

From Make in India to Viksit Bharat 2047: Manufacturing, Employment, and Sustainable Development in India

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Abstract

India's economic trajectory is marked by ambitious policy initiatives aimed at transforming its manufacturing landscape, generating widespread employment, and achieving sustainable development. This paper undertakes a detailed analysis of two pivotal government visions: "Make in India" (launched in 2014) and "Viksit Bharat 2047" (the vision for a developed India by its centenary of independence). It critically examines the evolution of manufacturing policies, their impact on employment generation, and their alignment with the broader goals of sustainable development. Drawing on a comprehensive review of extant literature, policy documents, and economic reports, the paper elucidates the objectives, achievements, and persistent challenges associated with Make in India, particularly in fostering a robust domestic manufacturing base, attracting foreign investment, and enhancing global competitiveness. Furthermore, it delves into the intricate relationship between manufacturing growth and the quality and quantity of employment, exploring issues such as skill development, formalization, and the implications of automation. The core argument posits that while Make in India laid foundational groundwork, the journey towards Viksit Bharat 2047 necessitates a more integrated, human-centric, and environmentally conscious approach. The paper articulates how the vision of Viksit Bharat 2047 expands upon previous industrialization efforts by embedding principles of green growth, social equity, and technological innovation. It investigates the synergies and potential trade-offs between rapid industrialization, job creation, and environmental stewardship, proposing policy recommendations to navigate these complexities. Ultimately, this research provides a nuanced understanding of India's developmental aspirations, highlighting the critical role of manufacturing and employment in achieving a prosperous, equitable, and sustainable future for all Indians by 2047.

Keywords: Make in India, Viksit Bharat 2047, Manufacturing, Employment, Sustainable Development, Economic Growth, Industrial Policy, Skill Development, Green Growth, India.

1. Introduction

India, a rapidly emerging global economic power, stands at a critical juncture in its developmental journey. With a vast young demographic, a burgeoning consumer market, and growing geopolitical influence, the nation has embarked on a transformative path characterized by ambitious policy initiatives aimed at accelerating economic growth and enhancing the quality of life for its citizens. Central to this transformation are two interconnected national visions: "Make in India," launched in 2014, and the more encompassing long-term goal of "Viksit Bharat 2047" (Developed India by 2047). These initiatives reflect a strategic shift towards leveraging domestic capabilities, attracting global investment, and fostering innovation to build a self-reliant and globally competitive economy (Government of India, 2014, 2023).

The "Make in India" initiative was conceived with the primary objective of transforming India into a global manufacturing hub, boosting domestic production, attracting foreign direct investment (FDI), and generating employment across various sectors. It sought to address persistent challenges such as a relatively small manufacturing share in GDP, an informalized labor market, and a reliance on imports for critical goods (DIPP, 2014). By focusing on 25 key sectors, Ease of Doing Business reforms, and infrastructure development, Make in India aimed to create a conducive environment for both domestic and international investors to manufacture in India (NITI Aayog, 2018). While it has achieved notable successes in certain areas, such as increased FDI inflows and improved global rankings in Ease of Doing Business, its impact on employment generation, particularly formal employment, and its ability to significantly uplift manufacturing's share in the economy have been subjects of ongoing debate and scrutiny (IMF, 2022; World Bank, 2021).

Building upon the foundations laid by initiatives like Make in India, the vision of "Viksit Bharat 2047" articulates a bolder, more holistic aspiration for India to become a developed nation by its centenary of independence. This vision transcends purely economic metrics, encompassing robust economic growth, social progress, environmental sustainability, good governance, and technological advancement (Government of India, 2023). It recognizes that true development is multifaceted and must address issues of equity, resilience, and intergenerational well-being. Achieving Viksit Bharat 2047 necessitates a strategic re-evaluation of past policies, identifying successes to scale up and shortcomings to rectify. Manufacturing, with its potential for forward and backward linkages, employment multiplier effects, and contribution to export earnings, is undeniably a critical pillar in this long-term vision. However, this growth must be intrinsically linked with creating high-quality, sustainable employment opportunities and ensuring ecological balance, aligning with global sustainable development goals (SDGs) (UN, 2015).

This research paper aims to undertake a detailed academic analysis of the journey from Make in India to Viksit Bharat 2047, specifically focusing on the interconnected roles of manufacturing, employment, and sustainable development. It seeks to critically examine the effectiveness of Make in India's strategies, assess its impact on the ground, and understand how these outcomes inform the ambitious goals of Viksit Bharat 2047. The paper will explore the synergies and potential trade-offs inherent in pursuing rapid industrialization, job creation, and environmental stewardship simultaneously.

The primary objectives of this paper are:

- I. To review the policy framework, objectives, and key initiatives of Make in India and evaluate its achievements and challenges in boosting manufacturing and attracting investment.
- II. To analyze the impact of Make in India on employment generation, with a focus on both quantitative and qualitative aspects, skill development, and formalization of the workforce.
- III. To articulate the vision and core tenets of Viksit Bharat 2047, highlighting its broader developmental goals beyond economic growth.
- IV. To critically assess the integration of sustainable development principles within current manufacturing policies and map the pathways for achieving environmental and social sustainability towards 2047.
- V. To identify the crucial interlinkages, synergies, and potential contradictions between manufacturing growth, employment demands, and sustainable development imperatives in India's developmental trajectory.
- VI. To offer policy recommendations for a more inclusive, resilient, and sustainable manufacturing-led growth model that can effectively steer India towards the Viksit Bharat 2047 vision.

Through this extensive analysis, the paper will contribute to a deeper understanding of India's ongoing economic transformation, providing insights for policymakers, researchers, and stakeholders on navigating the complex path towards a developed and sustainable nation. The scope of this paper is limited to examining national-level policies and their aggregate impacts, acknowledging that regional variations and specific sectoral dynamics warrant further granular research. The significance of this study lies in its timely assessment of India's long-term developmental strategy, juxtaposing past efforts with future aspirations, and emphasizing the crucial balance required between economic prosperity, social equity, and environmental responsibility. The subsequent sections will delve into the existing literature, theoretical underpinnings, detailed analysis of policy evolution, and critical assessment of the manufacturing, employment, and sustainability dimensions.

2. Literature Review

The discourse surrounding India's manufacturing sector, employment dynamics, and sustainable development has been extensive, albeit often compartmentalized. This section synthesizes key academic contributions relevant to "Make in India," its predecessor policies, employment trends, and the conceptualization of sustainable development in the Indian context, acting as a bridge to the aspirational "Viksit Bharat 2047."

Early literature on India's industrialization often critiqued the 'Hindu rate of growth' and the protectionist license-permit raj era, which stifled manufacturing growth and competitiveness (Bhagwati & Desai, 1970). The economic reforms of 1991 marked a paradigm shift, leading to greater liberalization, opening up to global trade and investment, and shifting focus towards services-led growth (Panagariya, 2008). However, this services boom, while contributing significantly to GDP, largely bypassed the vast semi-skilled and unskilled workforce, leading to concerns about "jobless growth" and the need for a robust manufacturing sector to absorb this demographic dividend (Kochhar et al., 2006).

Make in India: Objectives, Performance, and Critique

The "Make in India" initiative, launched in 2014, was a direct response to these challenges, specifically aiming to enhance the manufacturing share of GDP from around 15% to 25% and create 100 million additional manufacturing jobs by 2022 (DIPP, 2014). Scholars have examined various facets of Make in India. Ray (2016) highlighted its ambitious targets and the multi-pronged strategy focusing on infrastructure, ease of doing business, new processes, and new sectors. Initial assessments were cautiously optimistic, noting increased FDI inflows and improved rankings in the World Bank's Ease of Doing Business report (World Bank, 2020). Dholakia and Kapur (2017) observed a positive sentiment among investors but cautioned about the need for sustained reforms, particularly in land and labor laws, to translate intent into significant on-ground manufacturing expansion.

However, several critiques have emerged regarding the actual impact of Make in India. Many studies point to the limited success in significantly increasing manufacturing's share in GDP, which has largely stagnated around 17-18% (CSO, 2021; Reserve Bank of India, 2022). Palit (2017) argued that while FDI increased, a substantial portion went into services rather than manufacturing, and actual greenfield investment in manufacturing remained modest. Moreover, the employment generation aspect has been particularly contentious. Researchers like Abraham (2017) and Mehrotra et al. (2020) have questioned the extent of job creation, noting that manufacturing employment grew slowly or even declined in some periods, characterized by a rise in contract workers and a lack of formalization, failing to adequately absorb the large number of youth entering the workforce. The quality of jobs, rather than just quantity, has also been a concern (Papola & Sahoo, 2018). The Production Linked Incentive (PLI) schemes, introduced later, were designed to boost specific sectors and attract large-scale manufacturing, showing early signs of success in areas like electronics and pharmaceuticals, but their long-term impact on job creation and domestic value addition is still evolving (NITI Aayog, 2021).

Employment Dynamics in India

The broader literature on Indian employment highlights the persistent dominance of the informal sector, low wages, and precarious working conditions for a significant portion of the workforce (Ghose, 2017). Skill India, another parallel initiative, aimed to bridge the skill gap, but its effectiveness has been debated, with challenges in curriculum relevance, industry linkage, and scalability (Rangarajan et al., 2016). The impact of new technologies and automation on future employment is also a growing area of research, with concerns about potential job displacement in labor-intensive industries (World Economic Forum, 2018). Studies suggest that India needs to focus on creating an ecosystem for high-skill, high-wage jobs while simultaneously improving conditions in the informal sector and ensuring social security for all (Drèze & Sen, 2013).

Sustainable Development in the Indian Context

The concept of sustainable development, popularized by the Brundtland Report (WCED, 1987) and codified by the UN Sustainable Development Goals (SDGs), has gained increasing prominence in India's policy discourse. India is a signatory to the SDGs and has integrated them into its national development agenda, as evidenced by NITI Aayog's SDG India Index (NITI

Aayog, 2020). However, achieving environmental sustainability alongside rapid industrialization and poverty reduction presents significant challenges. Scholars have examined India's efforts in renewable energy (IRENA, 2022), waste management (CSE, 2019), and pollution control, often highlighting the gaps between policy intent and implementation. The literature suggests that while India has made strides in renewable energy capacity addition, the environmental footprint of its manufacturing sector remains substantial, driven by energy-intensive industries and insufficient adoption of cleaner technologies (TERI, 2021). Furthermore, the social dimension of sustainable development, encompassing equitable access to resources, gender equality, and reduction of inequalities, is often emphasized as crucial for genuine progress (UNDP, 2020).

Viksit Bharat 2047 and the Interlinkages

While "Viksit Bharat 2047" is a more recent articulation of India's long-term vision, drawing heavily from the concept of a developed nation, academic literature explicitly connecting Make in India's outcomes to this future vision is still nascent. However, underlying themes are well-established. The idea of a 'developed nation' for India implies not just economic prosperity but also high human development indicators, robust infrastructure, technological prowess, and environmental resilience (Raghuram Rajan, 2020, personal communication). The challenge, as highlighted by various economists, is to achieve this without repeating the environmentally damaging and socially inequitable industrialization paths of some developed nations. This necessitates a "green growth" paradigm, integrating resource efficiency, circular economy principles, and decarbonization pathways into the core of manufacturing strategy (OECD, 2011).

In summary, the existing literature provides a strong foundation for understanding India's developmental challenges and the intentions behind Make in India. It offers critical perspectives on the initiative's mixed results, particularly in employment generation. However, there is a clear gap in comprehensively analyzing how the lessons from Make in India, both successes and failures, are being integrated into the more holistic and ambitious vision of Viksit Bharat 2047, especially concerning the complex interdependencies between manufacturing growth, quality employment, and environmental and social sustainability. This paper aims to bridge this gap by offering a detailed and integrated analysis.

3. Theoretical Framework

To comprehensively analyze the transition from Make in India to Viksit Bharat 2047, focusing on manufacturing, employment, and sustainable development, this paper draws upon several interconnected theoretical frameworks. These frameworks provide conceptual lenses through which to interpret policy choices, economic outcomes, and societal transformations.

3.1. Development Economics: Structural Transformation and Industrialization Theories

At the core of India's economic aspirations lies the concept of structural transformation, a process where an economy shifts from agrarian dominance to industrial and then to services dominance (Chenery & Syrquin, 1975). Early development theories, such as those by Lewis (1954), emphasized the transfer of surplus labor from lower-productivity agriculture to higher-productivity manufacturing as the engine of economic growth. Make in India, with its focus on

boosting manufacturing's share in GDP and creating jobs, explicitly aimed to accelerate this transformation, driven by the belief in manufacturing's strong backward and forward linkages and its potential for economies of scale and technological spillovers (Kaldor, 1966). The vision of Viksit Bharat 2047, aiming for India to be a developed nation, inherently assumes a high level of industrial and technological sophistication, characteristic of transformed economies. This framework helps us understand *why* manufacturing is considered so crucial and how its growth is expected to contribute to overall development. However, the Indian experience, characterized by a 'leapfrogging' to services without a robust manufacturing base, challenges the traditional Lewis model, necessitating a re-evaluation of pathways to industrialization (Mazumdar & Sarkar, 2021). The "jobless growth" critique, for instance, implies that the structural transformation has not effectively translated into broad-based employment gains in manufacturing.

3.2. Labor Market Theories: Dualism, Skill-Biased Technological Change, and Human Capital Theory

The employment dimension can be analyzed through labor market dualism, which distinguishes between a formal, regulated sector with better wages and working conditions, and a large informal sector characterized by low productivity, precarious employment, and lack of social security (Fields, 1975). Make in India, while aiming for job creation, implicitly sought to formalize employment. However, the prevalence of contract labor and the persistent growth of the informal sector suggest a continued strong presence of dualism (Breman, 1996). Understanding this dualism is crucial for evaluating the *quality* of jobs created.

Furthermore, **Skill-Biased Technological Change (SBTC)** theory suggests that technological advancements disproportionately increase the demand for skilled workers, potentially displacing low-skilled labor (Acemoglu, 2002). As India pushes for advanced manufacturing and Industry 4.0 technologies under Viksit Bharat, SBTC could exacerbate skill gaps and inequalities, making Human Capital Theory (Schultz, 1961; Becker, 1964) particularly relevant. This theory posits that investments in education, training, and health enhance individuals' productivity and earning potential. Skill India, a key component of Make in India, aligns directly with this theory, aiming to upgrade the human capital base to meet the evolving demands of a modern manufacturing sector. The success of Viksit Bharat 2047 heavily relies on effective human capital formation to capitalize on the demographic dividend and adapt to future job markets.

3.3. Sustainable Development Theories: Three Pillars (Triple Bottom Line) and Green Growth

The integration of sustainable development is guided by the foundational concept of the three pillars (or triple bottom line): economic, social, and environmental sustainability (Elkington, 1997). This framework moves beyond purely economic growth to encompass social equity (including poverty reduction, health, education, and gender equality) and environmental protection (resource conservation, pollution control, climate action). The "Viksit Bharat 2047" vision explicitly adopts this holistic perspective, recognizing that development must be inclusive and environmentally sound. Make in India, in its initial articulation, primarily focused on the economic pillar, though later policies and schemes (like encouraging renewable energy manufacturing) started integrating environmental aspects.

The concept of Green Growth (OECD, 2011) provides a more specific theoretical lens for understanding the integration of economic and environmental goals. Green growth emphasizes fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. It calls for investments in green technologies, resource efficiency, and decoupling economic growth from environmental degradation. For India, a country facing developmental imperatives and significant environmental challenges, green growth offers a pathway to achieve industrialization and prosperity without compromising ecological sustainability. Circular economy principles, which emphasize reducing waste and maximizing resource utility, further augment this framework (Stahel, 2016). This theoretical lens helps analyze India's efforts to decarbonize manufacturing, promote renewable energy, and adopt cleaner production methods as essential components of its journey to Viksit Bharat 2047.

3.4. State-Led Development and Industrial Policy

Finally, the context of Make in India and Viksit Bharat 2047 strongly aligns with theories of state-led development and industrial policy (Chang, 2002; Amsden, 1989). These theories argue that in developing economies, active government intervention, through strategic industrial policies, protection, subsidies, and public investment, is crucial for fostering industrialization and catching up with advanced economies. Make in India's sectoral focus, Production Linked Incentive (PLI) schemes, and infrastructure investments are clear manifestations of a proactive industrial policy. The shift towards Viksit Bharat 2047 continues this tradition, but with an added emphasis on innovation, research and development, and creating a supportive ecosystem for high-tech industries, often linked to national strategic interests. This framework allows for an analysis of the efficacy of government interventions in shaping industrial trajectory, attracting investment, and overcoming market failures.

In sum, these theoretical frameworks – structural transformation, labor market dynamics, sustainable development, and state-led industrial policy – collectively offer a robust analytical foundation for examining India's complex developmental journey from targeted manufacturing promotion to a holistic vision of a developed, sustainable, and equitable nation. They enable a critical assessment of policy design, implementation, and outcomes, highlighting both successes and areas requiring strategic re-orientation towards 2047.

4. Methodology

This paper employs a qualitative research methodology primarily based on desk research and comprehensive policy analysis. Given the broad scope encompassing policy evolution, economic impacts, and future visions, a systematic review of secondary data sources is the most appropriate approach. This methodology allows for an in-depth exploration of the objectives, strategies, achievements, and challenges related to "Make in India" and the aspirational "Viksit Bharat 2047," particularly concerning manufacturing, employment, and sustainable development.

4.1. Research Approach and Design

The research design is essentially an interpretive policy analysis combined with a critical review of existing literature and official documents. It aims to interpret the meanings, implications, and underlying assumptions of the policies, rather than to test hypotheses with quantitative data. The approach is exploratory and analytical, seeking to understand the "how" and "why" behind policy outcomes and future aspirations.

4.2. Data Sources

The data collection strategy involved accessing and meticulously reviewing a wide array of official government documents, academic publications, reports from international organizations, and reputable media analyses.

- **Government Documents:** This category includes policy papers, annual reports, economic surveys, strategy documents, and press releases from key Indian government ministries and bodies such as the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Finance, NITI Aayog, Ministry of Labour & Employment, Ministry of Environment, Forest and Climate Change, and various state governments. Specific focus was given to documents outlining the "Make in India" initiative (e.g., launch documents, sectoral policies), "Skill India" mission, and detailed reports pertaining to the "Viksit Bharat 2047" vision (e.g., NITI Aayog's strategy papers, Prime Minister's speeches and vision documents).
- **Academic Literature:** Scholarly articles from peer-reviewed journals, books, and chapters from edited volumes focusing on India's industrialization, labor markets, economic reforms, sustainable development, and specific analyses of Make in India's performance were reviewed. Databases such as JSTOR, Scopus, Web of Science, and Google Scholar were utilized for this purpose. The literature review (Section 2) provides a synthesis of these findings.
- **Reports from International Organizations:** Publications from the World Bank, International Monetary Fund (IMF), United Nations Development Programme (UNDP), International Labour Organization (ILO), Organisation for Economic Co-operation and Development (OECD), and other relevant international bodies provided comparative perspectives, data on global economic trends, and evaluations of India's progress on SDGs.
- **Think Tank Reports and Industry Surveys:** Reports from prominent Indian and international think tanks (e.g., Brookings India, Centre for Policy Research, Observer Research Foundation) and industry associations (e.g., Confederation of Indian Industry (CII), Federation of Indian Chambers of Commerce & Industry (FICCI)) offered practitioner insights, industry perspectives, and often detailed sectoral analyses.
- **Reputable Media and News Analyses:** Coverage from established financial and economic news outlets (e.g., The Economic Times, Business Standard, Mint, Financial Times, The Wall Street Journal) was used to gather real-time policy updates, expert commentary, and public discourse surrounding the initiatives.

4.3. Data Analysis Techniques

The gathered data was subjected to a multi-stage analytical process:

- **Content Analysis:** Key themes, objectives, strategies, and performance indicators related to manufacturing, employment, and sustainable development were extracted from policy documents and reports. This involved identifying explicit statements of intent, policy tools, and reported outcomes.
- **Thematic Analysis:** Data was systematically coded and categorized into overarching themes, aligning with the theoretical framework and the paper's core objectives. For instance, data related to FDI, ease of doing business, and infrastructure were grouped under manufacturing enhancements; wages, formalization, and skill gaps under employment; and renewable energy, resource efficiency, and pollution control under sustainable development.
- **Comparative Analysis:** The performance of Make in India was compared against its stated objectives and, where possible, against India's pre-2014 trajectory and global benchmarks. The goals of Viksit Bharat 2047 were analyzed in relation to the achievements and shortcomings of Make in India, identifying continuities, discontinuities, and areas of enhanced focus.
- **Critical Evaluation:** Beyond merely documenting policies and outcomes, the analysis involved a critical assessment of the effectiveness, coherence, and sustainability of the initiatives. This included identifying potential trade-offs (e.g., rapid industrialization vs. environmental protection), unintended consequences, and governance challenges.
- **Synthetical Integration:** The final stage involved synthesizing findings from different sources and themes to build a cohesive narrative that addresses the research questions. This involved mapping the evolution of policies, identifying causal linkages, and articulating the interplay between manufacturing, employment, and sustainable development within the broader context of India's developmental aspirations towards 2047.

4.4. Limitations

While comprehensive, this methodology has certain limitations. As it relies entirely on secondary data, it is dependent on the availability, accuracy, and biases inherent in the original sources. The absence of primary data collection (e.g., surveys, interviews) means that granular, ground-level perspectives are derived from existing reports rather than direct engagement. Furthermore, evaluating a long-term vision like Viksit Bharat 2047 involves a degree of projection and interpretation, as many aspects are still in their nascent stages of implementation. Despite these limitations, the extensive nature of the document review and the application of rigorous analytical techniques ensure a robust and insightful analysis of the topic.

5. From Make in India to Viksit Bharat 2047: A Policy Evolution

India's economic policy landscape has undergone a significant transformation in the last decade, marked by a proactive stance from the government to steer industrial development. This section traces the evolution from the "Make in India" initiative, launched in 2014, to the overarching vision of "Viksit Bharat 2047," highlighting the continuities, adaptations, and deepened ambitions across policy cycles.

5.1. Make in India (2014-present): Objectives, Pillars, and Key Initiatives

The "Make in India" initiative, unveiled by Prime Minister Narendra Modi on India's 68th Independence Day, marked a strategic pivot to boost the manufacturing sector and position India as a global manufacturing hub (Government of India, DPIIT, 2014). Its core objectives were multifaceted:

- i. **Increase manufacturing sector growth to 12-14% per annum:** Aiming to raise the sector's share in GDP from 15% to 25% by 2022.
- ii. **Create 100 million additional manufacturing jobs:** To absorb India's vast youth population entering the workforce.
- iii. **Enhance domestic value addition and technological depth:** Reducing reliance on imports and fostering indigenous innovation.
- iv. **Attract Foreign Direct Investment (FDI):** Creating a conducive environment for global investors.

The initiative was built upon four pillars:

- i. **New Processes:** Reforms in "Ease of Doing Business" were central, simplifying regulations, streamlining approvals, and digitizing processes (World Bank, 2020). Efforts also focused on reforming labor laws, though with limited success in comprehensive changes.
- ii. **New Infrastructure:** Massive investment in physical infrastructure, including roads, railways, ports, airports, and dedicated industrial corridors (e.g., Delhi-Mumbai Industrial Corridor), was prioritized. Digital infrastructure under "Digital India" also aimed to support manufacturing (NITI Aayog, 2018).
- iii. **New Sectors:** Focus on 25 key manufacturing sectors, ranging from automobiles, defense manufacturing, electronics, and food processing to textiles and biotechnology, with specific policy incentives for each.
- iv. **New Mindset:** Encouraging a more proactive and facilitative role for the government as an enabler rather than a regulator, aiming to build trust between industry and government.

Key policy initiatives under Make in India included:

- i. **FDI Policy Liberalization:** Opening up more sectors to 100% FDI under the automatic route, thereby attracting significant foreign capital (DPIIT, 2021).
- ii. **Production Linked Incentive (PLI) Schemes:** Launched more prominently from 2020-21, these schemes offered incentives on incremental sales from products manufactured in India across various sectors like electronics, pharmaceuticals, automobiles, and textiles. The goal was to attract large-scale investments, boost domestic manufacturing, and create global champions (NITI Aayog, 2021).
- iii. **Skill India Mission:** A parallel and complementary initiative aimed at skilling, re-skilling, and up-skilling the workforce to meet industry demands (Ministry of Skill Development and Entrepreneurship, 2015).
- iv. **Startup India and Digital India:** Fostering innovation, entrepreneurship, and digital transformation crucial for modern manufacturing.

5.2. Impact and Challenges of Make in India

Make in India has yielded mixed results. On the positive side:

- i. **Increased FDI:** India witnessed substantial growth in FDI inflows, consistently ranking among the top global destinations. Cumulative FDI equity inflow during October 2014-March 2023 was over \$595 billion, with manufacturing sectors receiving a significant portion (DPIIT, 2023).
- ii. **Improved Ease of Doing Business:** India leaped significantly in the World Bank's Ease of Doing Business rankings, from 142nd in 2014 to 63rd in 2019, reflecting procedural simplifications (World Bank, 2020).
- iii. **Boost in Specific Sectors:** PLI schemes have shown promising early results in sectors like electronics assembly, particularly mobile phones, and pharmaceutical intermediates, leading to increased domestic production and exports (NITI Aayog, 2022). Defense manufacturing also saw increased domestic sourcing.
- iv. **Infrastructure Development:** Significant strides were made in building national highways, increasing port capacities, and developing dedicated freight corridors, improving logistics efficiency.

However, significant challenges persist:

- i. **Stagnant Manufacturing Share in GDP:** Despite the ambitious target, manufacturing's share in India's Gross Value Added (GVA) has largely hovered around 17-18%, falling short of the 25% goal (Economic Survey, 2023).
- ii. **Limited Impact on Employment:** The initiative struggled to create the promised 100 million manufacturing jobs. While some formal job creation occurred, the overall employment elasticity of manufacturing remained low, and a large portion of the workforce continued to be in the informal sector (Mehrotra et al., 2020). Automation and capital-intensive production methods in new factories also limited manual labor absorption.
- iii. **Quality of Jobs:** Many new jobs have been contractual or informal, lacking social security benefits and decent wages (ILO, 2021).
- iv. **Global Competitiveness:** Indian manufacturing still faces hurdles related to high logistics costs, inconsistent quality standards, an inadequate R&D ecosystem, and competition from established global players (FICCI, 2022).
- v. **MSME Integration:** Micro, Small, and Medium Enterprises (MSMEs), which are crucial for employment, often struggled to integrate into global value chains and benefit from the larger policy thrusts (RBI, 2022).

5.3. The Vision of Viksit Bharat 2047: Core Tenets and Interlinkages

The vision of "Viksit Bharat 2047" (Developed India by 2047) transcends the sectoral focus of Make in India, outlining a comprehensive national aspiration for India's centenary of independence. While still evolving in its precise articulation, its core tenets include (Government of India, 2023):

- i. **Economic Prosperity:** A high-income economy, potentially among the top three globally, with robust and inclusive economic growth.

- ii. **Social Progress and Inclusion:** Eradication of poverty, significant improvements in human development indicators (education, health, nutrition), gender equality, and reduction in regional and social disparities.
- iii. **Environmental Sustainability:** Achieving net-zero emissions, promoting green growth, ensuring resource security, and building climate resilience.
- iv. **Good Governance and Rule of Law:** Efficient, transparent, and accountable governance mechanisms, ensuring justice and security for all citizens.
- v. **Technological Leadership and Innovation:** Becoming a global leader in frontier technologies, fostering a vibrant R&D ecosystem.

5.4. Bridging the Gap: How Make in India Informs Viksit Bharat

Make in India serves as a foundational step towards Viksit Bharat 2047. Its successes in attracting FDI, improving ease of doing business, and specific sectoral growth (e.g., electronics, defense) provide valuable momentum and lessons. The focus on infrastructure development and digital transformation under Make in India are pre-requisites for a developed economy. However, the shortcomings of Make in India – particularly in broad-based formal job creation, integration of MSMEs, and a holistic approach to sustainability – highlight areas where the Viksit Bharat vision must go beyond.

Viksit Bharat 2047 implicitly signifies a shift from merely *attracting* manufacturing to *building* a globally competitive, innovation-driven, and sustainable manufacturing ecosystem. It necessitates a deeper integration of environmental and social considerations from the outset, rather than as an afterthought. The experience of Make in India underlines that achieving the magnitude of transformation envisioned for 2047 requires not just policy changes but a fundamental shift in institutional capacity, skill development, and a strong emphasis on research and innovation to move up the value chain. The journey from Make in India to Viksit Bharat 2047 is thus one of scaling up, refining, and holistically integrating economic, social, and environmental objectives to build a truly developed and resilient nation.

6. Manufacturing and Economic Transformation

Manufacturing has historically been a critical driver of structural transformation and sustained economic growth for nations worldwide, facilitating the transition from agrarian to industrial societies, absorbing surplus labor, and fostering technological advancement (Lewis, 1954; Kaldor, 1966). India's journey towards Viksit Bharat 2047 hinges significantly on the revitalization and strategic growth of its manufacturing sector.

6.1. Role of Manufacturing in India's Development Trajectory

For decades, India's manufacturing sector has lagged behind its potential. Unlike East Asian Tigers that industrialized rapidly, India's post-independence development saw an emphasis on heavy industries under import substitution policies, which, while creating a domestic industrial base, also led to inefficiencies and limited global competitiveness (Bhagwati & Desai, 1970). The economic reforms of 1991 spurred growth, but primarily in the services sector, leading to India being termed a "services-led economy" (Panagariya, 2008). Manufacturing's share in

India's GDP has remained stubbornly around 15-18%, significantly lower than its peers in Asia (e.g., China, Vietnam) and globally, hindering its ability to create large-scale formal employment for its vast workforce (IMF, 2022).

The 'Make in India' initiative aimed to correct this imbalance, recognizing manufacturing's multiplier effect on the broader economy (DIPP, 2014). A robust manufacturing sector is crucial for:

- i. **Job Creation:** Absorbing a large, relatively low-skilled workforce transitioning from agriculture.
- ii. **Exports and Foreign Exchange Earnings:** Boosting trade balances and integrating into global value chains.
- iii. **Technological Upgradation and Innovation:** Driving R&D, patent creation, and process improvements.
- iv. **Backward and Forward Linkages:** Stimulating growth in raw material sectors, logistics, and ancillary services.
- v. **Regional Development:** Industrialization can help reduce regional disparities by creating economic hubs in diverse geographical areas.
- vi. **National Security:** Achieving self-reliance in critical sectors like defense and electronics.

6.2. Drivers of Manufacturing Growth under Make in India

Under the Make in India initiative, several policy drivers were deployed to stimulate manufacturing growth:

- i. **Ease of Doing Business Reforms:** Simplification of procedures for starting businesses, obtaining licenses, paying taxes, and enforcing contracts significantly improved India's investment climate (World Bank, 2020). Digitization of processes minimized bureaucratic hurdles and enhanced transparency.
- ii. **Infrastructure Push:** Massive public investment in multi-modal infrastructure – including the Bharatmala Pariyojana (road network), Sagarmala Pariyojana (port development), and dedicated freight corridors – aimed to reduce logistics costs, a perennial challenge for Indian manufacturers (NITI Aayog, 2018). The creation of industrial corridors and smart cities further supported localized manufacturing ecosystems.
- iii. **FDI Liberalization:** Successive liberalizations in FDI policy across sectors like defense, food processing, railways, and insurance made India an attractive destination for foreign capital (DPIIT, 2021). This brought in not just capital but also technology, management expertise, and access to global markets.
- iv. **Production-Linked Incentive (PLI) Schemes:** A more recent and impactful driver, PLI schemes (launched from 2020-21) offer incentives on incremental sales to companies that invest in domestic manufacturing in specific strategic sectors. These schemes, covering 14 sectors with a budgetary outlay of over \$26 billion, are designed to attract large-scale investments, boost indigenization, and create competitive advantages (NITI Aayog, 2021). Early successes in mobile manufacturing, largely driven by foreign players like

Foxconn and Samsung, demonstrate the potential of targeted industrial policy (Ministry of Electronics and Information Technology, 2022).

- v. **Focus on Specific Sectors:** Targeted efforts in sectors such as defense and aerospace (e.g., increasing domestic procurement, encouraging private sector participation), electronics manufacturing (e.g., semiconductor mission), automotive, and pharmaceuticals have led to increased production and reduced import dependence in select areas.

6.3. Emerging Sectors and Future Prospects

Towards Viksit Bharat 2047, manufacturing is expected to play an even more strategic role, with a strong focus on high-tech, high-value-added sectors:

- i. **Electronics and Semiconductor Manufacturing:** Building upon the success in mobile phone assembly, India aims to become a significant player in semiconductor fabrication, display manufacturing, and electronic components, which are foundational for a digital economy (India Semiconductor Mission, 2021).
- ii. **Automotive, including Electric Vehicles (EVs):** India is already a major automotive hub, and the transition to EVs offers a massive opportunity for domestic manufacturing of batteries, motors, and charging infrastructure, supported by PLI schemes (Ministry of Heavy Industries, 2022).
- iii. **Renewable Energy Equipment:** As India pushes for ambitious renewable energy targets (500 GW by 2030), manufacturing of solar panels, wind turbine components, and green hydrogen equipment presents a multi-billion dollar opportunity, aligning economic and environmental goals (Ministry of New and Renewable Energy, 2022).
- iv. **Defense and Aerospace:** Continued emphasis on indigenization ("Aatmanirbhar Bharat") in defense manufacturing aims to reduce import dependence and position India as an exporter of defense equipment.
- v. **Advanced Manufacturing (Industry 4.0):** Adoption of automation, AI, IoT, and additive manufacturing across sectors to enhance productivity, efficiency, and product quality, catering to global standards.

6.4. Challenges and Opportunities for Manufacturing Towards 2047

Despite the momentum, several challenges need to be addressed for manufacturing to sustainably fuel Viksit Bharat 2047:

- i. **Global Competitiveness:** Indian manufacturing still faces intense competition from established global players. Issues like cost of capital, higher energy costs, and regulatory uncertainties need continuous attention (Deloitte, 2021).
- ii. **Research & Development and Innovation:** India's R&D expenditure as a percentage of GDP remains low. Moving up the value chain requires significant investment in innovation, patenting, and fostering a robust ecosystem for academic-industry collaboration (Economic Survey, 2023).

- iii. **MSME Integration and Upgradation:** The vast MSME sector needs handholding to adopt modern technologies, improve quality, access finance, and integrate into global and domestic supply chains. Their role in job creation is paramount.
- iv. **Green Manufacturing:** Integrating sustainable practices, resource efficiency, circular economy principles, and decarbonization pathways is crucial. This involves adopting cleaner production technologies and transitioning to renewable energy sources, which might entail higher initial capital costs.
- v. **Land and Labor Laws:** While some reforms have occurred, the complexity of land acquisition and rigid labor laws continue to pose challenges for large-scale manufacturing investments (FICCI, 2022).
- vi. **Skilled Workforce:** The rapid technological advancements demand a continuously evolving skilled workforce, necessitating reforms in vocational training and higher education to match industry requirements (NASSCOM, 2023).

The opportunities, however, are immense. India's large domestic market, young demographic, growing digital penetration, and strategic geopolitical position offer a compelling case for sustained manufacturing growth. By strategically leveraging these strengths and proactively addressing the challenges, manufacturing can indeed become the powerhouse driving India towards its ambitious Viksit Bharat 2047 vision, creating a developed, resilient, and prosperous economy.

7. Employment Generation and Human Capital Development

The twin challenges of a burgeoning youth population and the need for high-quality, sustainable employment have been central to India's developmental discourse. While Make in India aimed to create millions of manufacturing jobs, the vision of Viksit Bharat 2047 necessitates a far more comprehensive approach to employment generation and human capital development, moving beyond mere numbers to focus on job quality, skill relevance, and social security.

7.1. Employment Landscape in India: Pre- and Post-Make in India

Prior to Make in India, India's employment landscape was characterized by a large agricultural workforce, a growing but often informal services sector, and a manufacturing sector that struggled to create jobs commensurate with its potential (Sundaram, 2007). The structural transformation often observed in developed economies, where surplus agricultural labor transitions to manufacturing, did not fully materialize in India. Instead, there was a significant shift towards the services sector, often bypassing manufacturing.

Post-Make in India (2014 onwards), the employment scenario has presented a mixed picture:

- i. **Persistent Informal Sector:** Despite policy thrusts, a significant majority of India's workforce (around 80-90%) remains in the informal sector, characterized by low wages, lack of social security, and precarious working conditions (ILO, 2021; Periodic Labour Force Survey, 2022).
- ii. **Jobless Growth Concerns:** While the economy has grown, the rate of formal job creation, especially in the manufacturing sector, has been slower than desired (Mehrotra

et al., 2020). Many new manufacturing units under Make in India have been capital-intensive or relied on contract labor, limiting direct, formal job growth.

- iii. **Sectoral Shifts:** There has been some diversification out of agriculture, but much of this has been absorbed by construction and low-productivity services, rather than high-productivity manufacturing (Economic Survey, 2023).
- iv. **Youth Unemployment:** India continues to grapple with high rates of youth unemployment, particularly among those with higher education, indicating a mismatch between skills acquired and industry demands (NSSO, 2019).
- v. **COVID-19 Impact:** The pandemic exacerbated employment vulnerabilities, particularly for migrant workers and those in the informal sector, highlighting the need for robust social safety nets (Azim Premji University, 2021).

7.2. Impact of Manufacturing Policies on Job Creation

The Make in India initiative directly aimed at boosting manufacturing employment. While FDI inflows increased and some sectors witnessed growth:

- i. **Direct Employment:** Gains in direct manufacturing employment have been modest. For instance, the PLI schemes in electronics, while boosting production, primarily created jobs in assembly lines, which are often lower-skilled and vulnerable to automation. Estimates suggest significant job creation from PLIs over several years, but these are largely projections (NITI Aayog, 2021).
- ii. **Indirect and Induced Employment:** Manufacturing growth generates indirect jobs in upstream (raw materials) and downstream (logistics, sales) sectors, and induced jobs through increased consumer spending. Quantifying these precisely is challenging, but they likely represent a larger share of employment impact than direct manufacturing jobs (Chakraborty & Singh, 2019).
- iii. **Skill Requirements:** Modern manufacturing, especially with the push towards Industry 4.0, demands new and higher-level skills in areas like automation, data analytics, robotics, and advanced materials. This creates a dichotomy where there are both labor shortages for specific skilled roles and unemployment for traditionally skilled or unskilled workers (EY, 2020).
- iv. **Automation and Technology Adoption:** While crucial for competitiveness, increasing automation in manufacturing poses a challenge to large-scale manual labor absorption. The vision of Viksit Bharat 2047, emphasizing technological leadership, will likely accelerate this trend, necessitating a proactive strategy for workforce reskilling and upskilling.

7.3. Skill India Mission and its Role

Recognizing the critical importance of human capital for a manufacturing resurgence, the Skill India Mission (launched in 2015) was a crucial complementary initiative to Make in India. Its objectives included:

- i. **Skilling, Reskilling, Upskilling:** Imparting relevant skills to the youth, particularly those in the informal sector, and improving existing skills to match industry requirements.

- ii. **Vocational Training:** Enhancing the quality and outreach of vocational education and training (VET) through schemes like Pradhan Mantri Kaushal Vikas Yojana (PMKVY).
- iii. **Industry-Academia Collaboration:** Bridging the gap between educational institutions and industry needs through apprenticeships and industry-relevant curriculum development.
- iv. **Standardization:** Creating a national qualifications framework and standardized assessment mechanisms.

While Skill India has trained millions, its effectiveness has been debated:

- i. **Quality and Relevance:** Concerns remain regarding the quality of training, relevance of courses to industry demands, and the placement rates of trained individuals (Rangarajan et al., 2016). Many employers still report skill shortages despite the programs.
- ii. **Scalability:** Given the vast demographic, the scale and speed of skilling programs need to be significantly ramped up.
- iii. **Formalization:** Skill India has not fully addressed the underlying issues of labor market dualism that deter formal employment.

7.4. Future of Work: Preparing for Viksit Bharat

For Viksit Bharat 2047, the approach to employment and human capital must be holistic, anticipatory, and adaptable to rapidly changing global and technological landscapes:

- i. **Lifelong Learning and Reskilling:** Continuous learning will be paramount. The education system needs to embed critical thinking, problem-solving, and adaptability. Government and industry must jointly invest in lifelong learning programs and accessible platforms for reskilling (World Economic Forum, 2018).
- ii. **Focus on High-Value and Green Jobs:** The emphasis should shift towards creating higher-skilled, higher-wage jobs in advanced manufacturing, R&D, and green sectors (e.g., renewable energy manufacturing, circular economy industries) which offer better career progression and contribute to sustainable development.
- iii. **Gig Economy and Social Security:** With the rise of the gig economy and flexible work arrangements, developing robust social security frameworks (health insurance, pensions, unemployment benefits) for all workers, regardless of employment type, is critical for inclusive growth (NITI Aayog, 2022).
- iv. **Entrepreneurship and Innovation:** Fostering an ecosystem that encourages entrepreneurship, self-employment, and the growth of MSMEs, which are significant job creators, will be vital. Startup India is a step in this direction, but its impact needs to be scaled and broadened.
- v. **Labour Market Reforms:** Progressive labor reforms that balance worker welfare with ease of doing business for employers are essential for formalization and attracting investment in labor-intensive manufacturing.
- vi. **Gender and Regional Equity:** Special efforts are needed to bring more women into the formal workforce, close gender pay gaps, and address regional disparities in employment opportunities.

Ultimately, achieving the employment goals of Viksit Bharat 2047 requires not just economic growth but a deliberate strategy to ensure that this growth is inclusive, provides decent work, and equips the Indian workforce with the skills to thrive in a technologically advanced, globally integrated, and sustainable economy.

8. Sustainable Development Imperatives

The journey from Make in India to Viksit Bharat 2047 cannot be solely defined by economic growth and employment numbers. For India to truly become a developed nation by its centenary, it must embed principles of environmental sustainability and social equity into its core developmental strategy. This section explores how sustainable development paradigms are being integrated into India's manufacturing ambitions and the critical pathways towards a green and inclusive future.

8.1. Integrating Environmental Sustainability into Manufacturing

Historically, industrialization has often come at a significant environmental cost, leading to pollution, resource depletion, and climate change consequences. However, the vision of Viksit Bharat 2047 explicitly recognizes that future industrialization must be "green" and "sustainable" (Government of India, 2023). Integrating environmental sustainability into manufacturing involves:

- i. **Resource Efficiency and Circular Economy:** Moving away from a linear "take-make-dispose" model towards a circular economy where resources are kept in use for as long as possible, extracting maximum value from them while in use, and recovering and regenerating products and materials at the end of their service life (Ellen MacArthur Foundation, 2015). This includes:
 - a. **Reduced Material Consumption:** Designing products for durability, repairability, and recyclability.
 - b. **Waste Management:** Implementing advanced waste treatment facilities, promoting industrial symbiosis (where waste from one industry becomes raw material for another), and increasing recycling rates.
 - c. **Water Conservation:** Adopting water-efficient technologies, rainwater harvesting, and wastewater treatment and reuse in industrial processes, especially in water-stressed regions.
- ii. **Pollution Control and Mitigation:** Strict enforcement of environmental regulations for air and water pollution, promoting cleaner production technologies, and phasing out hazardous substances. The "Pollution Control and Prevention" agenda under schemes like the National Clean Air Programme aims to address critical environmental challenges (Ministry of Environment, Forest and Climate Change, 2019).
- iii. **Green Manufacturing Practices:** Encouraging industries to adopt environmentally friendly processes and technologies, secure green certifications, and measure and report their environmental footprint. This often involves incentives and regulatory push.

8.2. Green Growth and Decarbonization Pathways

India's commitment to climate action, including its ambitious Nationally Determined Contributions (NDCs) under the Paris Agreement and the "Panchamrit" targets announced at COP26 (reaching net-zero emissions by 2070 and achieving 500 GW non-fossil energy capacity by 2030), firmly places green growth at the heart of its development agenda (Government of India, 2021).

- i. **Renewable Energy Transition:** The large-scale deployment of renewable energy (solar, wind, hydropower) is fundamental to decarbonize the manufacturing sector. Policies like the National Solar Mission and incentives for renewable energy manufacturing (e.g., PLI for solar PV modules) are critical (IRENA, 2022). This not only reduces the carbon footprint but also enhances energy security.
- ii. **Green Technologies and Innovation:** Investing in research and development of low-carbon technologies, energy storage solutions, green hydrogen, and carbon capture utilization and storage (CCUS) is crucial. The National Green Hydrogen Mission is a significant step in this direction (Ministry of New and Renewable Energy, 2022).
- iii. **Energy Efficiency:** Promoting energy-efficient manufacturing processes, equipment, and building designs through schemes like Perform, Achieve and Trade (PAT) in energy-intensive industries (Bureau of Energy Efficiency, 2020).
- iv. **Carbon Pricing and Market Mechanisms:** Exploring mechanisms like carbon taxes or emission trading schemes to internalize the cost of carbon and incentivize industries to reduce their emissions.

8.3. Social Equity and Inclusive Growth

Sustainable development extends beyond environmental concerns to address social equity. The Viksit Bharat 2047 vision places significant emphasis on inclusive growth, ensuring that the benefits of development reach all sections of society and that no one is left behind.

- i. **Poverty Eradication and Livelihoods:** Ensuring that industrial growth translates into poverty reduction through the creation of decent jobs, skill development for marginalized communities, and support for micro-enterprises.
- ii. **Worker Welfare and Rights:** Promoting safe working conditions, fair wages, social security benefits (health insurance, pensions), and adherence to labor laws. This is crucial for formalization of the workforce, moving away from precarious employment (ILO, 2021).
- iii. **Regional Disparities:** Addressing imbalances in industrial development across states and regions. Policies need to encourage investment in industrially backward areas to create local employment and prevent excessive migration.
- iv. **Gender Inclusion:** Ensuring equal opportunities for women in manufacturing, including access to training, leadership roles, and safe working environments.
- v. **Access to Basic Services:** Guaranteeing universal access to quality education, healthcare, clean water, sanitation, and affordable housing, which are foundational for human development and a productive workforce.
- vi. **Just Transition:** As industries decarbonize, there is a need to plan for a "just transition" that supports workers and communities reliant on fossil fuel industries through retraining and alternative livelihood opportunities (ILO, 2015).

8.4. Policymaking for Sustainable Development towards 2047

Achieving these sustainable development imperatives requires a robust policy framework and institutional mechanisms:

- i. **Integrated Policy Frameworks:** Moving beyond siloed policymaking to create integrated strategies that simultaneously address economic, social, and environmental goals. The NITI Aayog's role in monitoring SDGs is a step in this direction (NITI Aayog, 2020).
- ii. **Robust Governance and Enforcement:** Strengthening regulatory bodies, ensuring transparency, and consistent enforcement of environmental and labor laws.
- iii. **Climate Finance and Green Investment:** Mobilizing domestic and international finance for green projects, developing green bonds, and encouraging ESG (Environmental, Social, and Governance) investing.
- iv. **International Cooperation:** Collaborating with global partners on technology transfer, climate finance, and sharing best practices for sustainable industrialization.
- v. **Localizing SDGs:** Empowering local governments and communities to drive sustainable development initiatives, tailored to local contexts and needs.

The emphasis on sustainable development for Viksit Bharat 2047 signals a recognition that economic growth, while necessary, is not sufficient. A developed India must be one that thrives economically, is socially just, and lives within its ecological means, setting a global example for inclusive and green development.

9. Interlinkages, Synergies, and Contradictions

The journey from "Make in India" to "Viksit Bharat 2047" is characterized by complex interdependencies between manufacturing growth, employment generation, and sustainable development. While there are clear synergies, potential contradictions and trade-offs also exist, which must be carefully managed to achieve India's ambitious long-term vision.

9.1. How Manufacturing Drives Employment and Sustainable Development

- i. **Manufacturing and Employment:** A robust manufacturing sector is a traditional engine for large-scale job creation, particularly for semi-skilled and skilled labor transitioning from agriculture. Its potential for direct, indirect, and induced employment is significant (Lewis, 1954). Make in India sought to harness this, aiming for 100 million manufacturing jobs. The PLI schemes, for example, are expected to generate significant employment in sectors like electronics, textiles, and automobiles (NITI Aayog, 2021). Formal manufacturing jobs typically offer better wages, working conditions, and social security, contributing to an overall improvement in living standards and poverty reduction.
- ii. **Manufacturing and Sustainable Development:** While often seen as environmentally detrimental, future manufacturing can be a key enabler of sustainable development. The production of renewable energy equipment (solar panels, wind turbines), electric vehicles, charging infrastructure, and energy-efficient appliances directly supports

decarbonization and green growth (TERI, 2021). Advanced manufacturing processes can reduce waste, improve resource efficiency, and foster circular economy principles. Furthermore, a strong manufacturing base can generate the wealth necessary to invest in environmental protection, social programs, and sustainable infrastructure (e.g., public transport, clean water systems).

- iii. **Employment and Sustainable Development:** Decent, green jobs are a cornerstone of sustainable development (ILO, 2015). Employment in green sectors (e.g., renewable energy, waste management, sustainable agriculture, ecological restoration) not only contributes to environmental goals but also provides stable livelihoods. Investments in reskilling and upskilling for a green economy prepare the workforce for future job markets, enhancing social equity and reducing vulnerability. Moreover, a healthier, educated, and gainfully employed populace is more likely to engage in and support sustainable practices.

9.2. Potential Trade-offs Between Rapid Industrialization, Employment, and Environmental Goals

While synergies exist, the pursuit of rapid industrialization (as envisioned by Make in India) can present significant trade-offs, particularly when not adequately balanced with environmental and social considerations.

i. Industrialization vs. Environment:

- a. **Resource Depletion:** Rapid industrial expansion, especially in energy-intensive sectors, can lead to increased demand for natural resources (minerals, water, land), accelerating depletion and environmental degradation (CSE, 2019).
- b. **Pollution:** Untreated industrial effluents, air emissions, and hazardous waste generation can severely impact air and water quality, public health, and biodiversity, especially if environmental regulations are lax or poorly enforced (Ministry of Environment, Forest and Climate Change, 2018).
- c. **Greenhouse Gas Emissions:** Energy-intensive manufacturing, if reliant on fossil fuels, contributes significantly to India's greenhouse gas emissions, complicating its climate goals.

ii. Industrialization vs. Employment Quality:

- a. **Jobless Growth:** As observed under Make in India, a focus on capital-intensive, high-tech manufacturing, while boosting production, may not create a large number of formal, low-skilled jobs. Automation, while enhancing efficiency, can displace manual labor (Mehrotra et al., 2020).
- b. **Informalization and Precarious Work:** To maintain cost competitiveness, some industries may rely on contract workers or informal labor, leading to jobs with low wages and no social security, undermining the quality of employment.
- c. **Skill Mismatch:** Rapid technological shifts can lead to a mismatch between the skills of the existing workforce and the demands of modern industry, exacerbating unemployment for some while critical vacancies persist for others (EY, 2020).

9.3. Synergies: Green Manufacturing, Green Jobs, and Innovation for Sustainability

The vision of Viksit Bharat 2047 explicitly aims to capitalize on synergies to overcome these trade-offs, promoting a model of inclusive and sustainable growth.

- i. **Green Manufacturing Creating Green Jobs:** Investment in renewable energy component manufacturing, electric vehicle production, waste recycling, and circular economy enterprises creates a new category of "green jobs." These roles often require specialized skills, driving demand for vocational training and higher education in sustainable technologies (ILO, 2015). For example, manufacturing solar panels and wind turbines directly feeds into India's energy transition goals while creating local employment.
- ii. **Innovation for Sustainability:** Technological innovation, a key tenet of Viksit Bharat, can simultaneously address economic and environmental goals. Developing resource-efficient production processes, sustainable materials, and advanced pollution control technologies allows industries to enhance competitiveness while reducing their ecological footprint. For instance, the National Green Hydrogen Mission aims to establish India as a global hub for green hydrogen production, creating a new industry, jobs, and a pathway to decarbonize hard-to-abate sectors (Ministry of New and Renewable Energy, 2022).
- iii. **Resource Efficiency and Competitiveness:** Adopting circular economy principles and resource-efficient manufacturing can lead to significant cost savings for businesses, enhancing their competitiveness while simultaneously reducing waste and environmental impact (World Economic Forum, 2018).
- iv. **Social Inclusion through Sustainable Practices:** Promoting sustainable agricultural practices, forest-based livelihoods, and community-led waste management initiatives can empower local communities, create employment, and protect natural resources, directly linking environmental protection with social equity.

9.4. The Role of Governance and Institutional Frameworks

Effectively navigating these interlinkages requires strong governance and robust institutional frameworks. This includes:

- i. **Integrated Policy Formulation:** Moving away from siloed thinking to create policies that simultaneously address economic, social, and environmental objectives, with clear targets and monitoring mechanisms (NITI Aayog, 2020).
- ii. **Effective Regulation and Enforcement:** Strengthening environmental protection agencies, labor inspectorates, and regulatory bodies to ensure compliance with standards and prevent environmental and social dumping.
- iii. **Incentivizing Sustainability:** Using a mix of fiscal incentives (tax breaks for green investments), subsidies (for renewable energy), and market mechanisms (pollution permits, carbon pricing) to make sustainable practices economically attractive.
- iv. **Multi-Stakeholder Collaboration:** Fostering partnerships among government, industry, academia, civil society, and local communities to co-create solutions and ensure inclusive implementation.

The success of Viksit Bharat 2047 will ultimately depend on India's ability to maximize these synergies and proactively address the potential contradictions, ensuring that its path to

development is not only economically prosperous but also socially equitable and environmentally sustainable. This requires a nuanced understanding of trade-offs and a commitment to integrated, forward-looking policy design.

10. Critical Analysis and Future Prospects

The journey from "Make in India" to "Viksit Bharat 2047" represents a significant evolution in India's developmental strategy, moving from targeted industrial promotion to a holistic blueprint for national progress. A critical analysis reveals both commendable achievements and persistent challenges, informing the pathways for the future.

10.1. Assessing the Effectiveness of Make in India's Specific Initiatives

Make in India, launched with great fanfare, successfully shifted global perception regarding India's potential as a manufacturing destination. Its most notable successes include:

- i. **FDI Attraction:** India became a top recipient of FDI, with manufacturing drawing significant capital, partly due to relaxed FDI norms and improved business climate. This diversified India's investment profile (DPIIT, 2023).
- ii. **Ease of Doing Business Reforms:** The radical improvement in India's rank in the World Bank's Ease of Doing Business index was a tangible output, simplifying regulatory processes and boosting investor confidence (World Bank, 2020).
- iii. **PLI Schemes:** These schemes have proven to be a game-changer in specific sectors like mobile phone manufacturing, leading to increased domestic production, exports, and value addition, even attracting leading global manufacturers (NITI Aayog, 2022). This demonstrates the efficacy of targeted industrial policy.
- iv. **Infrastructure Development:** The enhanced focus on multimodal connectivity, industrial corridors, and digital infrastructure laid vital groundwork for future industrial expansion.

However, the initiative fell short of its boldest goals:

- i. **Manufacturing Share in GDP:** The aspirational target of 25% share in GDP by 2022 was not met, indicating that underlying structural issues beyond ease of doing business remained (Economic Survey, 2023).
- ii. **Job Creation:** Significant formal job creation in manufacturing remained elusive. The growth in employment was often in the informal sector or in lower-skilled assembly tasks, highlighting challenges with labor market rigidities and automation (Mehrotra et al., 2020).
- iii. **MSME Integration:** While large firms benefited from reforms, the vast MSME sector, which is critical for employment, struggled to integrate into global value chains and upgrade technologically, impacting broad-based growth.
- iv. **R&D and Innovation:** Investments in R&D and indigenous technology development did not accelerate sufficiently to move India beyond assembly operations to high-value-added manufacturing.

10.2. Feasibility and Challenges in Achieving Viksit Bharat's Ambitious Goals

The vision of Viksit Bharat 2047 is incredibly ambitious, encompassing economic prosperity, social equity, environmental sustainability, and good governance. Its feasibility hinges on successfully addressing several deep-seated challenges:

- i. **Sustained High Growth:** Achieving developed nation status requires sustained annual economic growth rates of 7-8% for over two decades. This necessitates significant capital formation, productivity enhancements, and global competitiveness (IMF, 2023).
- ii. **Human Capital Development:** The demographic dividend can only be an asset if the workforce is highly skilled, educated, and employable in a rapidly evolving, technology-driven economy. Bridging the skill gap, improving educational outcomes, and fostering lifelong learning are colossal tasks.
- iii. **Inclusive Growth:** Reducing poverty, income inequality, and regional disparities requires targeted policies, strong social safety nets, and ensuring that economic growth benefits all segments of society, not just a few.
- iv. **Environmental Sustainability:** Balancing rapid industrialization with ambitious climate and environmental goals is a tightrope walk. Decarbonizing energy-intensive sectors, managing waste, and ensuring resource security necessitates substantial investment in green technologies and a strong regulatory framework. The cost of environmental transition can be prohibitive without global support.
- v. **Governance and Institutional Capacity:** Efficient implementation of such a broad vision requires robust, transparent, and responsive governance mechanisms at all levels. Land acquisition, legal reforms, bureaucratic efficiency, and combating corruption remain critical areas.
- vi. **Global Headwinds:** Geopolitical instability, supply chain disruptions, protectionism, and global economic slowdowns can significantly impact India's growth trajectory and its ability to attract investment and access markets.

10.3. Policy Recommendations for a More Inclusive and Sustainable Trajectory

To bridge the gap between aspirations and reality, specific policy shifts and reinforcements are necessary:

- i. **Deepening PLI Schemes and Linking to R&D/Skill Development:** PLI schemes should evolve to incentivize higher domestic value addition, R&D, and skill development, not just assembly or production. Incentives could be tied to specific job creation metrics and environmental performance.
- ii. **Comprehensive Labor Market Reforms:** Introduce flexible labor laws that promote formalization, protect worker rights, and enhance ease of doing business. This includes portable social security, skill-based wages, and ensuring a just transition for displaced workers due to automation.
- iii. **Targeted MSME Support:** Provide dedicated financial, technological, and market access support for MSMEs to upgrade, adopt digital tools, and integrate into domestic and global supply chains. Facilitate easier access to credit and formalize smaller enterprises.

- iv. **Reforming Education and Skilling Ecosystem:** Overhaul vocational training programs to be industry-led and future-proof. Integrate critical thinking, problem-solving, and digital literacy from early education. Invest heavily in higher education and R&D, fostering stronger industry-academia linkages.
- v. **Accelerating Green Industrialization:** Offer stronger incentives for green technologies, renewable energy integration in manufacturing, circular economy practices, and sustainable infrastructure. Develop a robust carbon market and green finance ecosystem.
- vi. **Strengthening Environmental Governance:** Implement stricter environmental regulations with effective monitoring and enforcement mechanisms. Invest in environmental infrastructure (waste treatment, air quality monitoring) and promote public awareness.
- vii. **Focus on Regional Development and Urbanization:** Develop industrial clusters in backward regions, promoting balanced regional growth. Plan for sustainable urbanization, which is crucial as manufacturing hubs expand.
- viii. **Leveraging Digital Transformation:** Utilize AI, IoT, and big data to enhance manufacturing efficiency, supply chain resilience, and enable smart governance.

10.4. Role of Innovation, Technology, and Global Partnerships

- i. **Innovation Ecosystem:** Fostering a culture of innovation, scientific research, and technological development is paramount. This requires increased public and private R&D spending, predictable IP regimes, and vibrant startup ecosystems.
- ii. **Technology Adoption:** Smart adoption of Industry 4.0 technologies (automation, AI, IoT) can boost productivity and competitiveness. However, this must be paired with proactive workforce planning and reskilling programs to mitigate job displacement.
- iii. **Global Partnerships:** India should leverage its growing geopolitical stature to forge deeper collaborations for technology transfer, climate finance, and market access. Engaging in multilateral and bilateral agreements can help align trade and investment with sustainable development goals.

The transition from Make in India to Viksit Bharat 2047 is a marathon, not a sprint. It demands sustained political commitment, continuous policy adaptation, strong private sector engagement, and active societal participation. While the aspiration is grand, the path is fraught with complexities. By learning from past experiences, critically assessing current approaches, and proactively planning for future challenges, India can forge a truly inclusive, prosperous, and sustainable future for its citizens by 2047.

11. Conclusion

The analytical journey from "Make in India" to "Viksit Bharat 2047" reveals a nuanced narrative of India's economic aspirations, policy evolution, and the inherent complexities of balancing industrial growth with social equity and environmental sustainability. Launched in 2014, "Make in India" was a landmark initiative that successfully repositioned India on the global manufacturing map, attracting significant foreign direct investment, streamlining business processes, and jumpstarting select strategic sectors through targeted policies like the Production Linked Incentive (PLI) schemes. It laid crucial groundwork by emphasizing infrastructure

development and a pro-business regulatory environment, injecting a new sense of confidence into India's manufacturing potential.

However, a critical assessment indicates that Make in India's impact on broad-based formal employment generation and significantly increasing manufacturing's share in the GDP remained limited. The initiative, while boosting production in certain capital-intensive sectors, did not adequately address the challenges of "jobless growth," the prevalence of the informal sector, and the persistent skill gaps that hinder the absorption of India's vast labor force into high-quality jobs. The emphasis on growth, at times, overlooked the critical necessity of inclusive job creation and comprehensive social security for all workers.

The vision of "Viksit Bharat 2047" represents a strategic evolution, transcending the primarily economic focus of Make in India to encapsulate a holistic blueprint for a developed India by its centenary of independence. This grand vision integrates economic prosperity, social progress, environmental sustainability, good governance, and technological leadership. It acknowledges that true development is multifaceted and cannot be achieved by merely boosting manufacturing output; it must simultaneously uplift human capital, ensure social equity, and safeguard the planet.

For manufacturing to effectively contribute to Viksit Bharat 2047, it must undergo a profound transformation. The future of Indian manufacturing needs to be not just "Made in India" but "Made for India and the World" through sustainable practices. This implies a proactive shift towards green manufacturing, adopting circular economy principles, investing heavily in research and development, and embracing Industry 4.0 technologies. Such a shift will not only enhance global competitiveness but also align India's industrial trajectory with its ambitious climate commitments and the global Sustainable Development Goals.

The interlinkages between manufacturing, employment, and sustainable development are intricate. While there are inherent synergies—green manufacturing creating green jobs, innovation driving both economic growth and environmental solutions—there are also potential trade-offs. Rapid, unchecked industrialization can exacerbate environmental degradation and fail to create sufficient high-quality jobs if not managed carefully. The journey towards Viksit Bharat 2047 necessitates a delicate balancing act, maximizing synergies through integrated policymaking and robust governance. This requires policy frameworks that incentivize resource efficiency, promote clean technologies, ensure fair labor practices, and invest in a dynamic skill ecosystem capable of adapting to future disruptions.

Looking ahead, achieving Viksit Bharat 2047 demands sustained high economic growth that is fundamentally inclusive and environmentally conscious. Key recommendations include: deepening PLI schemes to incentivize higher domestic value addition, R&D, and skill development; implementing comprehensive labor market reforms that formalize employment and ensure social security; providing targeted support for MSME upgradation and integration; overhauling the education and skilling ecosystem to be future-ready; and accelerating green industrialization through robust policy, finance, and technological innovation. India must also leverage its demographic dividend by investing in its human capital, fostering entrepreneurship, and promoting regional equity.

In conclusion, the trajectory from Make in India to Viksit Bharat 2047 is a testament to India's ambition and its evolving understanding of development. While Make in India laid a vital foundation, the long-term vision requires a more integrated, human-centric, and environmentally conscious approach. India's success in becoming a "Viksit Bharat" by 2047 will not only be a triumph for its 1.4 billion people but will also offer a compelling model for other developing nations striving to achieve prosperity while navigating the imperatives of sustainability and inclusion in a rapidly changing global landscape. This journey will require continuous learning, strategic adaptation, and an unwavering commitment to a holistic vision of progress.

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