

# Maharashtra: Economic Revival Plan - 2023

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## Introduction

The economic canvas of Maharashtra presents puzzling contrasts. Maharashtra's GDP<sup>1</sup> is the highest among all States and it also accounted for the largest share in GST collections in 2022-23<sup>2</sup>. It contributes more than a fifth of the country's total exports. It has been a pioneer in industrial development and hosts 10 of the 100 planned smart cities under the Smart Cities Mission. It is the 'cotton-hub' as well as the 'fruit-bowl' of India. Yet, Maharashtra was the worst-hit state in terms of farmer suicides in 2021 (Mohan 2021) and has within its boundaries two chronically water-scarce regions: Marathwada and Vidarbha. Large expanses of its rural hinterlands suffer from erratic power supply which affects all major economic activities and is a bottleneck to more equitable industrial development. Participation of women in its economy remains below that of several other states (Narayan 2018).

The major thrust of Maharashtra's economic policy, therefore, should be on reducing regional and sectoral imbalances. The key to this would be to support small scale producers in primary activities (agriculture and fishing) as well as in manufacturing segments. Endowed with large markets, a longstanding tradition of co-operatives and a robust institutional credit system, the state can create strong linkages between different sectors, thereby spurring job-creation.

The concerns of inclusivity that arise in an analysis of Maharashtra's growth are inseparable from those of sustainability. Embracing sustainable modes of production will not only reduce the stress on the state's resources but will also allow expanded access to these among small producers such as farmers who find diesel generators unaffordable on a long term basis. An approach that relies on continual innovation and re-evaluation is the one that Maharashtra must adopt to address these twin concerns. Keeping this in mind, this paper offers certain recommendations for five key segments of the state's economy: agriculture, industry and business, tourism, women's development and vocational education. An overview of each segment is followed by suggestions for policy-makers.

## Methodology

This paper relied largely on secondary data to examine various sectors of Maharashtra's economy. Data was sourced from reports and dashboards available on the websites of State and Central Government ministries/departments as well as from press releases made available by the Press Information Bureau. An especially important source was the Maharashtra State Economic Survey 2022-23 which offered comprehensive data for the outgoing and previous years which helped in understanding trends. Analysis of data so obtained helped in identifying areas that needed greater attention from the State Government. For recommendations on micro-irrigation (page 6) and solar cold chains (page 7), data

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<sup>1</sup> [RBI \(2022\)](#)

<sup>2</sup> [The Times of India, April 10, 2023.](#)

were tabulated to estimate the number of beneficiaries and the total water/energy savings that can arise from the proposed interventions.

## **Agriculture**

Engaging 55% of its rural population, agriculture accounts for 12.1% of Maharashtra's Gross State Domestic Product (DES 2023, 99). However, one-third of the state's land, particularly the regions of Marathwada and Vidarbha where 78%<sup>3</sup> of the farmers live, falls under the rain shadow region and suffers from erratic rainfall. The state has also been witnessing unseasonal rain which has led to massive crop damage, most recently in April 2023 (Tirodkar 2023) and this signals the need for expanding the coverage of crop insurance.

The woes of the agrarian hinterland are compounded by erratic electricity supply, which was among the major grievances raised in the farmers' protest march in March 2023<sup>4</sup>. Unreliable electricity also makes sustainable practices like micro irrigation unfeasible for many farmers in the State. The agricultural growth rate for 2022-23, which the state's Economic Survey has placed at 10.2%, is largely being driven by cash crops such as sugarcane and cotton, both of which are highly water-intensive (DES 2023, 9). Moreover, agriculture supply chains in the State need to be strengthened as there is a dearth of cold chains to help farmers access distant markets. The government must therefore address the pressing issues of sustainability, reliable irrigation and diversification of agricultural and allied activities. The following measures are being recommended:

### **Scaling up Sericulture**

Maharashtra is a leading non-traditional raw mulberry silk producer with mulberry cultivation being practised across at least 24 districts (Sinha and Kutala 2012, 19). It is lucrative for farmers as it requires low investment and gestation period, besides being less water-intensive than crops such as sugarcane and cotton. The state government has been implementing the silk component of its State Textile Policy 2018-2023 but some areas need more concerted attention:

1. Studies have found that a major hurdle for sericulture in the state is poor training of farmers in effective techniques of mulberry plantation and silk-cocoon production, and the lack of technical support (Jalba 2016, 604; Shah 2018, 3). It is recommended that every taluka in sericulture clusters be provided with a Sericulture Training Cell which will offer training and technical assistance to sericulturists. Such a cell should be staffed with experts in various domains of sericulture such as mulberry plantation, chawki production, reeling, and marketing of cocoons.

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<sup>3</sup> [The Indian Express, 8 March, 2023.](#)

<sup>4</sup> [The Times of India, 18 March, 2023.](#)

2. Inadequate marketing channels have also stunted the growth of sericulture. Farmers often resort to selling their cocoons at markets in Karnataka (Jalba 2016, 604). It is suggested that a dedicated silk cocoon market be set up in each silk producing district. Presently, Jalna, Nashik, Chhatrapati Sambhaji Nagar, Dharashiv, Ahmednagar, Solapur, Satara, Amravati and Wardha are the major mulberry silk producing districts (Sinha and Sathyanarayana 2012, 21). Some districts such as Jalna and Chhatrapati Sambhaji Nagar have already set up cocoon markets within their APMC markets<sup>5</sup>. Self Help Groups and cooperatives can be instrumental in helping sericulturists get better prices as well as in training the beneficiaries.
3. MGNREGA scheme has been expanded since 2013 to include mulberry plantation and silk-worm rearing. This has been successfully implemented in Jalna district where substantial increase in farmer incomes have been recorded<sup>6</sup>. The same can be replicated in other silk producing districts (such as Dharashiv, Amravati, Wardha, Solapur and Satara) to attract the rural poor to this non-farm activity.
4. It is further suggested that the Central Silk Board (CSB) be requested to set up a research centre in Maharashtra (such centres exist in Karnataka, Assam, West Bengal and Kashmir). The experience of Karnataka shows that CSB's research and development activities contributed immensely towards training sericulturists and silk-entrepreneurs, and dissemination of improved sericulture techniques (and new technologies) among farmers (Kirsur 2018).

### **Tackling Marathwada's Water-crisis using Micro Irrigation**

Marathwada, the chronically water-scarce region of Maharashtra which has an ignominious past of farmer suicides, can hugely benefit from more sustainable methods of irrigation. 'Micro irrigation' as a solution to bring more land under irrigation has been institutionalised under Pradhan Mantri Krishi Sinchai Yojana (PMKSY). Under this scheme, the Centre and States share costs to subsidise drip irrigation and sprinkler systems for farmers. However, as of 2021, only 17 percent of Maharashtra's agricultural land had been brought under micro irrigation<sup>7</sup>. The subsidy for micro irrigation being offered in Maharashtra is at 55% for small farmers and 45% for others<sup>8</sup>, is not by itself sufficient to encourage small farmers in drought-hit areas to adopt this technology. Keeping these issues in view, the following recommendations are being made:

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<sup>5</sup> [DNA, 9 September 2019.](#)

<sup>6</sup> [See Planning Department \(Employment Guarantee Scheme\). Success Story of Sericulture under MGNREGA Jalna District of Maharashtra. Government of Maharashtra, n.d.](#)

<sup>7</sup> [The Indian Express, 21 November, 2021.](#)

<sup>8</sup> See [MahaDBT](#); small farmers are those who hold not more than two hectares of land

1. It is recommended that the current micro irrigation subsidy being offered to small farmers be increased from 55% to 75% and that to others from 45% to 65%. The government did initiate such a step in 2021<sup>9</sup> but has not followed up on it, presumably due to shortage of funds.
2. The PMKSY also comprises a 'Micro Irrigation Fund' has been created under which the Centre offers loans to interested states for, among others, innovative micro irrigation projects such as solar-powered drip irrigation systems and PPPs in micro irrigation (DoA 2018, 5). It is suggested that the Maharashtra state government seek assistance under MIF to subsidise solar-powered drip irrigation systems in selected districts of the Marathwada region. This can also include gravity-based drip systems requiring zero power. This can help reduce operating costs for beneficiaries who already face prolonged power outages. Such a measure has been tried with encouraging results in some States including Gujarat (Kapadia 2019) and Odisha (Ghosal et al, 2018).
3. Participation of agri-businesses can also help speed up the coverage of micro-irrigation, as can be seen from the experimental project of Jain Irrigation Systems Limited involving small farmers in Jalgaon district. JISL entered into a contract farming agreement with small farmers to purchase good quality onions at an assured price. The company provided the onion-growers with seeds, fertilisers and agronomical guidance (Varma et al 2013, 56). Ordinarily, farmers get a subsidy of 55% on micro irrigation systems. JISL helps the farmers meet the remaining 45% percent costs through loans arranged through its partnerships with local banks, with a repayment period of 4-5 years (Zhou 2015, 171-73). By 2015, nearly 80% of the contracted farmers had been able to install micro irrigation systems.

The above model can be replicated in Marathwada on a pilot basis in Yavatmal district, a cotton-producing district with an abysmally low percentage of irrigated land of about 5% (Bhaskar et al 2014, 132). The role of the government should be to facilitate cooperation between agro-businesses, commercial banks, micro-irrigation companies and potential contract farmers who are cotton producers. It should also closely evaluate the outcomes of the contract farming arrangement. The agro-businesses involved should also commit to bearing the repairing costs as high repairing charges are a major reason why farmers tend to discontinue using micro-irrigation (Khapre 2015). The potential benefits from this project are estimated to be as follows:

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<sup>9</sup> The Indian Express, op. cit.

Particular (Unit)	Estimated Value
No. of small and marginal farmers growing cotton <sup>10</sup>	2,00,000
Water savings per hectare (litres) <sup>11</sup>	34,00,000
Maximum water savings per small farmer (litres) <sup>12</sup>	68,00,000
Total water savings per year (litres)	1,36,00,000

**Table 1:** *Potential water savings through micro-irrigation for Yavatmal cotton cultivators*

### **Bolstering Value Chains Through Cold Storage**

It has been estimated that nearly 40% of perishable farm produce in India is lost or wasted at various points in the value chain (ADB 2022, 2). A key reason behind this is the lack of sufficient cold storage for small producers. Maharashtra, which generates a large quantity of exportable produce lacks adequate cold storage capacity (Chakraborty 2020, 459). As of 2020, Maharashtra had a cold storage capacity of 1,009,693 MT<sup>13</sup> whereas its horticulture production for the year was 27,875,000 MT - which means just enough capacity for 3.5% of the produce (DES 2022, 12). A major hurdle for expanding cold chains is the high electricity requirement of cold storage facilities<sup>14</sup> which is difficult to meet in areas with already unreliable power grids. Another factor is the distance between cold storage units and the farmer. Covering this distance itself entails transaction costs and is often not feasible for small producers. To meet these challenges, the following steps are recommended:

1. The State Government should support a shift to solar powered cold chains. These are particularly viable in rural areas as ample rooftop space is available. These units can also be portable and require minimal installation work. Use of these systems in Uttar Pradesh has been found to reduce power bills by half (Joshi 2022). This has also been successfully tried out in several developing countries. In Kenya for instance, solar powered ‘ColdHubs’ were used for storage of fish which helped in keeping the produce fresh till it reached urban markets (UNEP and FAO 2022, 68). Munir et al (2021, 2) estimate the amount of power savings through solar based cold chains at 40-50%. Credit incentives could be offered to companies willing to invest in solar powered cold chain solutions. The estimated energy and cost requirements of a solar

<sup>10</sup> [Krishi Vidya Kendra, Yavatmal](#)

<sup>11</sup> Micro-irrigation leads to an average of 45% water savings per hectare (Narayanamoorthy 2008, 41) for cotton compared to traditional irrigation which requires 75,00,000 litres of water per year

<sup>12</sup> The amount of water-saving per hectare has been multiplied by 2 because a small farmer is defined as one who has a maximum 2 ha of land.

<sup>13</sup> <https://pib.gov.in/PressReleasePage.aspx?PRID=1658114>

<sup>14</sup> Cold storage units have one of the highest energy consumption rates in the commercial building segment ([Joshi 2022](#))

powered cold storage units have been compared with conventional cold storage units (CCSUs) in Table 2:

Particular	Estimated value
Annual power consumption of a CCSU per MT <sup>15</sup>	75 kWh
Average capacity of a CSU in Maharashtra <sup>16</sup>	1632 MT
Annual power consumption of a CCSU	1,22,400 kWh
Electricity bill of a CCSU <sup>17</sup>	₹ 13,46,400
Power consumption of a solar CSU (50% less than CCSU)	61,200 kWh
Power savings from use of solar CSU	₹ 6,73,200

**Table 2:** Annual power consumption of conventional cold storage unit (CSU) and solar powered unit

- To eliminate the need to transport the produce to far-away cold storage units, a system of decentralised cooling units should be put in place close to fisheries/horticulture farms. Evaporation based cooling units and cold storage boxes (which can be carried on two-wheelers) are low-cost solutions being designed by some emerging agritech startups<sup>18</sup> and can bring cold storage to the small farmer's doorstep. It is suggested that the government support these agritech firms in their research and development, and in popularising these cooling solutions.
- Debnath et al (2021) have proposed setting up 'community cooling hubs' which will meet not only the refrigeration needs for farm produce but will also serve additional purposes like vaccine storage and provide refrigeration space for community kitchens (such as those involved in cooking mid-day meals for schools). These hubs can be built after due assessment of a village's cooling needs.

<sup>15</sup> Mukhopadhyay and Nanda 2015, 1

<sup>16</sup> <https://pib.gov.in/PressReleasePage.aspx?PRID=1658114>

<sup>17</sup> Based on average electricity prices (per unit) prevailing in Maharashtra as of April 2023

<sup>18</sup> Such as Tamil Nadu's Tan90 which manufactures the 'Evap90', a cooling frame that uses evaporative cooling. See [YourStory, July 2021](#).

## Industry and Business

Maharashtra accounts for nearly 15% of India's industrial output<sup>19</sup> and is among the most industrialised states along with Gujarat, Karnataka and Tamil Nadu (Singh 2021). In 2022-23, 31.2% of the state's nominal GVA came from the industrial sector (DES 2023, 31). Despite having been a strong driver of growth, the industrial sector witnesses huge regional disparities within Maharashtra with most investments being concentrated in Mumbai, Thane, Pune, Nagpur and Nashik<sup>20</sup>. Moreover, the employment generating potential of the industrial sector has also not been tapped adequately as it provides livelihood only to 20% of the state's workforce (GoM 2014, 20-21).

While Maharashtra accounts for the largest number of MSMEs in India, access to credit is ridden with several procedural difficulties for such enterprises (Barje and James 2022). The relative neglect of infrastructure in non-MIDC areas (Pawar 2023) points to the need to fill gaps in industrial infrastructure as well. Several projects have been marred with delays and the burden of regulatory compliance remains heavy despite efforts to promote single window clearance for project proposals.

The thrust of the economic policy should now be on reducing regional disparities and in realising the job-creation potential of critical sub-sectors such as textiles, startups, IT, electric vehicles etc.. The following are the recommendations for the industrial sector:

### Reorienting Textiles

Maharashtra is one of the leading textile hubs of India, contributing to 10.4 percent of the country's total textile production<sup>21</sup> and over 12% of the total value of textile exports in 2021-22<sup>22</sup>. However, the value of Maharashtra's textile exports has dipped in recent years from \$5299 million in 2015-16<sup>23</sup> to \$4015 million in 2020-21. The State's Textile Policy (2018) envisaged a strong push to silk and woollen textiles, besides skill development and the setting up of textile parks. However, the focus on the handloom segment has been far from satisfactory as can be seen from the dismal financial performance of handloom co-operatives (DES 2023, 157). Handlooms are important not only as preservers of traditional crafts but also have high export potential, can form strong linkages with sericulture industry, offer sustainable garment options, and are known to provide livelihood to a large number of women. Keeping all this in, the following recommendations are being made:

1. Maharashtra needs to work on reorienting its handlooms production to suit the patterns of global demand. Such an exercise has been carried out by the Agra Smart City Mission since

<sup>19</sup> <https://www.midcindia.org/about-maharashtra/>

<sup>20</sup> <https://maitri.mahaonline.gov.in/pdf/Industrial%20Scenario-in-Maharashtra0622.pdf>

<sup>21</sup> [The Outlook, 15 February 2022.](#)

<sup>22</sup> This was calculated based on data provided by the Minister of State for Textiles, Smt. Darshana Jardosh in reply to a question in the Lok Sabha 14th December 2022.

<sup>23</sup> <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1556827>



2019 (Chakrabarty 2023). and its success can be instructive for Maharashtra. In this case, Agra's traditional handicrafts such as zari-zardozi fabrics and carpets were remodelled based on insights gained from market surveys on consumption patterns of tourists and foreign buyers. Artisans were then reskilled to design and manufacture them accordingly. They were also trained in digital literacy to enable them to sell their products on e-commerce platforms. A similar exercise can be undertaken in the Aurangabad Smart City for traditional textiles that Aurangabad (now known as Chhatrapati Shambhaji Nagar) is known for: Himroo fabrics and Paithani silks.

2. Paithani sarees in particular need strong measures to preserve their authenticity and to boost the incomes of their producers. It has been found that powerloom made inauthentic sarees made with Paithani designs are often sold as authentic Paithani silks (Belapurkar 2018). The GoM must spread awareness among the producers of genuine Paithani silks to register their fabrics under certified labels such as India Handloom Brand (IHB) or the Handloom Mark (HLM) and offer support to help them through the certification process. The state government should also come up with its own distinctive branding campaign for Paithani fabrics and open dedicated outlets across the state. This will help buyers identify genuine products.
3. Textile tourism is another unexplored area where handlooms have a significant role to play. Handloom clusters, urban 'haats' as well as mulberry/tussar plantations (where silkworms are reared) can be developed as cultural tourism spots for tourists who are visiting nearby heritage sites.
4. Under its Textile Policy 2018, the State Government offers a credit linked capital subsidy in lieu of an interest subsidy (GoM 2018, 9). It is suggested that the government also offer a special rebate for handloom co-operatives to encourage production, as has been done in the Tamil Nadu Integrated Textile Policy 2019 (GoTN 2019, 11).

### **Facilitating MSME-led Growth in Manufacturing**

Maharashtra has the fourth-largest number of MSMEs in the country (GOI 2023, 38) and is a leading state in the Micro and Small Enterprises Cluster Development Programme (MSE-CDP). The State Government has given a prominent space to MSME in its 2019 Industrial Policy. Yet, MSMEs continue to face certain bottlenecks in realising their potential for creating employment in manufacturing. They face increasing competition from large enterprises as well as from other exporting nations. The key issues include the lack of access to national and global markets as well as insufficient access to new technologies, skilled labour, and information on best practices. The following recommendations are offered to overcome these challenges:

1. Unlike other leading states in the MSME sector (including UP, Tamil Nadu and Karnataka), Maharashtra does not have a dedicated Department for MSMEs. Instead, MSME related policies are implemented by the executive agencies Directorate of Industries, Maharashtra Small Scale Industries Development Corporation (MSSIDC), Maharashtra Industrial Development Corporation (MIDC) and the Maharashtra Exports Promotion Council. It is recommended that a nodal body (i.e., a Department of MSMEs) be instituted for better coordination of the work of the above-mentioned agencies.
2. As of December 2022, Maharashtra had only 18 operational clusters under the MSE-CDP out of a total of 38 clusters that have been approved so far by GoI (DES 2023, 146). It is suggested that the work on the remaining clusters be expedited and more potential clusters be identified and proposed for GoI's approval, particularly in poorer districts such as Gadchiroli, Gondia, Washim, Beed, Latur etc.
3. MSE-CDP clusters are required to have a Common Facilitation Centre (CFC) which provides facilities for training, product design, raw-material procurement and information. It is suggested that each CFC be connected to a technical and management institute to provide vocational training and counselling to producers<sup>24</sup>. Well performing CFCs should also receive technical assistance from design institutes in the State to reorient product designs based on market trends. It is further suggested that training programmes offered in these centres be affiliated to the National Skill Quality Framework (NSQF) for ensuring good-quality training.
4. To help MSMEs access wider markets, it is recommended that CFCs train producers in using e-commerce portals developed by GoI such as the Government e-Marketplace portal as well as the MSME Global Mart of the National Small Industries Corporation<sup>25</sup>. Further, GoM should identify international trade exhibitions, fairs and other marketing opportunities where MSMEs may participate.
5. To disseminate leads about such marketing opportunities as well as to provide vital information about raw material suppliers, cold chain facilities, credit schemes and useful market research, it is suggested that an online database be created, preferably in conjunction with the already operational MAITRI portal of the Directorate of Industries.

### **Sustainable Data Centre Hubs**

Data centres are physical facilities containing servers where digital data is stored by online service providers. India being a large market for e-commerce, social networking and other digital services, huge quantities of user data are generated which are often stored in data centres abroad. However, storing data domestically can considerably reduce internet access times (GoM 2016, 1). The Digital Data

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<sup>24</sup> Based on UP's MSME Policy 2022

<sup>25</sup> Based on TN's MSME Policy 2021

Protection Bill 2022 seeks to regulate cross-border transfer of personal data and may further necessitate data localisation within India. Even if we discount this, the increasing shift to cloud computing by firms will also drive the demand for data centres in India (Haritas 2021). GoI released a Draft Policy on Data Centres in 2020 and the Government of Maharashtra has been offering a range of tax incentives for data centre businesses in the state (GoM 2016, 2). Certain areas needing particular attention are as follows:

1. Data centres are known to consume enormous amounts of energy with large facilities consuming enough energy to power small towns (Law 2022). Added to this is their cooling requirement which consumes huge amounts of water for evaporative cooling. It has been found that large data centres are more energy-efficient than small facilities. This leads to a power-saving strategy called hyperscaling which has been shown to achieve up to 25% energy savings (Jones 2018, 165). It is recommended that the State Government prioritise hyperscale data centres by demarcating 'data centre zones' for them besides offering them preference in regulatory clearance. Further, it is suggested that data centres be set up, as far as possible, in regions having a steadily cooler climate to minimise cooling costs.
2. Employability in large data centres would require specific skill sets (ADB 2017, 32). It is recommended that the state government collaborate with leading tech-businesses to organise short to medium term training courses for the youth in higher educational institutions to work as data centre professionals. These courses must be designed to not only equip them with skills for running data centres but to also innovate ways to make them energy-efficient.

### **Augmenting the Startup Policy**

Home to the largest number of recognised startups<sup>26</sup> in India, Maharashtra formulated a startup policy in 2018 to create a conducive ecosystem to foster innovation, obtain funding and help young entrepreneurs develop their ideas into sustainable and scalable business models. The startup policy had set a target to set up 15 startup incubators and 10,000 incorporated startups (MSInS 2018, 9). The state government has been able to establish 18 incubators and nearly 13,000 startups have been recognised by the Central Government (DES 2023, 14). However, the target of generating 5 lakh jobs by 2023 is still a far cry, for the startup ecosystem has generated only 1.7 lakh jobs in the State so far (DES 2023, 9). While its success in this domain has been commendable, the State can benefit from a more differentiated approach towards promoting innovations in various sectors. The recommendations in this regard as follows:

1. Maharashtra can adapt the hub-and-spoke model of incubation and acceleration adopted in the startup policies of Uttar Pradesh (2019) and Karnataka (2022). In this model, well-performing incubators with rich experience and strong capacities (for training, mentoring,

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<sup>26</sup> <https://pib.gov.in/PressReleasePage.aspx?PRID=1843897>

research facilities etc.) will be selected as the ‘hubs’ for guiding other nascent incubators (i.e.m the ‘spokes’) as well as higher education institutes in their region to set up their incubation and innovation cells. They must also carry out regular training for facilitators in incubator cells of colleges to ensure quality and up-to-date awareness of best practices.

2. The 2018 Startup Policy envisages setting up hubs in certain cities depending on their special capabilities in different sectors such as a fintech hub in Mumbai, an Automobile startup hub in Pune and so on (MSInS 2018, 17). It is suggested that startups working in the same sectors be connected through an ‘innovation network’ comprising the leading technical institutes. For instance, an innovation network in healthcare can span the incubation cells of the State’s premier medical institutes.
3. It is recommended that the State Government develop ‘agritech hubs’ in Nagpur, Nasik and Chhatrapati Sambhaji Nagar. These cities have been attracting a large share of the state’s food-processing and agrobusiness investments (KPMG 2019, 18). To facilitate agritech innovation, it is suggested that an Agriculture and Biotechnology Innovation Centre be set up with the participation of the leading agriculture colleges and biotechnology departments of premier higher education institutes.
4. Circular economy startups (such as those working on wastewater treatment, recycling etc.) should receive technical support from municipalities and municipal corporations. These local government bodies should maintain and update their databases on the state of urban waste management and ensure their access to circular economy entrepreneurs.
5. The State Government can adapt the ‘**Telangana Model**’ of startups and innovation for creating a **FinTech Hub in Mumbai**<sup>27</sup>. Telangana has surpassed Maharashtra in the India Innovation Index 2022 (where it scored Rank 2 whereas Maharashtra was ranked fourth) released by the NITI Aayog<sup>28</sup> and was also recognised by the RBI in 2019 as a model startup state<sup>29</sup>. To make the most of Mumbai’s unique strengths as the commercial and financial capital of India, GoM can learn from the holistic institutional ecosystem created by Telangana in Hyderabad:
  - a. Creating a nodal fintech incubator at Mumbai along the lines of Hyderabad’s widely acclaimed ‘T-Hub’. This nodal facility should have state-of-the-art infrastructure and mentoring programmes and be a convergence point for industry leaders to pool their expertise. It can be made financially self-sustaining like the T-Hub by demarcating its for-profit and not-for-profit functions (GoT 2016, 10).

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<sup>27</sup> A FinTech Policy has already been released by the GoM in 2018; this recommendation is about enhancing the current policy efforts

<sup>28</sup> <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1843317>

<sup>29</sup> [The Hindu, September 07, 2019.](#)

- b. More crucially, this fintech hub should apply the triple-helix model of T-Hub by creating a partnership between the government, academia and industry. Accordingly, as a first step, it is recommended that this fintech incubator can be a collaboration between IIT-Bombay, S.P Jain Institute of Management and Research and the Maharashtra National Law University so that expertise in business, law and tech-based innovation can be leveraged together.
- c. This proposed fintech hub should help link research and innovation with the industry thereby making innovation marketable. This will involve helping researchers with innovative solutions to commercialise their ideas by connecting them with companies (including startups) who are scouting for new technologies for their business. This initiative can adopt the framework of the Research and Innovation Circle of Hyderabad (RICH).
- d. The fintech hub can develop outposts in Tier II cities (which should have access to the fintech hub's network and other virtual resources) to foster innovation in the surrounding rural areas. This would enable greater financial inclusion of the rural population. Taking cue from the Telangana government, an 'Impact Fund' may be created and dedicated for rural and social enterprises among startups.
- e. It is suggested that the GoM bring out specific policies in various 'emerging areas' such as data analytics, blockchain, AI, Internet of Things (IoT) etc. as these are closely allied with financial technologies and can augment the fintech ecosystem. It is notable that Telangana has already created policy frameworks for these segments, among others.

## **Tourism**

Tourism is among the fastest growing sectors in Maharashtra. The state had the second highest number of foreign tourists in 2019, next to Tamil Nadu and remains the fifth-most visited state by domestic tourists as of 202 (MoT 2022, 140). Since the release of the Maharashtra Tourism Policy of 2016, the state government has brought out separate policies for emerging sub-sectors such as agro-tourism (2020), adventure tourism (2021) and caravan tourism (2021). However, the footfall of tourists has not been able to return to the pre-pandemic levels (DES 2023, 150). The following measures are suggested to bolster the recovery of this sector:

### **Greater emphasis on Agro-Tourism and Rural Tourism**

Maharashtra was the pioneering state in agro-tourism with the setting up of the Agri Tourism Development Corporation back in 2005 (Raja 2022). As of 2021, Maharashtra had 329 agro-tourism centres across 29 districts (Kumar 2021). Certain steps can be taken to expand this subsector and attract more tourists:

1. Special emphasis should be laid onto the rural areas of Marathwada and Vidarbha as farmers in this water-stressed region can immensely benefit not only from an alternative source of income but also with improved infrastructure and public utilities which are likely to improve with an influx of tourists. Credit support should be offered to small farmers/cooperatives that wish to set up agrotourism centres. The initial fees of ₹2500 may be reduced to ₹1700 for interested small farmers in this region. A special rebate may also be offered to encourage more farmers to invest in setting up agrotourism centres.
2. A dedicated online portal should be set up to help farmers form links with tour and travels companies that provide transport services. This will help agrotourism to expand beyond the pockets where it is presently concentrated (mostly agrarian hinterlands surrounding major cities).
3. A system of certification (and periodic re-certification) and rating should be put in place for agro-tourist centres which must be required to meet certain minimum quality standards to be defined by the Department of Tourism. This will ensure competition and help drive up quality standards.

### **Celebrating Maharashtra's Prehistoric Heritage**

Since 2018, the Maharashtra Tourism Development Corporation has been working on building a 'Buddhist Cave Circuit' comprising Buddhist caves such as Karle, Kanheri, Lenyadri, Chhatrapati Sambhaji Nagar, Pandavleni etc (Tare 2018). A similar project can be undertaken for Maharashtra's prehistoric sites which have been excavated and studied by the Archaeological Survey of India. These include Daimabad (Ahmednagar), Nevasa (Ahmednagar), Inamgaon (Pune) and Jorwe (Ahmednagar). As can be seen, these sites are quite proximate to each other.

Many of these are chalcolithic sites representing a unique and extremely significant phase in the country and state's history. Excavations have revealed a wealth of material remains such as pottery, weapons, houses, sculpture, beads as well as burials. However, they have largely remained obscure, except among archaeologists and scholars. It is recommended that these archaeological sites be developed as tourist destinations along the lines of Indus Valley Sites such as Dholavira (Gujarat) and Rakhigarhi (Haryana):

1. Under the Ancient Monuments and Archaeological Sites and Remains Act, 1958, these sites have already been declared as sites of 'National Importance' which need to be provided with basic tourist amenities such as drinking water, toilet blocks, facilities for physically challenged, pathways, cultural notice boards/signage etc<sup>30</sup>. Since the ASI has not been proactive here, this should be the first step by the State Government for developing these sites.

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<sup>30</sup> <https://pib.gov.in/newsite/PrintRelease.aspx?relid=137167>

2. A site museum must be established to showcase the excavated material remains and inform the visitors about these finds and offer context and perspective for non-specialists. It is suggested that the State Government collaborate with the Archaeology Department of Deccan College, Pune to carry out this exercise. Many objects belonging to these sites are currently housed in museums in Pune and New Delhi. Efforts must be taken to retrieve these.
3. Tourism in these sites can be blended with rural tourism as these are located near small villages. This will promote employment in the hospitality sector among the local villagers.
4. Equally important would be to ensure greater visibility among the common public. The Department of Tourism and the Directorate of Archaeology and Museums should undertake a campaign to spread public awareness about these sites.

### **Women Development**

The Periodic Labour Force Survey 2019-20 showed that the workforce participation ratio for women in Maharashtra was at 37.7%<sup>31</sup>. This is likely to have fallen in the aftermath of the pandemic which has also resulted in women being pushed into the informal sector of the economy. The State Government is expected to release a new Policy on Women in 2023. While several schemes have been put in place for healthcare, education and safety of women, certain additional measures may be considered for improving women's participation in various sectors of the economy:

1. As of 2022, there were only 65 state-run Working Women's Hostels in Maharashtra (DES 2023, 216). Working women's hostels are accommodations facilities offered to working women who are unmarried/divorced/separated or are married but working in a city/town far away from their family. It is recommended that the State Government expand these facilities in underserved districts and cities. It has been noted that as of 2019, 138 such hostels had been sanctioned in the state<sup>32</sup>. So, the work on making them functional must be taken up at the earliest.
2. The Working Women's Hostel Scheme of the Union Government requires each hostel to have an affordable day-care facility. It was found in a 2017 evaluation by the Union Ministry Women and Child Development that most such hostels lack day-care centres (MoWCD 2017, 17). It is recommended that such hostels be identified and given a deadline within which day-care facilities are set up.
3. It is suggested a certain proportion of available plots be reserved for women in MIDC areas, textile parks and IT parks to encourage women entrepreneurs to take advantage of the infrastructure facilities available in these zones.

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<sup>31</sup> <https://pib.gov.in/PressReleasePage.aspx?PRID=1805783>

<sup>32</sup> <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1579518>

4. The State Government's Women Entrepreneurship Cell has trained 120 women as of December 2022 (DES 2023, 149). The Cell must expand its outreach to women in the interiors of the state, especially those engaged in rural/agricultural activities. It should also engage with the incubators in higher educational institutions to determine the participation of female students in entrepreneurial ventures and provide the requisite training/resources. Special startup campuses for women may also be set up in all districts to provide women entrepreneurs with co-working areas, some of which may be attached to working women's hostels. It is further recommended that district-wise entrepreneurship facilitation centres be set up (preferably within the above-mentioned startup-campus) with a special focus on identifying and nurturing women-led startups.
5. There are certain MSME segments where there is a significant involvement of women. Such women-centric industries in Maharashtra include khadi textiles, coir-products (in Konkan region) and bamboo handicrafts:
  - a. As of June 2023, there was only a functional coir-MSME cluster in Maharashtra at Pendur, Sindhudurg district (M/o MSME 2020, 44). Another cluster has been sanctioned in Sawantwadi (Sindhudurg) and it is recommended that this be made operational at the earliest and skill-training units be set up in the Common Facilitation Centre therein. Coir-related Self Help Groups (SHGs) for women can be trained in marketing methods (including e-commerce) to sell their products within and outside Maharashtra.
  - b. For bamboo products, several MSME clusters are still in-progress. It is recommended that the Industrial Design Centre (IDC) at IIT Mumbai (which has set up a Bamboo Studio for design students) conduct training courses in all the CFCs set up in the future to help artisans create newer and more attractive bamboo products. Further, the State Government should (under National Bamboo Mission) conduct trade exhibitions and set up 'urban-haats' for bamboo crafts in major cities, and also reserve a portion of the space therein for women-artisans to showcase and sell their products. The emphasis of such a marketing initiative should be that bamboo products are not merely souvenirs but can also be in the form of elegant daily-use household products.
6. To support women farmers (who have a significant presence in the horticulture segment), it is suggested that transport of farm produce be subsidised for them through the issue of seasonal passes. Further, a fixed quota of the procurement of farm produce for government schemes such as mid-day meals, maternal healthcare programmes (such as ICDS) should be from women farmers. Leasing and sale of uncultivated land should also prioritise women's farm cooperatives.



## Vocational Education and Skill Development

Maharashtra has among the largest number of Industrial Training Institutes (ITIs) with 1028 institutes in 2021-22 (NITI Aayog 2023, 36). It is also among the top-three states in terms of employability as per the India Skills Report 2023 (Wheebox 2023, 31). Yet, certain issues pose challenges for skill development in the state. The dashboard of the Maharashtra State Department of Skills and Employability reveals that of the total beneficiaries of vocational training programmes in the state only 49.6% were able to get placed in various jobs<sup>33</sup>. This indicates a need for improving the quality of the skill training especially in soft-skills and emerging technologies. As of 2021-22, nearly 45% of the seats in ITIs in the state were going vacant (NITI Aayog 2023, 36), hinting that vocational courses need to be vigorously marketed to get more takers. A study on the skill-gap in Maharashtra estimated an incremental shortfall of 33.6 lakh persons in the skilled labour force for 2012-2022 (NSDS 2012, 67). While a more recent estimation is lacking, this figure should drive home the immense possibilities of skill development in the state. Some recommendations in this regard are as follows:

1. ITI courses largely continue to cater to the manufacturing segment. Courses offered per ITI in Maharashtra range from . It is recommended that the range of courses offered be expanded keeping in view the new patterns of demand. Services-sector related courses which train the youth in using emerging technologies as well in high-potential sectors such as retail need to be explored and institutionalised. The Central Government's ITI dashboard shows that skill courses in banking and finance are not offered in any ITI in the state while only seven ITIs offer healthcare related courses. IT related courses are heavily concentrated in the computer programmer segment whereas emerging areas like IoT, data presentation, animation and special effects etc. are taught in barely 3-4 ITIs<sup>34</sup>. It is suggested more and more ITIs in the state offer courses in these areas as well.
2. A disaggregated and localised approach in course-designing must be adopted. District-wise skill gap studies such as the one undertaken by KPMG for Maharashtra in 2018<sup>35</sup> can be used to identify high-growth sectors (and specific job roles that are in high demand) in each district and skill training programmes should be accordingly put in place through ITIs and skill-centres in each district. Besides teaching basic and widely-demanded skills such as in computer-science and IT, these district wise skill-centres can also teach skills based on the One District One Product (ODOP) programme. For example, industrial chemicals have been identified as the chief product in Solapur district (DoI 2022, 10). Accordingly, relevant skills

<sup>33</sup> [https://kaushalya.mahaswayam.gov.in/dashboard/admin\\_index](https://kaushalya.mahaswayam.gov.in/dashboard/admin_index)

<sup>34</sup> <https://www.ncvtmis.gov.in/Pages/ITI/TradeStats.aspx>

<sup>35</sup> [KPMG. Micro-Level Skill Gap Study for the State of Maharashtra: Prepared for the Maharashtra State Skill Development Society. 2018.](#)

such as for laboratory assistant, chemical processing operator etc. need to be given greater priority in Solapur's skill-centres.

3. To augment the quality of skill training, it is suggested that Public Private Partnerships be considered by engaging with prominent players in each sector. For instance, Volkswagen India, as part of its CSR initiative, provided ITI Chinchwad (Pune district) with teaching aids, funded high-speed internet, helped develop updated e-learning modules and also installed a simulator to recreate real-life automobile factory scenarios (NITI Aayog 2023, 45). These interventions help in providing exposure to working environments and boost employability and also provide the private partner with industry-ready talent.
4. An oft-cited shortfall in the vocational training centres is that of instructors, especially in less developed districts of the state (KPMG 2018, 35) such as Gadchiroli, Beed, Sindhudurg, Nandurbar etc. Data from the Ministry of Skill Development and Entrepreneurship reveals that of the 18, 348 trainer posts sanctioned in Maharashtra, only 10,243 have been filled<sup>36</sup>. Moreover, only 1393 instructors are reported to have Craft Instructor Training Scheme (CITS) certification<sup>37</sup>. It is suggested that these vacancies be expeditiously filled. It is further recommended that Institutes for the Training of Trainers (ITOTs) be expanded in the state, with a starting target of one institute per district. Special courses should be offered to allow trainers to upskill themselves periodically. Trainers should also be deputed for exposure visits to MSMEs and other industrial units.
5. It is recommended that the State Government engage with the All India Council for Technical Education (AICTE) for ramping up Massive Open Online Courses (MOOCs) in Marathi language (on platforms such as SWAYAM). This will entail creating good quality translations of existing courses as well as courses which are tailored to meet the skill requirements of Maharashtra's labour markets.
6. There is a general perception that tends to associate vocational education with blue-collar or low-paying and less-prestigious jobs which prevents high school and senior secondary school pass-outs from aspiring for vocational degrees (GoK 2017, 17). It is recommended that GoM carry out a rebranding campaign to make the youth aware of the plethora of opportunities that are available to vocational education graduates. Such a campaign should emphasise that vocational courses are *not limited* to manufacturing roles such as mechanics and electricians. Instead, it should highlight service-sector related courses offered in the ITIs which are viewed as more attractive among the youth, such as courses in IoT, AVGC, marketing, event management etc<sup>38</sup>.

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<sup>36</sup> <https://ncvtmis.gov.in/Pages/Dashboard/InstructorDashboard.aspx>

<sup>37</sup> *ibid.*

<sup>38</sup> All these subjects are being taught in one or more ITIs in Maharashtra.

7. Recently, the GoM signed an MoU with the Tata Institute for Social Sciences to enrol 15,000 XII standard pass-outs in BVoc (Bachelor of Vocational Studies) courses at TISS School of Vocational Education, Mumbai<sup>39</sup>. It is suggested that this model be replicated in other parts of Maharashtra by engaging with technical institutes and medical and agricultural colleges to offer BVoc courses with financial assistance from the state government and in partnership with leading companies in the relevant sector.

## Conclusion

This paper has examined five key domains of Maharashtra's economy: agriculture, industry, tourism, women's development and vocational education. The recommendations offered here exhort the State Government to facilitate diversification within agriculture through the promotion of sericulture and the strengthening of value chains in horticulture through improved cold storage. The water-woes of Marathwada need to be combated with an innovation-powered approach to bring water-efficient technologies to every small and marginal farmer. In the industrial and business sector, Maharashtra needs to augment its policy on startups to promote greater networking and foster innovation - an endeavour in which learning from Telangana may be fruitful. The State's textile policy must give ample space to the handloom segment with emphasis on marketing and branding and export-orientation. MSMEs in the state can be major job-creators if they are able to access better technologies, skills and wider markets. The tourism sector must be assisted in its post-pandemic recovery by aiding new-age subsectors such as agrotourism to realise their potential. Women in the state need greater space for economic participation for which the state must focus on creating enabling conditions for working women, promoting women's entrepreneurship and supporting women farmers. Finally, the state must reduce its skill-gap by actively promoting vocational education among the youth and enhancing the quality of skill training by engaging with various public and private players.

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<sup>39</sup> [The Indian Express, 01 January, 2023.](#)

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