighted India's unique journey. The evolution of India's entrepreneurial landscape was highlighted, noting that many startups are now focusing on fulfilling global needs rather than solely catering to the Indian market. The significance of this shift was outlined as India's startup ecosystem gained international recognition and appeal. Paytm, as an example, showcased how Indian startups are expanding their reach to international markets.

Venture capital investments in India were discussed, revealing a consistent increase over the years, although influenced by the impact of the COVID-19 pandemic. Foreign investors remained attracted to India, indicating a strong global interest in India's startup ecosystem. India's status as a breeding ground for unicorns, private companies valued at over a billion dollars, was acknowledged. It surpassed China in producing unicorns in 2021, becoming the third-largest unicorn hub globally. The discussion also highlighted the significance of market governance or "Market craft" in addressing critical challenges like innovation, inequality, and public health, emphasising the essential role of government in creating the regulatory foundations for market infrastructure. The dichotomy between government intervention and the free market is fundamentally misleading. All markets are governed, meaning there is no true "free market." As a result, markets must be actively constructed and reformed to support entrepreneurship. Rather than merely removing regulatory burdens or reducing taxes, government policies should focus on creating dynamic market infrastructure to encourage entrepreneurship. The example of the United States economic policies, particularly during the Reagan era, demonstrated that a focus on reducing regulations and taxes may not necessarily benefit entrepreneurs. In practice, these policies often favour established incumbents over challengers, leading to value extraction rather than value creation. Consequently, entrepreneurs require opportunities to compete, necessitating active government support. Applying the concept of Market craft to the Indian context, the discussion recognized that the Modi government has pursued a broad market craft agenda. However, tensions exist between the goals of reducing government involvement and striving for better governance. It was suggested that, rather than aiming for "minimum government, maximum governance," a more effective goal could be "better government for better governance." In addition, several areas in India were examined, including labour market reform, formalization, antitrust policy, financial regulation, corporate governance, and insolvency and bankruptcy codes. Each domain presented challenges and opportunities, highlighting the need for a balanced and active government approach to enhance market infrastructure and promote entrepreneurship.

One critical aspect that emerged from the research is the age of entrepreneurs. Contrary to the common notion of young, innovative startups, data indicates that older individuals, up to the age of 70, are more likely to establish successful companies. This is because experience, knowledge of the industry, and social connections are essential for entrepreneurial success. Moreover, it was emphasized that entrepreneurship in regions like Silicon Valley often neglects the broader social conditions and inequality issues that persist. The focus tends to be on the few high-profile tech companies while overlooking the vast majority of workers struggling to make ends meet. To address these concerns, scholarly research was conducted to evaluate national efforts aimed at promoting entrepreneurship, and the evidence indicated that many of these efforts did not yield

the desired results. It was noted that policies aimed at increasing the supply of entrepreneurs often resulted in the creation of lower-performing firms and exacerbated economic inequalities. A comparative analysis of entrepreneurship across countries shows that while entrepreneurship tends to thrive in low-income economies, advanced countries exhibit a more consistent rate of entrepreneurial activity. This observation suggests that factors beyond market craft, such as wealth and social conditions, significantly influence entrepreneurial activity.

The discussion emphasised the importance of good policies and institutional conditions in promoting entrepreneurship. A reliable government, stable currency, predictable tax structure, transparent court systems, regulated market rules, strong exit institutions, and stable property laws were identified as key factors. It is crucial to create a demand for entrepreneurs and design policies that encourage the right individuals to enter the entrepreneurial ecosystem. The need for more advanced technology investment by governments and a focus on promoting large companies was discussed. It was also suggested that education should support equipping well-rounded and adaptable citizens to identify opportunities and overcome challenges.

Integration of Economic Growth and Social Progress

One of the central themes of the conference is the critical relationship between economic development and social progress. India has seen remarkable progress in various aspects, but there remains a significant gap that needs to be addressed. These disparities can be quantified by analysing various data sets, particularly in the context of ease of living. This concept considers data related to government schemes, focusing on improvements and gaps. The framework of social progress revolves around addressing basic needs, elements of welfare, and the scope for human betterment. India is currently emphasising two key pillars for its progress: "ease of living" and "ease of doing business." These two aspects, when optimised, are seen as crucial for the nation's development. India's goal is not only to achieve a higher per capita income but also to improve infrastructure and the quality of life for its citizens.

India is a vast and diverse country, and to understand its development, we need to look at it spatially, considering its states and districts. There are substantial disparities among Indian districts, with some contributing significantly to the country's GDP and exports while others lag behind. This spatial diversity poses a unique challenge to India's development agenda. Ease of living varies significantly across India. States like Tamil Nadu and Kerala have achieved high levels of quality of life, while others like Uttar Pradesh and Bihar face substantial challenges. The country's aspirations for growth are intricately linked to bridging these gaps and uplifting its underdeveloped districts. Sectors like water and sanitation have made substantial progress, improving the living conditions for many citizens. However, specific regions, particularly in the Indo-Gangetic plain, still face challenges and need special attention due to their large population and potential for driving India's development. To evaluate India's progress, understanding India's diversity and addressing specific regional disparities can further support the nation's development agenda. The discussion concentrates on the structural aspects of development at various levels: local, state, national, and international. At the local level, there is immense potential for harmonising economic and environmental progress. Often, these aspects are considered to be in conflict, but this perception may not be accurate, especially at the local level. However, local governance remains an under-discussed topic in India. Political power is predominantly concentrated at the state level, overshadowing the significance of local governments. To improve public goods and services, decentralisation is crucial. By empowering local governments with fiscal and administrative authority, service delivery can happen more efficiently, and environmental concerns can be addressed better.

To address environmental concerns effectively, there is a need to depoliticise environmental regulation and provide more autonomy to pollution control boards while allowing them to impose pollution fees. This income could then be directed toward compensating industries for adopting cleaner technologies and implementing environmental cleanup. Additionally, the underestimated impact of climate change must be recognised. The consequences of a one-degree increase in temperature are already affecting crop yields, manufacturing, and the informal sector, especially for those working outdoors. At the global level, the impending consequences of climate change require a robust response. It's essential to explore solutions like solar radiation management, specifically stratospheric aerosol injection which can significantly lower global temperatures. Though there are uncertainties and potential side effects, these should be weighed against the projected climate conditions in the coming decades, which are bound to be unprecedented. There is a compelling need for more investment, research, and proactive action, with India having the capacity to contribute significantly to these efforts. Addressing environmental concerns, local governance, and global climate change should be a well-planned strategy to ensure sustainable development and better living conditions.

The discussion also emphasises the importance of measuring social progress and how it aligns with environmental and economic considerations. It highlights the need for a more inclusive approach to measurement, especially in countries like India, where rapid economic growth can result in externalised costs. The conversation highlights the crucial role of social progress measurement in climate change mitigation and adaptation, especially concerning the resilience of infrastructure. The relationship between climate modelling and infrastructure impacts is discussed as a driver for shaping investments. It is also noted that the Social Progress Index (SPI) explicitly does not replace GDP but instead offers insights into the relationship between GDP growth and broader social outcomes. At any given GDP level, there is a wide variation in social progress achieved, emphasising the importance of ensuring that economic growth genuinely improves the quality of life for citizens. In the Indian context, the SPI has witnessed significant improvements over the years, particularly in addressing basic human needs. As India progresses toward becoming a middle-income and high-income country, there will likely be a shift in focus from foundational well-being to opportunities for its citizens. SPI plays an important role in benchmarking, creating a learning culture among policymakers, and helping leaders identify areas of weakness to improve societal outcomes. The index can serve as a tool for tracking progress over time and promoting political stability.

Key Learnings

India's economic progress, driven by urbanization, economic formalization, and agricultural transformation, aims for sustained growth with a focus on inclusivity, digital transformation, and improved connectivity. The U.S.-India relationship is crucial, emphasizing expanded trade, strengthened ties, and gender equality for enhanced economic growth. Shaped by a youthful labour force, policy reforms, and improved infrastructure, India faces challenges that could potentially be navigated through the Competitiveness Roadmap for India@100 with a focus on inclusive growth.

Regional dynamics within India vary, necessitating an understanding of differences and the impact of policies. In manufacturing, challenges with labor laws are acknowledged along the sector's potential for economic growth and job creation is recognized. Simplified competitiveness measures, positive trends in education and infrastructure, and strategic FDI attraction are highlighted, addressing issues like taxation and infrastructure issues. The evolving labor landscape stresses targeted interventions for women, youth, and skill development, aligning with India's innovation potential. Public-private collaboration is vital for promoting innovation.

On global water scarcity, it was highlighted that countries in South Asia and Africa are affected significantly, due to population growth and this poses a substantial challenge. India, reliant on groundwater for irrigation, faces impending water crises and severe stress on groundwater resources. Urban-rural dynamics, combined with state extractive practices, can exacerbate water scarcity. The nexus between foundational literacy and numeracy and educational quality, systemic health, and overall economic growth is emphasized. India grapples with an increase in learning poverty post the COVID-19 pandemic, requiring comprehensive strategies. The solution involves a holistic approach and collaboration across NGOs, government entities, academia, and businesses, advocating for a systems-level perspective and prioritizing inclusivity for lasting impact.

On health, India's response to the COVID-19 pandemic was characterized by a detailed and structured strategy, consisting of containment measures, a country-wide vaccination campaign, and targeted economic relief packages. Despite economic costs associated with containment, the emphasis on preventing healthcare system overload was prioritized, recognizing the inherent trade-off. Government relief packages, particularly for MSMEs, played a crucial role as a lifeline, safeguarding jobs and providing substantial financial support across sectors. Overall, the response was marked by adaptability in strategies, and a focus on evidence-based approaches, leveraging information technology for the training of healthcare professionals. In addition, India's entrepreneurial landscape presents a distinctive trajectory marked by high GDP growth even in the factor-driven stage, indicative of innovation's significant role. The nation's startups gain global recognition, attracting foreign investments and surpassing China in unicorn production. Despite pandemic hurdles, venture capital investments in India continue to rise. The discussion emphasized a balanced government approach, shifting from "minimum government" to "better government for better governance" for effective entrepreneurship support. Contrary to the perception of youthful entrepreneurs, data suggests older individuals contribute significantly, urging policies to address broader social conditions and economic inequalities for sustainable entrepreneurship. Overall, India's entrepreneurship journey reflects innovation's influence on economic development and global appeal.

On socio-economic progress, the discussions focused on the intricate relationship between economic growth, social progress, and environmental sustainability in India. Despite significant advancements, regional disparities persist, emphasizing the need to bridge gaps among states and districts. The discourse on integrating social progress in economic development, spanned issues like water and sanitation progress, the importance of local governance through decentralization, and proactive measures for environmental concerns, including climate change. In this regard, the Social Progress Index (SPI) serves as a crucial tool, showcasing improvements in basic needs and aiding in benchmarking for future progress. This holistic approach advocates for a well-planned strategy to ensure India's sustainable development.

Reflecting on the interactions from the conference, three key takeaways emerge. Firstly, it is essential to acknowledge the need for another conference, creating a continuous platform for meaningful discussions. This cyclic engagement allows for the sustained exchange of ideas, encourage a dynamic intellectual environment. Secondly, the unique nature of this conference, offering both an inside view from government perspectives and an outside view, brings a valuable dimension to the discourse. The inclusion of voices from both realms, even if occasionally critical, enriches the dialogue and provides a more comprehensive understanding. Papers and insights presented during the conference could further contribute to knowledge if published and made readily accessible. The third takeaway suggests a potential focus for a sequel. To enhance the conference's depth, dedicating a specific day to discussions about the states, with representation from both the government of India and state authorities, could offer a nuanced

perspective. This focused approach ensures a comprehensive understanding of the intricacies of governance at both national and state levels. India's developmental journey has been a 'miracle', particularly commendable for its attempts to retain the benefits of diversity and move forward in a socially inclusive manner. The conference emphasised the need for a thoughtful approach to promoting India's model, ensuring it goes beyond supporting national interests.