



Tamil Nadu: Towards a trillion dollar economy by 2030

Evolving an enabling ecosystem



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Executive summary

The Hon'ble CM of Tamil Nadu announced the aim in 2021 to make the state a USD 1 trillion economy by 2030. This will require a solution to investment-led growth conditions, including enabling competitive factor conditions. Tamil Nadu is the second largest state economy and arguably the most industrialised state in the country. The per capita income of the state stood at USD 3,408.7 in 2022-23. Notably, the gross state domestic product (GSDP) in Tamil Nadu has been about 5.87%. In terms of sectoral contribution, agriculture and allied activities account for 13%, industries 33% and services 54%. Arguably investment-led growth will have to drive the growth of the economy, given fiscal concerns. Realising the effective 9-11% real economic growth is not difficult if the ecosystem is properly oriented.

Various interventions need to be undertaken to evolve an enabling business environment as well as competitive factors and demand conditions. In the agri sector, crop advisory, crop diversification, stewardship councils and good animal husbandry practices are key interventions. These need to be complemented with an increased focus on the promotion of FPOs as well as on exports of commodities and value-added products. Both higher yield and agri-GDP, as well as inclusive growth, will be facilitated by this initiative.

With regard to the industry, the state enjoys the presence of several competitive and large manufacturing and services sector clusters. These need to be supported by a range of initiatives in the field of credit, infrastructure, skilling, etc.

In terms of skilling, there is a need for enhanced thrust involving industry in the development of curriculum, training methods and assessment criteria, implement skill development programmes on PPP mode, focus on demand-driven skilling and accord emphasis on skilling for entrepreneurship. With regards to credit, there is a need to strengthen the trade receivable discounting services (TReDS) facility, promote the state credit guarantee scheme even further, evolve clusterbased financing instruments and also strengthen the digital ecosystem vis-à-vis MSME lending.

With respect to infrastructure and logistics, there is a need to optimise the land allocation process for industrial growth and promote more PPP initiatives to develop physical as well as technical infrastructure-related HRD, which should be initiated along with the logistic skill sector, etc.

In the context of optimising procurement of inputs, the successful models of the Trichy Engineering Cluster, Rajkot Diesel Engineering Cluster, etc., need to be emulated across clusters in Tamil Nadu. This may also be complemented by policy advocacy initiatives vis-à-vis the centre in terms of the appropriate orientation of import tariffs.

Global demand conditions need to be favourably tapped by promoting conformant cluster value chains as well as through appropriately advocating with the centre via-à-vis trade agreements.

There is a need to exploit the comparative advantage by tapping into the knowledge base and skill sets of the populace. Emerging and hi-tech industries, including those related to bi-tech, semiconductors, defence, etc., need to be provided appropriate support through enabling policy framework and convergence of other enabling factors.

Interventions need to adopt a targeted vision to develop existing and potentially competitive value chains in the agriculture industry and service sectors in a cluster mode. There is no reason why India should not soon replace China as the factory of the world, with Tamil Nadu leading this initiative.

1. Context and state profile



The Hon'ble CM of Tamil Nadu announced at an investor conclave in July 2021 an ambitious goal to make the state a USD 1 trillion economy by 2030.

Investment mobilisation targets have been pegged at INR 23 trillion, and export targets at a four times higher level than the present USD 100 billion to help realise the USD 1 trillion target.

1.1 Economic circumstance and strategic thrust

Tamil Nadu is the 2nd largest state economy and arguably the most industrialised state in the country. The gross state domestic product (GSDP) in Tamil Nadu stood at USD 320.27 billion in 2022-23, and the per capita income stood at USD 3,408.7 in 2022-23. Notably, the GSDP of Tamil Nadu is about 9.6 per cent of the Indian GDP. The growth rate of GSDP in Tamil Nadu has been about 5.87 per cent and has been more than the average Indian GSDP growth rate even in recent years.

In terms of sectoral composition: Agriculture and allied activities account for about 13%, industries 33% and services 54% of the GSDP. In terms of sectors with comparative as well as competitive advantage, ready-made garments, motor vehicles, auto components, electric machinery and equipment, as well as several agri and allied products accounted for above USD 35.17 billion in exports in the fiscal year 2022.

In terms of foreign direct investment (FDI), the state has

enjoyed inflows of about USD 7 billion over 2019-2022 as against the FDI inflows of about USD 159.87 billion pan India.

The sectoral thrust of the government is also reflected in recent policy initiatives, including Electronic Hardware Manufacturing Policy 2022, Aerospace and Defense Policy 2022, Biotechnology Policy 2014, Automobile and Autocomponent Policy 2014, ICP 2018, MSME 2021, Tamil Nadu Industrial Policy 2021, Tamil Nadu Solar Energy Power Policy 2019, Highway and Minor Port Policy amongst others.

Regardless of existing and potential sectors with comparative advantage by virtue of raw material resources, skilled manpower, domestic or inter-sector demand, etc., there is a need to evolve competitive advantage. This will require the evolution of globally competitive factor conditions and facilitating market conditions, all within an enabling business environment.

1.2 Evolving an enabling ecosystem

There is a need for evolving an enabling ecosystem through learnings from best practices in terms of:



In fact, this approach towards developing regional and national economies has been adopted by many global development agencies. Team members at Grant Thornton Bharat have also contributed to many such interventions.

2. Economic circumstances and strategy

2.1 Macro-economic strategy

Arguably, investment-led growth will have to drive the growth of the economy, given the relatively adverse position vis-à-vis fiscal deficit. Government expenditure and investment cannot be used as an instrument to fuel economic growth to the extent desired.

With an outstanding debt of INR 6.53 lakh crore, the debt-GSDP ratio amounts to about 26.30%. This is relatively adverse¹.

Growth is critically a function of investment into an economy and also the efficiency in deployment and use of such capital. The growth rate can be considered as the rate of an investment over incremental capital-output ratio (ICOR) as per the classic Harrod-Domar growth approach, reflecting the capital required to produce an additional unit of output. With an ICOR of 4 in India and an investment rate of 40%, the growth rate in the Indian economy has been about 10%. The investment rate in Tamil Nadu may also be pegged at 40% to support the transition to a trillion-dollar economy. Both domestic as well as inward-FDI need to be encouraged by evolving the right investment-facilitating ecosystem.

2.2 Required growth rate

The average real economic growth rate in Tamil Nadu was about 10.3% from 2005-6 to 2011-12, even surpassing growth rates in comparator states like Maharashtra. However, the growth slumped to barely 6.30% between 2012-13 and 2021-22 (as also in the case of Maharashtra, which was even worse off at 4.52%). To compare with all-India estimates, all-India growth rates were 8.20% (2005-6 to 2011-12) and 5.48% (2012-13 to 2021-22).

Realising the (effectively) 9-11% real growth rate as indicated by the Madras School of Economics (accounting for inflation at about 5%) is not really difficult if the ecosystem is favourably oriented. The target trillion dollar economy status may certainly be realised within a year or so of 2030. Arguably, there are several exogenous factors, including global recessionary trends, that may hinder growth and are difficult to measure or factor in.

2.3 Structure of the gross state domestic product

The structure of the GSDP in Tamil Nadu has been maturing and shifting towards the industry and services sectors, away from agriculture. However, it needs to be noted that the primary agriculture sector is besotted with a gamut of constraints, including low agricultural extension services resulting in lower yield and hence share in GSDP. Therefore, there is scope for greater contribution to growth from this sector with apt interventions.

The shift from primary to other sectors reflects the trend in such rapidly developing regional (and also national) economies across the globe.

Sectors	2014-15	2020-21
Primary	11.26	10.59
Secondary	30.39	33.33
Tertiary	49.52	45.33
Taxes – minus subsidies on products	8.83	10.75

3. Enabling policy environment



There is a need to imbibe best practices and learning on developing the policy and business environment in terms of:

- 1. Appropriate macroeconomic policies in terms of fiscal investment (both domestic and foreign flows) and trade policies
- Favourable factor conditions in terms of raw materials and input, credit institutions and instruments, development of skilled manpower, specialised technical and physical infrastructure, access to suitable land, evolving globally competitive supporting enterprises, institutions and service providers, and evolving favourable market connectivity and demand conditions

Also, the immigration and brain-gain schemes of Canada, Taiwan and Singapore may be considered to attract the highly skilled Tamils and other NRIs, people of Indian origin (PIO), as well as foreign nationals to ensure high-tech knowledge flows and skills to complement growth in emerging high-tech sectors. Singapore, Taiwan and Canada have been successfully deploying such brain-gain strategies.

3.1 Potential 'factory of the world'

Today, competition is not between countries but between clusters of the industry. In this setting, Tamil Nadu has over 250 identified clusters, with some of them, like Tiruppur (apparel) and Coimbatore (engineering), being amongst the largest in their respective sub-sector and value chains in the country. Such clusters are also competitive in the global context. Tiruppur, for example, exports most of its INR 50,000 crore of output. The automotive and component, and healthcare clusters in the state are also dominant. Presently, due to the rising cost of labour with increased per capita incomes, many manufacturing firms from China have relocated to other developing as well as least developed economies. India, and within India, Tamil Nadu is best positioned to take over the mantle of 'factory of the world'.

3.2 Improve efficiency of investment (and ICOR)

Government execution capabilities of projects are not very strong. Publicprivate partnership options need to be evolved and promoted to a greater degree also in infrastructure in this scenario. This could also help improve the ICOR and hence growth rates. Facilitating policy needs to be evolved.





Tiruppur has led the way in demonstrating how industry associations in clusters can lead the way to be partners in skilling programmes of the government (earlier under the Integrated Skill Development Scheme, and now the SAMARTH scheme of the MoT).

3.3 Increased contribution of agriculture and allied activity of GSDP – increasing the base of growth

The relatively weak area of agri-extension services may be targeted by encouraging start-ups and agripreneurs providing input and crop advisory services. Notably, FPOs may also play this facilitator role. As highlighted, this could also increase the underlying base for growth.

3.4 Reforming the skilling ecosystem with private partnerships

Model skilling institutions may be set up in all districts, and industry associations need to come forward to train and provide apprenticeship options. Tiruppur has led the way in demonstrating how industry associations in clusters can lead the way to be partners in skilling programmes of the government (earlier under the Integrated Skill Development Scheme, and now the SAMARTH scheme of the MoT). The German VET model and the community-driven Canadian models are important options for focused adoption. Basically, course designing, training delivery, certification assessment and apprenticeship need all be oriented favourably by the apt policy.

There are some other best practices for consideration, including the initiative by the Directorate General of Shipping policy of mandatory employment of 10% of Indians in shipping vessels in India, thereby increasing the number of national seafarers.

3.5 Credit

This means that the cost of capital needs to be reduced, and enhancing access to capital must be evolved. Ease of lending for bankers and ease of borrowing for customers are both important. Digital processing with low manual intervention is important to reduce costs. Currently, a small fraction of MSMEs are availing of formal banking options.

Smart banking blocks may be explored in clusters as is being undertaken by HDFC Bank. Further, cluster-based financing instruments need to be evolved to facilitate the operations of the industry. Firms may also adopt ESG grading on sustainability practices, which will enhance long-term creditworthiness. New instruments and institutions, such as peer-to-peer financing and cloud financing, also need to be developed.

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3.6 Infrastructure and logistics

It is necessary to develop infrastructure to attract private investment. Focus on 'clustered' development will be resource-optimal, and PPP models will be more resource and implementation efficient.

With regard to logistics, there is a need to develop facilities like in-house warehousing. Also, skilling requirements in the logistics sector are also critical:

- The logistics sector has seen an influx of gig economy workers and is growing rapidly in terms of infrastructure, warehousing, etc. There is a need for sustainability in reducing carbon footprint.
- Logistics costs are high compared to competing regions abroad, which affects exports. Skilling, technology and better processes are required to overcome this.
- Tamil Nadu's proximity to Maldives could provide a significant portion of its import basket, but Tamil Nadu needs better-skilled logistics personnel to compete with other countries.
- The logistics sector is becoming more digitised, and training institutions are required to provide skilled labour.
- Policy-level interventions like DG Shipping's condition of employing 10% of Indian crew members by foreign shipping lines can help the sector.

Innovativeness and theoretical training are crucial to the logistics sector. The Council for Logistics in Chennai is a significant advantage, and the World Bank has funded it to import logistic education across schools in rural Tamil Nadu.

3.7 Advocacy for tariff rationalisation and raw material banks

Advocacy for rationalising import tariffs on inputs for value-addition is necessary after detailed value-chain diagnostics of important value chains. The Hon'ble Finance Minister, Gol, had taken some initiatives in this context for the textiles and leather sectors in the recent budget.

Such policy needs to be complemented by field-level initiatives, such as by the cluster industry associations in the engineering cluster of Trichy and Rajkot, which have been operating large raw material banks for several years for mild steel as well as for consumables in the sector.

The services of supporting institutions such as the National Small Industries Corporation (NSIC) may also be leveraged and upscaled in this context.

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The collectivisation of producers into collectives or farmer-producer organisations (FPOs) is critical, along with interventions to ensure quality inputs, credit and market connectivity through such platforms.

3.8 Clusters and hubs for emerging sectors

Electronic manufacturing has great scope. Hi-tech industries could be developed through the development of related mega clusters or hubs. India holds a three per cent share of global electronics production; of this, notably, Tamil Nadu enjoys a 20% share.

Defence industrial corridors and clusters help boost defence-related manufacturing. The Defence Industrial Corridor of Tamil Nadu comprises five nodal points: Chennai, Coimbatore, Hosur, Salem and Trichy.

An 'induced' cluster development approach and facilitating policy may be adopted to develop the ecosystem to support such emerging sectors.

3.9 Inclusive growth

Sustainable and inclusive growth should be focused upon. The level of income inequalities in Tamil Nadu is quite significant. In this context, the collectivisation of producers into collectives or farmer-producer organisations (FPOs) is critical, along with interventions to ensure quality inputs, credit and market connectivity through such platforms is required. The huge employment-generating MSME sector also needs to be developed through facilitator platforms like SPVs and Consortia for joint upgrading, procurement, market access, etc.

Other than income inequalities to be addressed, balanced regional growth must be facilitated.

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4. Shaping the trillion-dollar workforce

The rapid pace of technological advancements and the changing nature of work have made it imperative for us to ensure that our workforce remains relevant and competitive. India's 1.417 billion people may have currently surpassed China's population numbers, according to the latest estimates from the World Population Review. The news came after China's National Bureau of Statistics announced that the country's total population declined by 850,000 between the end of 2021 and the end of 2022.

The biggest advantage behind India's massive population is its youth - 650 million Indians, or nearly half the country's population - are below the age of 25. Also, experts estimate that India will not hit its population peak until 2065.

India's, as well as Tamil Nadu's Demographic Dividend, is an opportunity for growth. One way to achieve this is by twinning industry needs with manpower development. This means aligning the skills and knowledge that our workforce possesses with the skills and knowledge that are in demand in the job market. This can be done through various means, such as industry-led training programmes, apprenticeships and on-thejob training.

Skill development can play a vital role in improving the economy of Tamil Nadu by increasing the productivity and employability of its workforce. By providing training and skill development opportunities to the youth, the state can create a pool of skilled workers that can contribute to various sectors, such as manufacturing, services and agriculture. This, in turn, can attract investment in these sectors, leading to increased economic growth. Furthermore, skill development can also help in creating a culture of entrepreneurship and innovation in Tamil Nadu. Additionally, skill development can also enhance the quality of goods and services, thereby improving the competitiveness of Tamil Nadu's economic sectors and their value chains.

The German Vocational Education and Training (VET) system is a great example of how this can be done successfully. The VET system in Germany focuses on twinning industry needs with manpower development, ensuring that the skills and knowledge taught are directly relevant to the needs of the industry. This model has proven to be highly effective, with a high percentage of graduates going on to secure employment in their field of study. The Dutch and Canadian models also merit consideration. Both countries have a strong focus on vocational education and training, with a strong emphasis on practical, hands-on learning and close collaboration between industry and education providers. However, one should not just blindly adopt these models but rather adopt best practices from them and tailor them to the Tamil Nadu context.

It is clear that there is a need to develop a skilling ecosystem that facilitates continuous upgrading. This will require a concerted effort from government, industry and education providers. The successful German VET system, as well as the Dutch and Canadian models, provide valuable examples of how this can be done successfully.

By working together to develop a skilling ecosystem that facilitates continuous upgrading, it is possible to ensure that the workforce is equipped with the skills and knowledge they require.





As per the report on 'Skill Gap Assessment and Action Plan for Tamil Nadu, 2019,' the state has a labour force participation rate (57%) higher than the national average (50%) owing to the larger share of the working-age population.

4.1 German education-related best practices

- 1 The three-pillar school system in Germany prepares pupils from 10 years of age (12 in some federal states) to pursue either a vocational track (with graduation after grade 9 or 10) or an academic track to obtain a university entrance qualification (Abitur) after grade 12 or 13.
- 2 Early allocation of pupils to the different tracks significantly determines subsequent educational and career choices
- 3 Standardised VET in connection with the German labour market organised along occupational lines
- 4 Introduction of continuing education for low-skilled and older women and enterprises scheme for people not in skilled jobs for more than four years wherein the federal government sponsors 100% of the training cost, which is 75% for older employees.
- 5 High-quality assurance framework according to which training providers have maintained an effective system and internal control mechanism to ensure compliance and maintain quality of standards.

4.2 Tamil Nadu data points

Tamil Nadu Skill Development Corporation (TNSDC) is a state-run organisation that aims to align skill development with the needs of the job market and increase employability. It works closely with the government, industry and educational institutions to design and implement skill development programmes. Apt interventions are required under the aegis of this institution.

Labour market

As per the report on 'Skill Gap Assessment and Action Plan for Tamil Nadu, 2019,' the state has a labour force participation rate (57%) higher than the national average (50%) owing to the larger share of the working-age population. However, during recent years, a decreasing trend in the LFPR has raised concerns largely due to the significant drop in the female labour force participation rate, which is 7%.

- The primary sector has witnessed a continuous decline in the share of employment and currently employs over 35% of the workforce vis-à-vis the national average of 46%.
- Manufacturing (18%), construction (12%) and trade activities (11%) are other major sectors in terms of employment share.
- Education and skill: Barely 4.7% of the state's population (aged 15 years and above) have undergone vocational training of some kind, which is lesser than the national average of 5.4%.
- The current apprenticeship scheme generally favours public sector institutions, mainly due to their need for trainees in large numbers; however, such apprenticeships do not transition into employment prospects for the trainee, as the recruitment process at the public sector institutions constrains regularisation of the apprentices into full-time employees.
- Currently, training service providers are largely catering to entry-level mass jobs like tailoring or embroidery, BPO/call centre operations, etc. The majority of training courses offered at present are in the apparel and textile, telecom and electronics value chains. There is a requirement for skilled workers with higher competency levels in the engineering and food processing value chains, amongst others.



The report on 'Skill Gap Assessment and Action Plan for Tamil Nadu, 2019' presents the estimated demand for skilled and semi-skilled workers between 2019-2025. The data shows that there will be a need for an additional 13.33 lakh skilled workers and 19.45 lakh semi-skilled workers, totalling 32.78 lakh workers required. However, it is also apparent that there will likely be a shortfall of 6.78 lakh skilled workers and 9.31 lakh semi-skilled workers based on the current supply structure. This highlights the need for addressing the gap in skilled and semi-skilled labour supply in the state.



4.3 Impressions from the India Skills Report (ISR) 2023

The findings of the report suggest that in contrast with last year's employability figures of 46.2%, 50.3% of young people were found to be highly employable overall, according to ISR 2023, which is a significant improvement. The percentage of the employable women workforce has increased to 52.8% as compared to 47.2% for men.

The report points out that India will be hiring most in the automotive, engineering and internet business. Additionally, companies across India show a hiring intent of 36.08% for the demand forecast of 2023. The report also pointed out that the courses most in demand in 2023 will be B.Com and MBA, with the most employable talent at 60.62% and 60.1%, respectively.

Sectors that are currently having a high demand for skilled labour in India are BFSI, pharmaceutical, e-commerce and IT. The hiring of freshers in these industries is expected to surge by 20% in 2023 when compared to 2022. Sectors like automotive, engineering and internet business are expected to witness the most hiring.

Overall, the skilling ecosystem needs to be strengthened by adopting these best practices and ensuring that there is a concerted effort by all stakeholders to promote skilling and create a skilled workforce that can contribute to the growth and development of the country.

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India is adopting a new education policy that includes practical training and internships, computer education from grade 6 and a multi-entry and multi-exit system with credit transfers.

4.4 Reversing the outward flow of skilled manpower

Reversing the outward flow of skilled manpower, also known as the 'brain drain,' can be achieved through a variety of initiatives and policies. Some of the best practices for reversing the brain drain include:

- **Creating job opportunities:** This can be done by improving the business climate, investing in infrastructure and technology and promoting entrepreneurship.
- **Improving working conditions:** Improved working conditions by offering competitive salaries, benefits and opportunities for professional development can be provided by government policies or by private sector employers.
- **Enhancing education and training:** Investment in education and training programmes that align with the needs of the job market can help ensure that individuals have the skills and qualifications required to secure good jobs.
- **Providing research and development opportunities:** Encouragement and support for research and development activities by providing funding and resources to institutions and individuals can help to create opportunities for innovation and growth within the country.
- **Encouraging international collaboration:** Encouragement of international collaborations and partnerships should be provided, which can help to bring new ideas, technologies and investment to the country.
- Attracting skilled professionals from abroad: Government can also attract skilled professionals from other countries through various immigration policies and programmes.
- Recognising and rewarding the achievements of skilled professionals: The achievements of skilled professionals should be recognised and rewarded by providing them with incentives such as tax breaks, housing benefits and other financial rewards.
- **Maintaining social security:** A good social security system should be provided that can help to reduce the financial risks of staying in the country for skilled professionals.

By implementing these best practices, a country can create an environment that attracts and retains skilled professionals, reversing the outward flow of skilled manpower. Germany has a successful dual educational system where students split their time between academic institutions and industry, resulting in a highly skilled and qualified workforce. India is also adopting a new education policy that includes practical training and internships, computer education from grade 6 and a multi-entry and multi-exit system with credit transfers. India has also introduced the ARIA ranking for educational institutions.

- The industry is moving towards Industry 4.0 and green initiatives, and there need to be more interventions to improve skills in these areas. There are some notable developments. Partnerships with institutions like IIT Madras and the use of VR content are being used for training purposes.
- Education systems require skimming at different levels, from the system level to the component level, and knowledge should be communicated appropriately to cater to specific requirements.
- The application of artificial intelligence in industry should be emphasised when teaching in educational institutions.
- People who do not have formal education can use online platforms such as Coursera to acquire skills and knowledge.

5. Credit ecosystem

To strengthen the credit ecosystem for the MSMEs, it is important to focus on some key areas like timely and adequate availability of credit, strengthening the sources of credit like banks and NBFCs and promoting green and sustainable financing.

The need for promoting renewable energy projects should be ascertained by the bankers as well as the rating agencies. Banks should promote sources of cheaper financing for the developers of renewable energy projects, while the rating agencies should rate renewable energy projects differently from conventional projects so that green projects have a better opportunity to grow and expand. Banks are the prime lenders to the overall credit ecosystem, be it agriculture, large enterprises, self-help groups or MSMEs. They need to ensure that credit lending is increased and procedures are smoothened through digital interventions. Typically, loans for all other categories other than larger enterprises are viewed as riskier due to disclosed data limitations, collateral concerns, etc. However, new technologies, including distributed ledger technology, cloud computing and artificial intelligence, have started to enable faster, more convenient and most cost-effective financial services. Digital innovation is paving the way to access better financial services. Accumulated digital data can complement the limited data disclosed by some actors and reduce the cost of information asymmetries.

5.1 Options for Tamil Nadu

- Cluster associations need to work in synergy with banks and industry partners so that cluster financing can be promoted.
- Banks also need to ensure that credit is available to farmers also through facilitator platforms like FPOs.
- Environmental, social and governance (ESG) has become a key sector where the focus is entirely lying upon sustainability and risk reduction. There are huge investment opportunities in companies which are performing well on the ESG matrix and compliances. Having sustainability at its core, the ESG parameters and grading ensure that there is transparency for the potential investors, a better monitoring mechanism is developed and the long-term creditworthiness of the companies increases. Thus, measures should be taken to enable companies to comply with the ESG frameworks and rate their performance in terms of sustainability and transparency. Industries being the prime implementor of sustainable goals should take into account that the key components of ESG, like energy consumption, water consumption and waste management, are done in adherence to the norms and requirements. Like Kerala, Tamil Nadu should have an **ESG policy** which can be included in the State Industrial Policy and also should be promoted in the political manifesto so that it becomes a national agenda.
- Fintech companies are usually leaner and more reactive than traditional financial institutions. They also tend to invest more in certain forms of high technology aimed at solving a very specific pain point, whereas banks offer a broad spectrum of services. RBI should be encouraged to develop an ecosystem for promoting fintech companies and increasing the usage of green bonds.





China has been at the forefront of fintech development and is the largest fintech market in the world, with virtual banking being one of its wide-reaching features. Enabled by digital technology and big data, China's big four tech players, i.e., Alibaba, Baidu, Tencent and JD, have made incursions into financial services. During 2014-16, China's banking regulator issued 11 new privately-owned banking licenses, including to MYbank. MYbank uses big data, machine learning and the associated flexible risk management approach to offer credit to SMEs and manage risks. By harnessing its credit-profiling techniques driven by big data analytics (e.g., e-commerce and cash flow), MYbank manages to approve small loans for individuals and businesses around the clock, providing capital and liquidity to MSMEs and individuals in urban and rural areas. MYbank has about 20 million SME borrowers, about 80% of whom have never borrowed from banks in the past and keeps its nonperforming loan (NPL) ratio at about 1%.

- The Small Industries Development Bank of India (SIDBI) has been playing a key role in the industrial promotion and strengthening of the MSME ecosystem. The SIDBI Cluster Development Fund (SCDF) has been a prime enabler for various infrastructure development projects due to its concessional rate of Interest. The fund staring with an initial corpus of INR 7,000 crore and has already sanctioned INR 625 crore for carrying out various infrastructural development activities. Thus, stakeholders should come together and further exploit schemes like the SCDF so that the benefits can be availed and infrastructure development activities can be promoted.
- Credit guarantee schemes also need to be increasingly tailored to relatively disadvantaged segments in agriculture, innovative startups, women entrepreneurs and MSEs. The state-level credit guarantee scheme evolved in Tamil Nadu needs to be further upscaled. Turkey, for example, is providing grants and loan guarantees applied with preferential rates to MSMEs led by women entrepreneurs. A partnership was entered into between the European Bank for Reconstruction and Development (EBRD) and the Turkish Guarantee Fund (KGF) to support women entrepreneurship.

A steadily increasing number of countries, particularly in Asia, have set up special schemes to address the challenges associated with collateralising intangible assets. Initiatives range from funds established by development banks, as well as the combination of subsidies and guarantees to encourage private sector engagement. The Korea Development Bank (KDB) operates a 'Techno Banking' initiative providing loans for purchasing, commercialising and collateralising intellectual property (IP). The Korea Credit Guarantee Fund (KODIT) offers to underwrite up to 95% of an IP valuation for lending or securitisation, while the valuation activity is subsidised by the Korean Intellectual Property Office (KIPO), and the valuation work itself is done by others such as the Korea Invention Promotion Association (KIPA).



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6. Logistics and infrastructure



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In our country's quest to achieve USD 5 trillion economy status by 2025, the country's overall export numbers have to play a catalytic role. Tamil Nadu can play a leading role in this context as the state is among the top three exporting states from the country, contributing to 9-10% of the state's exports. With India's vision to achieve USD 2 trillion in exports by 2030, Tamil Nadu has set an eye on contributing almost USD 200 billion in exports. For this to happen, the logistics cost within the country has to come down from 13-14% of its GDP to almost 8-9% of its GDP, and the industrial economic activity also has to rise. While several initiatives have been taken up by the government to ease out the flow of merchandise from one point to another both on the regulatory and infrastructure front, there have been inherent bottlenecks, especially on the pace of infrastructure established. This is due to limited synchronicity and coordination in planning large-scale programmes across departments/ministries leading to delays and wastage of efforts and funds. These are the challenges to be addressed for which the government has laid down a plan with the recently concluded PM GatiShakti National Master Plan augmented with a National Logistics Policy to lend direction to the nation on possible areas of convergence for a seamless logistics sectoral impact to the larger vision. With almost 900 layers of infrastructure economic data on one single

portal, the national master plan enables potential investors to look for high-growth areas of investments leading to maximum impact. The logistics policy lends clarity to the government's vision for a comprehensive view of the sectoral plan for an upward movement.

Taking a step backwards and traversing the logistics sectoral impact, the sector provides employment to more than 22 million people, with the estimated value of the Indian logistics market at over USD 200 billion. The logistics sectoral value chain in India touches diverse role makers and infrastructure entities comprising more than 20 government agencies, 40 partner government agencies (PGAs), 37 export promotion councils, 500 certifications, over 10,000 commodities, 200 shipping agencies, 36 logistics services, 129 inland container depots (ICDs), 168 container freight stations (CFS), 50 IT ecosystems, banks and insurance agencies, etc. These entities work in tandem to crossleverage individual performance impacts as a single machinery to achieve the desired results. The logistics policy think tank covers most of these entities for smooth and fast functioning with a comprehensive annual action plan as laid down in the National Logistics Policy of the country².

6.1 Setting in Tamil Nadu

Prima facie, Tamil Nadu's container freight terminal infrastructure, warehouse capacity and general logistics infrastructure across all districts of the state put it ahead of other top-performing states in the logistics sector in terms of physical infrastructure. It has been deliberated that Tamil Nadu has a well-developed logistics ecosystem, with several ports, airports, railway stations and highways that connect the state to other parts of the country and the world. According to a report by the Confederation of Indian Industry (CII), Tamil Nadu ranks third among Indian states in terms of logistics infrastructure. The state has four major ports (Chennai, Ennore, Tuticorin and Nagapattinam) and several minor ports, which together handle over 60% of India's container traffic. The state also has five airports, with Chennai being the largest and busiest. The LEADS Survey Report 2022 published by the Ministry of Commerce and Industries on the Logistics Ease Across Different States places Gujarat, Karnataka, Tamil Nadu and Maharashtra amongst the top-performing states in the country. A summary of the physical infrastructure of these states is presented in the following table:

Physical infrastructure in leading states

Parameters	MH	GJ	KR	TN
Road length (km)	46,218	24,130	36,397	18,111
Rail length (km)	11,631	79387	6,083	6836
Inland container depot (ICD) no.	18	9	4	11
Container freight station	45	19	4	46
Private freight terminal (PFT) no.	8	8	2	1
Air cargo terminal no.	11	10	7	6
Railways goods shed no.	548	119	53	116
Warehouse capacity (MT)	22,33,000	7,97,254	42,48,959	14,72,098
Cold storage capacity (MT)	10,09,693	38,22,112	6,76,832	4,00,210
Logistics training centre no.	116	10	27	1
No. of persons trained	2,126	1907	809	2,000

Furthermore, the LEADS Report 2022 uses an indicator-wise grading based on 15 parameters, with categorisations ranging from 'achiever states' (i.e. 90-100%), 'fast-mover states' (80-90%) and 'aspirer states' (less than 80%). The indicators are tabulated below:

Indicator-wise ratings

Parameters	Ranking received for Tamil Nadu		
Road infrastructure	Achiever		
Rail infrastructure	Achiever		
Terminal infrastructure	Achiever		
Warehouse infrastructure	Achiever		
Modal logistics services	Achiever		
Quality of services at the terminal	Achiever		
Reasonableness of prices of logistics services	Fast mover		
Timeliness of transportation services	Achiever		
Timeliness of terminal services	Achiever		
Track and trace cargo movement	Achiever		
Safety/security of cargo	Achiever		
Promotion, incentivisation and facilitation	Achiever		
Ease of obtaining all approvals	Achiever		
Ease of entry	Achiever		
Issues related to grievance redressal	Achiever		

Interestingly, although Tamil Nadu fairs well in the above-mentioned parameters, the LEADS Survey Report 2022 puts Tamil Nadu behind Karnataka, Maharashtra and Gujarat within the logistics sector on various individual parameters.

While the state has been doing well compared to other states in India in terms of warehousing capacity, container freight stations, timeliness of transport, track and trace cargo movement, safety security, regulatory environment (collaborative approach), trained personnel and ease of obtaining approvals, there are areas that are mentioned below in which the state is facing challenges on many counts that were brought to light and also deliberated upon:

- **Sub-optimal rail connectivity:** The state's rail connectivity should be improved for a shift of modal connectivity from roadways to railways for a more cost-optimum and faster mode of goods transfer.
- **Underutilisation of inland waterways:** Tamil Nadu has several rivers that can be used as inland waterways, but they are currently underutilised.
- More air cargo terminals: The state does not have enough air cargo terminals, which can lead to delays and inefficiencies in the movement of goods by air.
- Inadequate inland container depots (ICDs) and container freight stations (CFS): The state should develop sufficient ICDs and CFS to avoid congestion at ports and enhance the efficiency of the logistics ecosystem.

- Scope to normalise prices of the logistics services in the state
- Terminal services timelines
- Standardisation of logistics infrastructure components like warehouses, etc.

There are multiple initiatives that the state government has undertaken to strengthen the logistics and related infrastructure in the state further, such as a special focus by TANSIDCO to ease out the industrial development process and flow of goods from the small-scale state industries in the form of managing 41 government industrial estates and 80 TANSIDCO industrial estates. TIDCO is a nodal agency for the development of industrial corridors like CBIC, CKIC, KBIC and DIC and related works on last-mile connectivity and linking to the dedicated freight corridors.

6.2 Options for Tamil Nadu

- Attracting private investments on various PPP models for setting up new-age logistics infrastructure like multi-model logistics parks, mechanised warehouses, ICDs, CFS, etc., would help to reduce logistics costs, optimise inventory levels and mitigate supply chain risks.
- Easy and optimal time for obtaining land allocation approvals
- Standardisation of physical assets and benchmarking of service quality standards to be institutionalised for optimum inter-operability
- Logistics human resource development building should be carried out through specialised agencies like Logistics Skill Sector Council and other state institutes to develop an employment-ready market workforce; for example, at the freight handling facilities, the manpower needs to improve, etc.
- Railways infrastructure to be strengthened in the state; shift from roadways to railways for a more cost-optimum and faster mode of goods transfer
- Inland waterways: Develop and utilise the state's inland waterways to increase the efficiency of logistics operations and reduce logistics costs
- Last-mile connectivity to ports to be strengthened
- Institutionalise digital interventions for optimal use and to optimise ease of road movement and also induct transparency on freight rates
- · Digital ways to manage on-hold inventory in stocks
- Leverage PM GatiShakti National Master plan to map the state's logistic action plan for a seamless flow of merchandise across the inter-state supply chains
- Ways to reduce additional terminal charges on shipments due to service providers not operating on weekends
- Also, referring to the LEADS report published in 2022, the following are a few specific infrastructure-related recommendations:
 - Absence of dedicated road connectivity to ease movement from seaport/airport
 - Lane capacity of roads to be increased near key industrial clusters in Kanchipuram, Tiruvallur, Chengalpettu, Coimbatore, Tiruppur and Dindigul
 - Sub-optimal condition of the Vallanadu bridge connecting Tuticorin and Tirunelveli hindering traffic movements
 - Madurai to Tuticorin road to be widened
 - Tuticorin ring road to be developed
 - Tirunelveli to Tuticorin, Palayamkottai bypass work to be expedited
 - Absence of earmarked truck parking/laybys infra facilities inside ports/ICDs, SIPCOT/TIDCO/SIDCO industrial estates

- Truck parking facilities along the state/national highways to be developed at every 100 km distance
- Land to be earmarked inside the industrial estates/parks/ zones to carry out logistics-related activities; this land should be disbursed to logistics operators at the same cost as industrial land
- Inadequate storage infrastructure, lack of skilled manpower and higher freight tariffs at ICD Irugur
- Infrastructure augmentation required at non-major ports to handle coastal and captive cargo (especially at Cuddalore and Rayapatnam ports)
- Logistics parks required in Chennai, Coimbatore, Madurai and Tuticorin to serve as aggregation points for handling domestic cargo movement
- Air cargo complex at Tuticorin Airport to be developed
- The state needs to create farm produce aggregation points with multi-modal connectivity in peri-urban areas. The absence of infrastructure like ripening chambers, dehumidifiers and reefer trucks in rural collection centres is leading to huge post-harvesting losses
- Cold storage/temp-controlled storage needs to be developed at the Chennai Airport. Lane capacity of roads to be increased near key industrial clusters in Kanchipuram, Tiruvallur, Chengalpettu, Coimbatore, Tiruppur and Dindigul
- A few specific regulatory environment-related recommendations are also listed in the LEADS report:
 - Toll charges are increasing every year. Many toll plazas continue to charge tolls even after the completion of their concession period. It needs to be regulated.
 - The state should have a 24/7 control room service and single window system to assist exporters, importers and all logistics stakeholders.
 - Absence of regulatory and institutional framework to facilitate the on-time clearance of CRZ, land acquisition and others for infrastructure projects. There are multiple local bodies for land acquisition and clearances in different zones of the state.
 - Approval towards ODC movements on highways needs to be digitised, and a single window approval system needs to be introduced. Currently, multiple agencies are involved, and unnecessary halts are being made en route.
 - In TN, unlike AP and Kerala, annual warehouse license renewal is required.
 - An integrated system of e-waybill, fast-tag and VAAHAN needs to be implemented in the state.
 - Multiple physical checks of goods carrying vehicles by commercial tax officers despite the existence of the e-waybill need to be regulated.

²⁴ Tamil Nadu: Towards a trillion dollar economy by 2030

7. Procurement and inputs

Optimising procurement through encouraging network-based domestic and global sourcing of inputs is a means to enhance competitiveness. Common purchasing of inputs by aggregating the demand of cluster firms will ensure access to quality inputs in time and at the most competitive rates. Procurement by purchase networks in India has been for key raw materials and consumables. However, in some cases, cluster firms have also purchased machinery and equipment (Ludhiana Knitwear Cluster – improved version of boilers) through which they were able to avail up to 15% discount from the machinery supplier.

Input purchase networks primarily have the following three basic objectives:

1. Securing quantity discounts

2. Sourcing inputs from appropriate locations – to ensure quality and availability 3. Stocking inputs so as to avoid price fluctuation due to seasonal demand

There have been several cases in India where cluster firms have come together to form an SPV (either a private limited firm/ Section 8 company), which aggregates the demand of the entire cluster, buys the raw material and other consumables in bulk and sells it to firms in the cluster at discounted rates visa-vis market rates.

Trichy Engineering Cluster is a strong example of operating a raw material bank (RMB) successfully, where the turnover of the RMB is usually to the tune of multiple crores.

Rajkot Engineering Cluster, based in Gujarat, also runs a successful raw material bank (RMB) for pig iron and coke for the cluster members - foundries. The association directly gets in touch with the companies like Kudremukh Iron and Steel Company Ltd (KISCO) or Kudremukh Iron Ore Company Ltd (KIOCL), wherein they ensure not only quality but also substantial savings in logistics and the cost of raw materials.

Raw material bank by Ahmedabad Engineering

Manufacturer's Association is also one of the fine examples where cluster members have come together to optimise the procurement and input cost. The problem statement for the cluster firms was:

- 1 High and rapid fluctuations in the price of key raw materials, especially during the pandemic period
- 2 Inconsistent quality of raw materials available to MSMEs through dealers
- 3 Inconsistent supply of raw materials

Intervention by cluster members to address the problems/challenges:

- The association-led RMB has realised a turnover of INR 60+ crore in the last six months, benefitting 70+ MSMEs. It is estimated to cross a turnover of INR 200+ crore in the financial year 2023-24, with many more members joining in.
- Reduction in the cost of production along with seamless availability of good quality raw materials has resulted in improved profit margins (additional 7-10%) for MSMEs.

²⁶ Tamil Nadu: Towards a trillion dollar economy by 2030

7.1 Options for Tamil Nadu

Promotion of MSME consortialed raw material banks for input procurement in clusters to optimise the cost of inputs and bring clusterlevel cost competitiveness, thereby making clusters domestically and globally competitive. There are a few success stories in the state - raw material banks run by Trichy Heavy Engineering Cluster, Krishnagiri Printing Cluster, etc. However, there is a need to upscale these success stories and push for such initiatives across all the identified clusters in Tamil Nadu.



8. Emerging sectors

Tamil Nadu has perhaps the best ecosystem in terms of educated manpower as well as institutions to promote neweconomy value chains in the field of hi-tech electronics, semiconductors, biotechnology and defence. These are some of the emerging sectors which are going to be the growth engine of Tamil Nadu's economy, which will not only propel the state to a trillion dollar mark but also bring in the element of sustainability to it. One of the most important factors which is imperative for the growth and development of the emerging sector is the availability of trained and motivated human resources. The Indian diaspora across the world is one of the most vibrant and productive. We have been witnessing the migration of some of the best talent from the country to the West in search of a better quality of life and standard of living. In order to successfully reverse the trend, it is important to learn from some of the best practices which nations like Canada, Taiwan and Singapore have adopted.

Moreover, attracting FDI is also a critical factor in order to provide a boost to these sectors. Some of the best practices in the world to attract FDIs are:



Canada

- 1 Increasing investment attractiveness at the federal and provincial level: Department of Foreign Affairs and International Trade (DFAIT) is responsible for fostering the expansion of Canada's commercial relations abroad, including FDI promotion and developing partnerships with other federal and provincial stakeholders. The orientation is to create a modern, systematic and more targeted FDI strategy that directly communicates to investors the value propositions that Canadian locations offer and has a focus on projects that boost the domestic production of high-value goods and services, promote skilled and high-paying employment, contribute to product and process innovation and expand international markets and the global reach of Canada-based companies.
- 2 **Focus on skilling at the educational level:** Skilling initiatives are also promoted alongside academics in Canada to develop skills based on industrial needs. Training courses are offered either alongside academic courses as part of the overall curriculum or in a separate vocational school, depending on the province.
- 3 **Migration policy:** Apart from the country's domestic education system, Canada relies on the entry of highskilled migrants to boost its skills base. The availability of a diverse skill base makes the country an attractive destination for FDI.



Singapore

- 1 Incentives to the foreign investors for skill-based programmes: The Singapore government played a key role in providing incentives to foreign investors to invest in skills development in a way that benefited both foreign companies and the home-country workers. These incentives and other promotional efforts were part of a concentrated proactive approach that encompassed targeting investment in particular skill-intensive industries.
- 2 Tax incentives: tax break of up to 10 years
- 3 Enhancing the domestic skills base: During its early industrialisation phase, the Singapore government initiated an accelerated school-building programme (International Labour Organisation, 1997). To meet the dramatic increase in primary and secondary school enrolment, large numbers of teachers were recruited and trained in service. With the shift to 37 export-oriented industrialisation, greater emphasis was given to technical education. The secondary school system was again restructured. During 1966 and 1973, local training institutions that focused on technical skills were established (e.g., the Singapore Technical Training Institute, to train instructors for other vocational institutions).

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8.1 Options for Tamil Nadu

Defence industrial corridors have given a boost to the defence manufacturing ecosystem through the synergistic development of technologies and promoting the growth of private domestic manufacturers, including MSMEs and start-ups. Tamil Nadu Defence Industrial Corridor consists of five nodal points, i.e., Chennai, Coimbatore, Hosur, Salem and Trichy. The electronic and semiconductor sector shall be boosted by the migration of the automobile industry to EV mode, coupled with higher demand from robotics and other emerging technologies where the semiconductors are critical.



9. Strategic options for Tamil Nadu

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A range of strategic initiatives may be undertaken by the state to propel growth in the agriculture, industry and services sectors. Furthermore, several initiatives may be undertaken regarding evolving competitive factors and demand conditions within an enabling environment.



Tamil Nadu has a comparative advantage in several sub-sectors and commodity value chains ranging from bananas and mangoes and paddy varieties to poultry.

9.1 Primary agriculture and allied activity sector

- **Crop advisory:** Crop advisory and extension services through FPOs as field-level institutions and private embedded service providers (input crop protection and fertiliser manufacturing firms) are critical and may contribute to yield increases of between 10-20% in many crops. This will also redress capacity and resource constraints within the public extension services.
- **Crop diversification:** Crop diversification and mixed cropping may be encouraged where required to enhance productivity and per-acre contribution to farm incomes.
- **Stewardship councils:** Crop-wise 'stewardship councils' need to be established involving farmers, producer organisations, input players, financial institutions, buyers, processors, exporters and importers abroad to jointly decide on crop varieties and necessary GAP for penetrating global markets extensively. Maharashtra is undertaking related initiatives in a focused manner under World Bank and ADBassisted programmes.
- **FPOs:** More thrust needs to be levied on the formation and promotion of FPOs. The 500-odd operating FPOs in Tamil Nadu will have to be expanded to several thousands to cover the farmers in the state. In Maharashtra alone, over 2,000 such farmer networks are in operation.
- **GAHP:** Good animal husbandry practices (GAHP) are necessary to be institutionalised to penetrate global markets for animal husbandry products, including poultry. Even the UAE frequently bans imports from India (and TN) due to non-conformance and residue levels.
- **Exports:** Tamil Nadu has a comparative advantage in several subsectors and commodity value chains ranging from bananas and mangoes and paddy varieties to poultry. These have great potential for greatly enhanced exports. Dedicated policy and field-level interventions are required to enhance exports.

9.2 Industry (manufacturing and services)

• Technical infrastructure in manufacturing clusters: Tamil Nadu has the largest number of MSME manufacturing clusters (over 250 in number) in the country. Interventions are on with the support of the Central Government (under the MSE-CDP) in over 50 clusters. A state-level cluster development scheme and programme with required resource outlay need to be redeployed and will be appropriate to establish common facility centres (CFCs) typically for joint technology upgrading. Many related MSEs serve as vendors to large firms and hence drive industrial growth. Some of the more prominent mega clusters in the state include the textiles and apparel clusters of Tiruppur and the engineering clusters of Coimbatore, Trichy and Chennai. Technical and physical infrastructure gaps may be specifically targeted in PPP mode within and outside such clusters.

³² Tamil Nadu: Towards a trillion dollar economy by 2030



The skilling programmes should be demand-driven, with a focus on creating a skilled workforce that can contribute to various industries and sectors.

- Service sector cluster development: There are also several prominent service sector clusters, such as the healthcare cluster of Chennai and Coimbatore and the ITES cluster in Chennai. They may also be supported through similar interventions.
- **Credit Guarantee Fund:** The outlay under the state-level Credit Guarantee Fund needs to be considerably enhanced from the present level of INR 100 crore.
- Other initiatives in terms of infrastructure, skilling and credit instruments are also elaborated in the following sections:

9.3 Skill development

- **Industry involvement:** Involve industry experts in the development of the curriculum, training methods and assessment criteria to ensure that the skills being taught are relevant and in demand in the job market.
- **Hands-on training:** Provide hands-on training opportunities that simulate real-world work environments. This allows students to apply their learning in a practical setting and gain valuable experience.
- **Partnerships with employers:** Develop partnerships with employers to provide students with opportunities for on-the-job training, internships and apprenticeships. This can lead to direct job placements after the training.
- **Career counselling and guidance:** Provide career counselling and guidance to students to help them understand the job market and identify career opportunities that align with their interests and skills.
- **Continuous improvement:** Continuously assess and improve training programmes to keep pace with changing industry needs.
- Collaboration with other stakeholders: Collaborate with other stakeholders such as educational institutions, government agencies and industry associations to expand the reach and impact of the programme.
- Public-private partnership: Government can establish a publicprivate partnership model for skill development programmes. This allows for better alignment with industry needs and increased investment in training infrastructure and resources.
- Linkage with employment services: Skill development programmes should have a strong linkage with employment services to help trained individuals find employment opportunities.
- Focus on soft skills: Along with technical skills, soft skills such as communication, teamwork, problem-solving and adaptability are also very important for employability. Therefore, soft skill development should be an integral part of the skill development programme.
- **Skilling for entrepreneurship:** Skilling programmes should focus on developing the entrepreneurial skills of individuals, which can help in creating new businesses and generating employment opportunities.
- Focus on demand-driven skilling: The skilling programmes should be demand-driven, with a focus on creating a skilled workforce that can contribute to various industries and sectors.

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9.4 Credit

- Strengthening of trade receivable discounting services for mitigating the issue of delayed payments to MSMEs: TReDS need to be promoted and given institutional thrust to ease the burden of MSMEs in terms of delayed payments. Policy towards incentivisation for onboarding on the TReDS platform for buyers needs to be devised.
- **Promotion of CGTMSE and state credit guarantee schemes:** Recently, Tamil Nadu has set aside a corpus of INR 100 crore to supplement the CGTMSE cover to MSME borrowers in the state. A robust awareness campaign and effective implementation of the scheme through a proper monitoring and evaluation mechanism is the need of the hour.
- **Evolving cluster-based financing instruments:** It is necessary to evolve instruments to meet the specific needs of value chain stakeholders (e.g., to meet periodically ballooning requirements of working capital, etc.)
- The digital ecosystem towards MSME lending and instruments such as peer-to-peer platforms and cloud funding need to be developed.
- SME exchanges in the UK and China have been performing well. However, in India (specifically in Tamil Nadu), the ratio of the market capitalisation of SMEs remains rather low.

9.5 Infrastructure and logistics

- Strengthening infrastructure development through the PPP mode: While the government's push through budgetary provision for infrastructure is significant, in order to translate it into actual implementation and mobilisation, strengthening implementation through the public-private partnership (PPP) mode is critical. The government of Tamil Nadu, through TANSIDCO and chances for private industrial estates, is proactively promoting such initiatives and the industry; however, significant outreach and institutional push are the need of the hour.
- Easy and optimal time for obtaining land allocation approvals
- Standardisation of physical assets and benchmarking of service quality standards to be institutionalised for optimum interoperability.
- Logistics human resource development building should be carried out through specialised agencies like Logistics Skill Sector Council and other state institutes to develop an employment-ready market workforce. For example, at the freight handling facilities, the manpower needs to improve, etc.



³⁴ Tamil Nadu: Towards a trillion dollar economy by 2030

9.6 Optimising inputs and enabling market and demand conditions and connectivity

- Promotion of MSME consortia led the raw material bank of the input procurement network to optimise the cost of inputs and bring clusterlevel cost competitiveness, thereby making clusters domestically and globally competitive.
- There are a few success stories in the state a raw material bank run by Trichy Heavy Engineering Cluster, Krishnagiri Printing Cluster, etc. However, there is a need to upscale these success stories and push for such initiatives across all the identified clusters in Tamil Nadu.
- Enhanced orientation and investment to conform to international quality norms in order to plug into the international value chain. As per the feedback from FIEO, the initial investment for confirming to international quality and standards often leads to long-term, clusterfocused benefits leading to export competitiveness and enhanced inflow of forex.



Acknowledgement for valuable inputs and guidance

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