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WEST BENGAL

Mapping Agriculture and Industrial Investment Opportunities

PHDCCI Research Bureau

Table of Contents

- 1. Executive summary**
- 2. Economy Structure**
- 3. Factor endowments**
 - Labour and Education
 - Strategic Framework for Industrial Land Bank Development
 - Industrial Land Bank Available for Industry Use
 - Natural Resources
- 4. Agriculture**
 - Overview of the Agriculture Sector in West Bengal
 - Rainfall
 - Land Use Pattern
 - Rice: Backbone of Agriculture in West Bengal
 - Potato: Major Commercial Crop
 - Horticulture, One of the Strongest Growth Opportunities
 - Agro Processing Opportunities
 - Potential for Pulses Production
- 5. Infrastructure**
 - Shipping and Ports
 - Ship Building Potential
 - Ongoing Projects

Table of Contents

6. Production Linked Incentive Scheme (PLIS)

- Potential for Electronics Manufacturing and Recommended Industrial Clusters
- Potential for Engineering and Precision Component Manufacturing and Recommended Industrial Clusters
- Potential for Chemical and Pharmaceutical Manufacturing and Recommended Industrial Clusters
- Potential for Specialty Steel Manufacturing and Recommended Industrial Clusters
- Potential for Manufacturing of Photo Voltaic (PV) Modules and Advanced Chemistry Cells (ACCs) and Recommended Industrial Clusters
- Potential for Agri and Food Processing and Recommended Industrial Clusters
- Potential for Textile Manufacturing and Recommended Industrial Clusters

7. Investments in Energy Sector

8. Strategic Investment Framework

Executive Summary

Executive Summary

The report assesses West Bengal's economic structure, factor endowments, infrastructure, industrial ecosystem, export potential and sector-specific investment opportunities. Its central conclusion is that **West Bengal has a substantial base for accelerating industrialization and investment, but the opportunity lies in converting existing natural, human, industrial and logistical advantages into integrated, investment-ready manufacturing and export clusters.**

1. Economic base: growth with fiscal and productivity constraints

West Bengal's real economy has expanded over the last decade. GSDP increased from ₹6.10 lakh crore in FY2015-16 to ₹9.42 lakh crore in FY2024-25, representing a CAGR of about **4.95%**, while GSVA grew at approximately **5.26% CAGR**. However, state debt increased faster, at about **9.61% CAGR**, reaching around 74% of GSDP by FY2024-25. This indicates that future growth needs to place greater emphasis on **productivity-enhancing investment, private investment mobilisation and higher-value industrial activity**. The economic structure is increasingly services- and industry-led: services accounted for an average of about **42% of GSVA**, while industry contributed about **23%** over FY2015-16 to FY2024-25. The report therefore identifies scope to deepen manufacturing while leveraging the state's expanding services, knowledge and human-capital base.

2. Human capital is a major comparative advantage

West Bengal has a large educational and technical ecosystem, including IIT Kharagpur, ISI Kolkata, IIM Calcutta, IIST Shibpur, Jadavpur University and a substantial network of engineering, management and other higher-education institutions. Literacy was reported at **84.6% in 2024-25**.

At the same time, the report highlights a **skills-industry mismatch**. Unemployment among diploma holders and graduates remained relatively high, while employment growth in professional, scientific and technical activities was slower. This suggests that industrial expansion in precision engineering, electronics, advanced manufacturing, R&D and technical services could simultaneously improve **employment absorption and labour productivity**.

Notes:

- 1) GSVA: Gross State Value Added
- 2) CAGR: COMPOUND Annual Growth Rate

Executive Summary

3. Land availability is a critical investment-enablement issue

A key finding is that the constraint is not simply the aggregate amount of industrial land, but the availability of **large, contiguous, legally clear and infrastructure-ready parcels**.

The report proposes moving from a static land-bank approach to a **5,000–10,000 acre rolling investment-ready industrial land pipeline**, with:

2,000–4,000 acres for anchor industries;

3,000–6,000 acres for MSMEs and supporting industries;

dedicated parcels ranging from **50 acres to 500+ acres**;

a five-stage land-readiness process from identification through investment readiness.

It further proposes a **Mega Industrial Parcel Programme** targeting 32–47 large parcels and a Land Readiness/IRIP Score based on title clarity, size, land use, roads, power, water, logistics, environmental suitability and development cost.

4. Infrastructure provides a platform for industrial expansion

The report identifies significant ongoing Central Government infrastructure investment. As of April 2026, **82 ongoing central-sector infrastructure projects** in West Bengal had a revised cost of approximately **₹1.47 lakh crore**, including major investments in railways, roads, power, ports/inland waterways, coal, oil & gas and related infrastructure.

This creates an opportunity to integrate infrastructure development with industrial policy rather than treating connectivity as a standalone objective. In particular, the Kolkata–Haldia–Durgapur–Kharagpur–Howrah industrial belt and links to eastern, northeastern and neighbouring markets can support manufacturing and logistics clusters.

Executive Summary

5. The strategic industrial opportunity is to move up the value chain

The report identifies a broad set of sectors with potential:

Automotive & components | Chemicals | Engineering | Foundry | Leather | Power & energy | Mining | Maritime | Rubber | Solar | Tea | Textiles, alongside the PLI-linked ecosystems covering electronics, pharmaceuticals, specialty steel, PV modules/ACCs, food processing and textiles.

The common strategic theme is **value-chain deepening** rather than simply increasing production capacity.

For engineering, for example, the proposed transition is:

Foundry/Forging/Fabrication → Machining → CNC/VMC/HMC/5-axis → Precision Components → Surface/Heat Treatment → Testing & Metrology → Sub-assemblies → Tier-2/Tier-1 Suppliers → OEM Supply → Exports.

The report proposes a **West Bengal Precision Manufacturing Mission** centred on technology upgrading, common facilities, international certification, OEM–MSME supplier development, machinery finance and export development.

6. Howrah–Durgapur–Kharagpur can become an advanced engineering corridor

West Bengal's traditional engineering base is identified as an important starting advantage. Howrah alone has a substantial foundry ecosystem, while Durgapur, Kharagpur and Kalyani provide complementary capabilities in heavy engineering, machinery, research, precision manufacturing and industrial infrastructure.

The recommended focus is on **precision components, railway components, automotive components, industrial machinery, aerospace and defence components**, rather than attempting to immediately attract large OEMs across every segment.

Notes:

- 1) CNC: Computer Numerical Control Machines which operate through computer softwares and codes
- 2) VMC: Vertical Machining Center, part of CNC; HMC: Horizontal Machining Center, part of CNC
- 3) OEM: Original Equipment Manufacturers, companies which make specified components to be used as intermediate goods

Executive Summary

7. Electronics and Electronics System Design and Manufacturing (ESDM) offer an opportunity to establish an Eastern India hub

The report proposes positioning West Bengal as an “**Eastern India's Integrated Electronics & ESDM Hub**”, building on Kolkata's engineering and knowledge ecosystem, existing electronics manufacturing clusters at Naihati and Falta, technical institutions, ports and access to eastern and northeastern markets.

The strategy spans:

Electronics assembly → Components → Industrial/embedded electronics → Design/R&D → Semiconductor ecosystem → Logistics, repair, refurbishment and circular economy.

This approach could integrate West Bengal into national and global electronics value chains rather than focusing solely on assembly.

8. Renewable energy can become both an energy source and an industrial opportunity

The report identifies substantial renewable-energy potential that remains underutilised. Solar installed capacity increased from about **180 Mega Watts (MW) in 2023 to 321 MW in 2025**, while estimated wind potential at 150-metre hub height is about **1,281 MW**, despite no installed wind capacity reported in the assessment. Hydro and biomass resources also have significant unutilised potential.

The report therefore links renewable deployment with manufacturing opportunities in:

- Solar PV modules;
- Battery materials and cells;
- Battery packs and storage systems;
- Solar mounting structures;
- Electrical equipment;
- Renewable-energy components

It proposes differentiated clusters at **Haldia, Kharagpur, Durgapur and Howrah**.

Executive Summary

9. Maritime and shipbuilding could create a new industrial ecosystem

West Bengal's port, inland-waterway and engineering capabilities provide a basis for developing a larger maritime manufacturing ecosystem. The report envisages a combination of **shipbuilding, ship repair, marine equipment, steel fabrication, engineering suppliers, logistics and maritime services**.

The indicative investment requirement for a comprehensive ecosystem is estimated at **₹20,800–34,500 crore**, with potential long-term annual shipbuilding output of **₹25,000–40,000 crore**, 50,000–70,000 direct jobs and 150,000–250,000 indirect jobs. These are **scenario-based estimates in the report, not forecasts**.

10. Agriculture should be integrated with food processing and logistics

The report treats West Bengal's agricultural diversity as an industrial input advantage, drawing attention to its multiple agro-climatic zones, fertile soils, water availability and broad crop base. This creates opportunities to expand beyond primary agricultural production into **food processing, cold chains, warehousing, packaging, value-added agricultural products and export-oriented agro-processing**.

This is particularly relevant for connecting agricultural districts with industrial parks and logistics centres.

11. Export strategy should focus strongly on Asia and neighbouring markets

West Bengal already has a significant Asian export orientation. Around **50% of the state's industrial exports go to Asian countries**, with East Asia and ASEAN accounting for approximately **39% of total exports**. Major destinations include China, Singapore, Japan, Malaysia, South Korea and other Asian markets, alongside the US, UAE, Italy, Germany and the UK.

The report therefore supports a strategy of using West Bengal's geographic position as an **eastern gateway for exports to Bangladesh, ASEAN, East Asia and the wider Indian Ocean region**, particularly for engineering products, processed agricultural goods, textiles, chemicals, electronics and maritime products.

Executive Summary

Conclusion

- The report's central proposition is that West Bengal should shift from an investment strategy based primarily on individual projects and existing industrial estates towards an integrated, cluster-based manufacturing strategy.
- The State's competitive proposition is the combination of human capital + engineering heritage + industrial MSMEs + ports and multimodal connectivity + eastern India market access + research institutions + agricultural resources.
- The principal policy task is to convert these endowments into investment-ready land, common industrial infrastructure, globally compliant suppliers, skilled manpower, technology-upgraded MSMEs and export-oriented value chains.
- In this framework, the most important near-to-medium-term opportunities are precision engineering and components, electronics/ESDM, chemicals and specialty manufacturing, renewable-energy equipment and storage, food processing, automotive/railway components, and maritime manufacturing, supported by infrastructure, industrial land and export facilitation.



Economy Structure

Source
 Maps of India (<https://www.mapsofindia.com/maps/westbengal/westbengal-district.htm>)
 (2023)

Economy Structure

Economic Indicators

Year	GSDP (₹ in Crore)	GSVA (₹ in Crore)	Debt (₹ in Crore)
FY 2015-2016	6,09,545	5,86,923	3,06,043
FY 2016-2017	6,53,416	6,32,494	3,37,682
FY 2017-2018	6,94,981	6,76,050	3,60,961
FY 2018-2019	7,38,920	7,20,937	3,93,300
FY 2019-2020	7,61,794	7,46,388	4,33,475
FY 2020-2021	7,04,042	6,94,687	4,81,999
FY 2021-2022	7,86,004	7,69,906	5,25,622
FY 2022-2023	8,31,251	8,19,450	5,74,313
FY 2023-2024	8,81,892	8,70,735	6,33,961
FY 2024-2025	9,41,854	9,31,343	6,98,997

Economic Growth but at higher costs

- West Bengal's GSDP and GSVA have increased from FY 2015-16 to FY 2024-25, with the CAGR of 4.95% and 5.26% respectively.
- However, the state's debt has also increased simultaneously. With a CAGR of 9.61%, the debt reached approximately 2/3 of the GSDP by FY 2024-25
- The difference between GSDP and GSVA for FY 2024-25 is 1.18% of GSDP. This implies that the value added and expenditure were similar. This indicates that expenditure was primarily on investments on capital and other infrastructure, which resulted in a parallel increase in value added.

Source:

RBI Handbook of Statistics on Indian States (<https://www.rbi.org.in/scripts/AnnualPublications.aspx?head=Handbook+of+Statistics+on+Indian+States>)

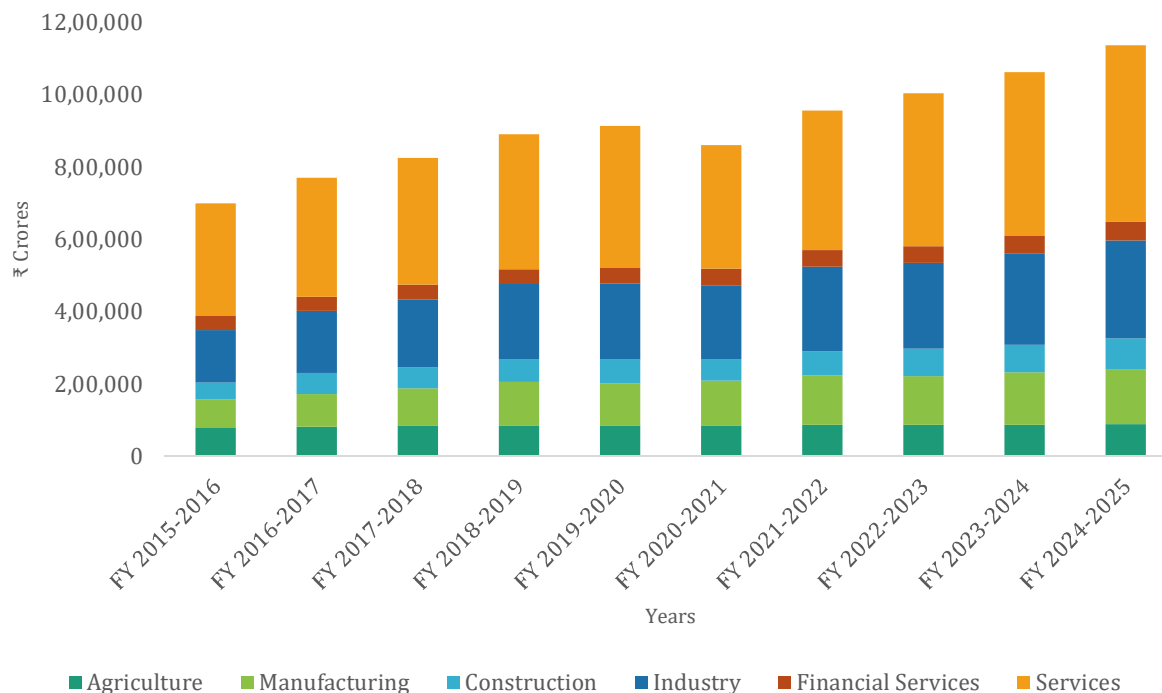
Finance Department, Government of West Bengal (https://finance.wb.gov.in/writereaddata/Fiscal_Policy/FRBM24_Part1.pdf)

Notes:

- 1) GSDP and GSVA are at constant price, base year = 2011-12,
- 2) Gross Fixed Capital Formation data is unavailable for FY 2024-25 since the source for this data is the annual survey of industries (ASI) which has not been conducted in FY 2024-25

Economy Structure

Gross State Value Added by Economic Activity (₹ Crores)



Industry and services leading the economy

- Of the 6 significant economic activities contributing the GSVA, the Industry and Service sectors contribute the highest proportion.
- The 'Industry' sector contributed an average of 23% while 'Services' an average of 42% between FY 2015-16 to FY 2024-25
- This indicates increased investments in human resource. As labour becomes more skilled through investment in education and training, employment in industries requiring skilled and semi-skilled labour, such as research and development, healthcare and logistics increase. This results in an increase in value added by these service-oriented industries.

Source

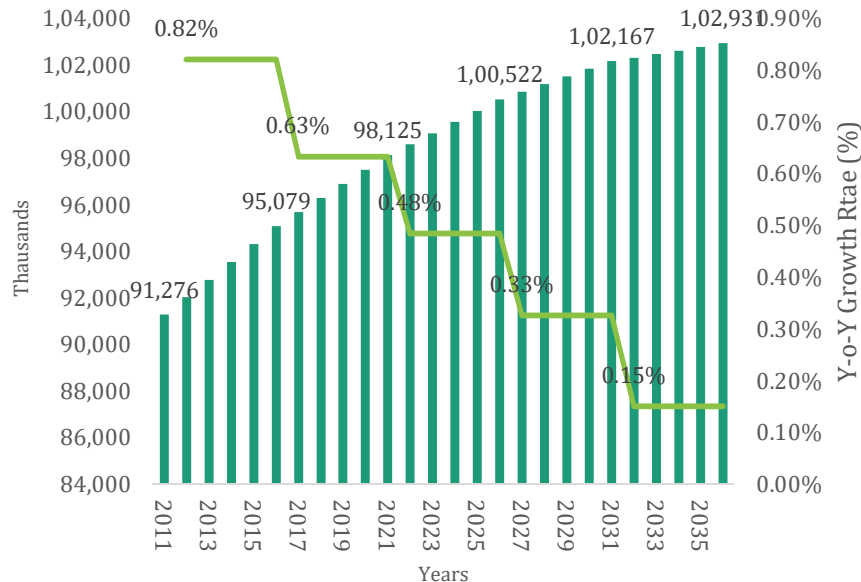
RBI Handbook of Statistics on Indian States (<https://www.rbi.org.in/scripts/AnnualPublications.aspx?head=Handbook+of+Statistics+on+Indian+States>)

Notes

GSVA is at Constant Prices with Base year = 2011-12

Economy Structure

Population projections (in thousands) and annual growth rates (%)



Source:

West Bengal Department of Industry, Commerce and Enterprises (<https://wbindustries.gov.in/Demography.html>)

Census of India, 2011 population projections (https://nhm.gov.in/New_Updates_2018/Report_Population_Projection_2019.pdf)

Notes:

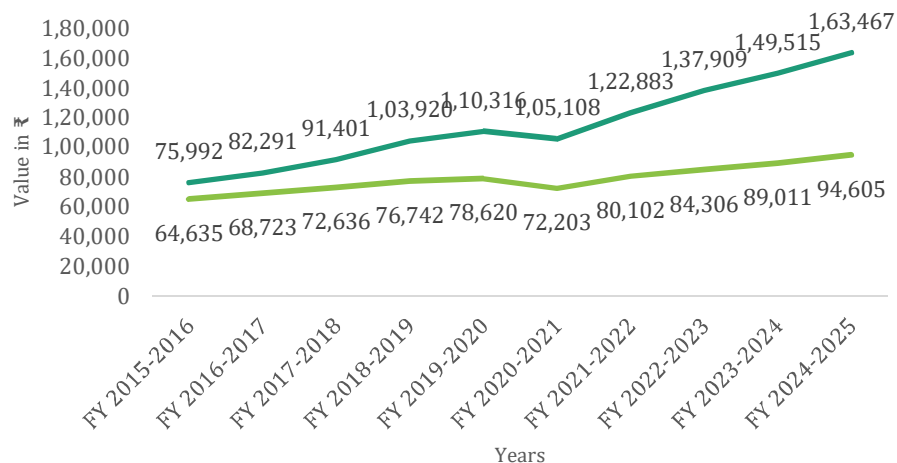
1) Population numbers of 2016, 2021, 2026, 2031 and 2036 are projected by Census, 2011. CAGR method used to interpolate data for intermittent years.

Population, per capita growth and prices show slow growth in purchasing power

- Despite a projected increase in population, West Bengal Per Capita GSDP and GSVA shows an increasing trend. GSDP at current prices has a CAGR of 8.88% and GSVA at current prices with a CAGR of 8.99%
- This indicates that despite increasing populations, the Per capita income in West Bengal is increasing steadily
- However, GSDP and GSVA at constant prices show lower inclines compared to their current-prices counterparts. The former has a CAGR of 4.32% and latter of 4.63%
- This implies that despite rising incomes, the per capita purchasing power did not rise as significantly. Such a trend is caused due to rising prices in the economy.
- This is supported by the Consumer Price Index increasing with a CAGR of 0.21% between January, 2025 and December, 2025. Additionally, the CPI inflation for May, 2026 is 3.44%, marking an increasing trend in prices in West Bengal

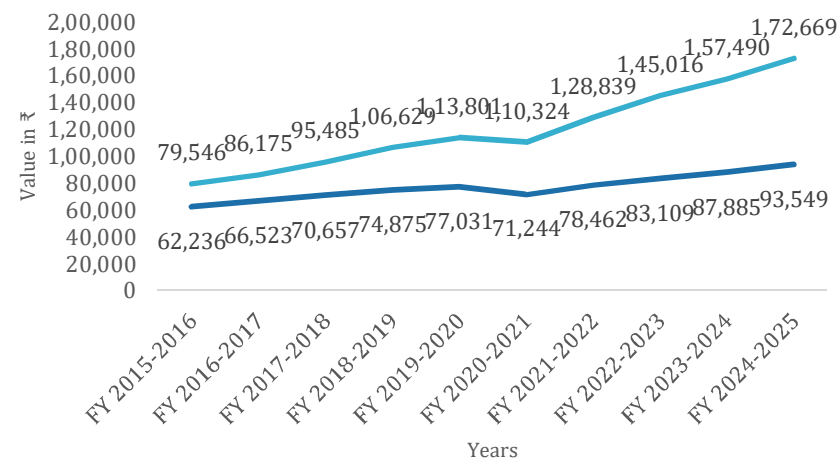
Economy Structure

GSDP per Capita (₹)



— Per Capita GSDP (Current prices, Base = 2011-12)
— Per capita GSDP (Constant prices, Base = 2011-12)

GSVA per Capita (₹)



— Per capita GSVA (Current prices, base = 2011-12)
— Per capita GSVA (Constant prices, base = 2011-12)

Source:

RBI Handbook of Statistics on Indian States (<https://www.rbi.org.in/scripts/AnnualPublications.aspx?head=Handbook+of+Statistics+on+Indian+States>)

Note:

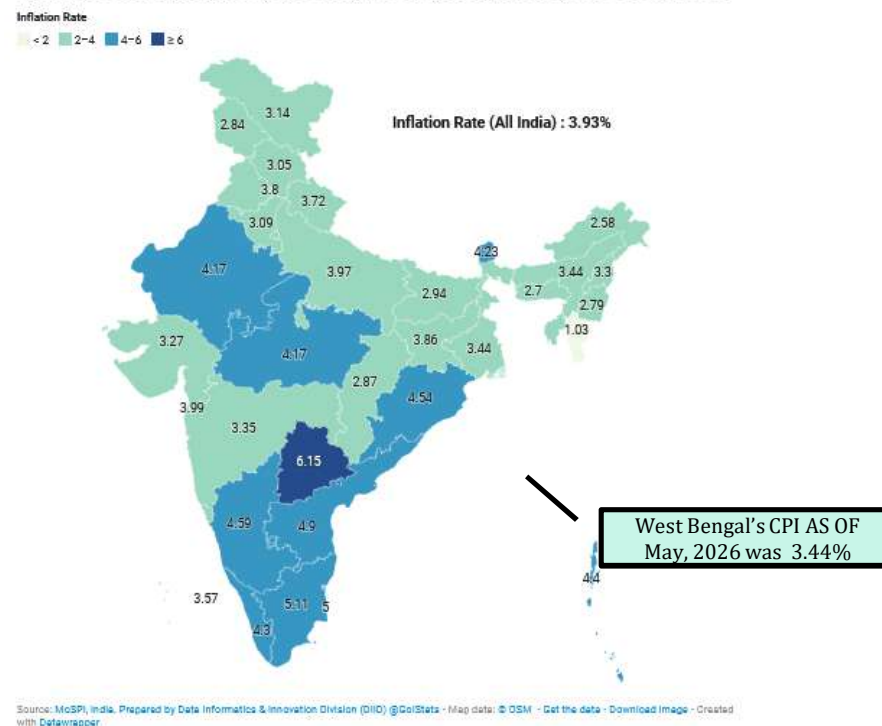
Per capita GSVA has been computed by dividing GSVA with population size

Economy Structure

Consumer Price Index and Inflation

Years	2025	2026	
	Index	Index	Inflation (%)
January	101.18	104	2.79
February	100.8	104.26	3.44
March	100.99	103.85	2.84
April	101.27	104.27	2.97
May	101.53	105.02	3.44
June	102.03		
July	103.1		
August	104.27		
September	104.51		
October	104.36		
November	104		
December	103.51		

Statewise Inflation Rates (%) for May 2026 (based on CPI) Base Year: 2024



Source

MoSPI (<https://www.mospi.gov.in/>)

Note

CPI is reported with base year = 2023-24

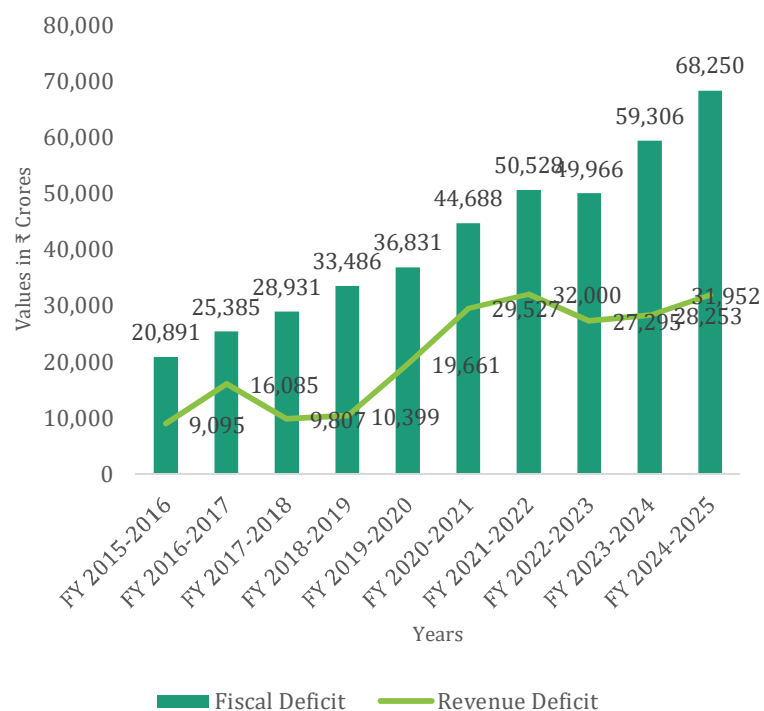
Economy Structure

Infrastructural development funding:

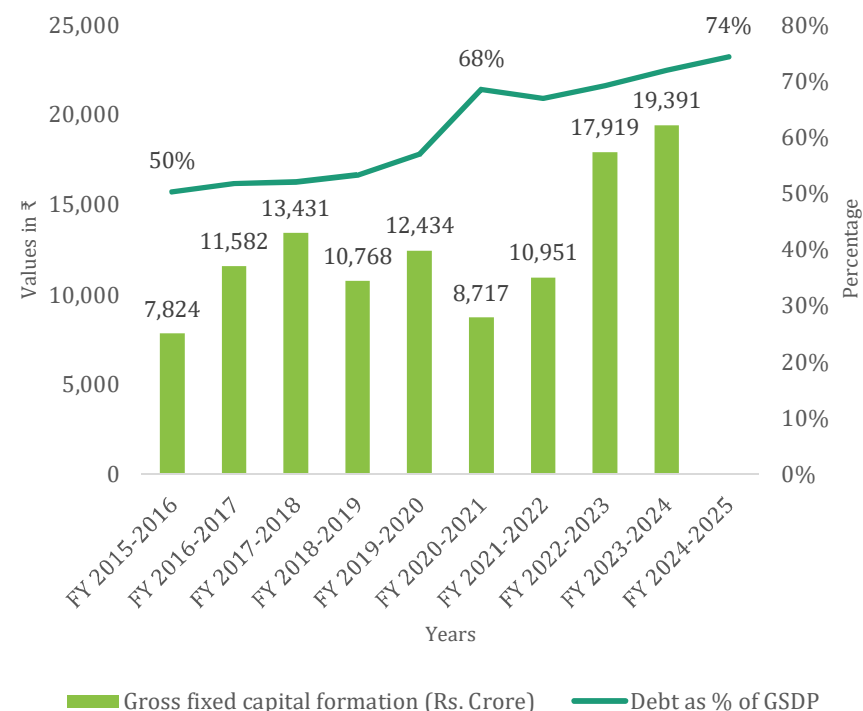
- The fiscal and revenue deficits for West Bengal both show an increasing trend, with a CAGR of 14.06% and 14.98% respectively.
- As of FY 2024-25, the revenue deficit was 46.82% of the fiscal deficit, suggesting that expenditure on daily operations (such as government employee salaries) was not a major constituent of the total expenditure.
- West Bengal's debt-to-GSDP ratio increased from 50.21% to 74.22% from FY 2015-16 to 2024-25. A simultaneous increase in the Gross Fixed Capital Formation from 7,824 ₹ Crores in FY 2015-16 to 19,391 ₹ Crores in 2023-24 indicates that the borrowings made by the state were being used to fund capital growth.

Economy Structure

Fiscal and Revenue Deficits (₹ Crores)



Debt-to-GSDP (%) and Gross Fixed Capital Formation (₹ Crore)



Source

West Bengal Fiscal Policy Statement 2024-25 (https://finance.wb.gov.in/writereaddata/Fiscal_Policy/FRBM24_Part1.pdf)

Note:

Gross Fixed Capital formation was unavailable for FY 2024-25

Factor Endowments

Factor Endowments – Labour and education

Education

Number of Government, Government-aided and Self-financed Colleges in West Bengal

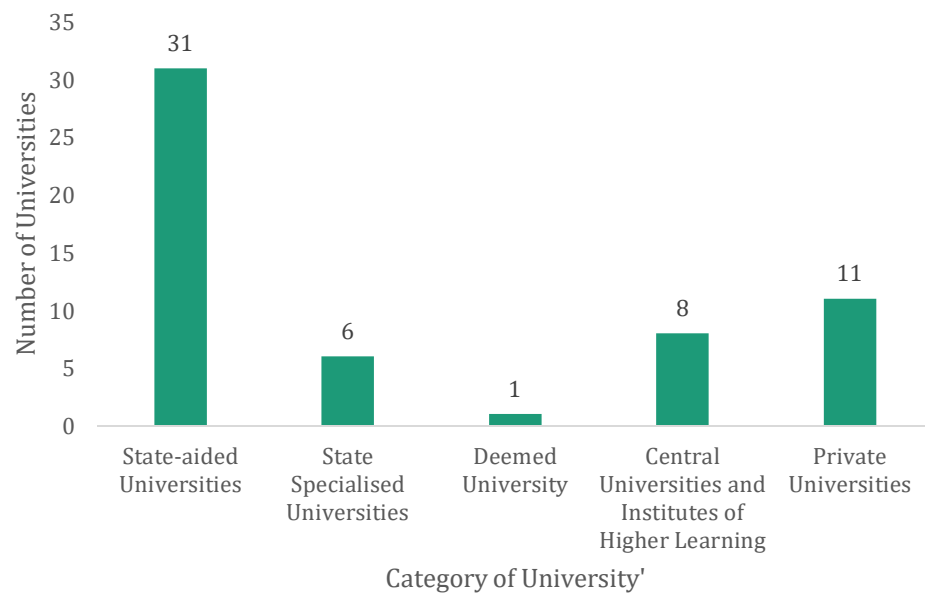
Type of college	Number
Government General Degree College	49
Government –Aided General Degree College	433
Government Teachers’ Training College	7
Government – Aided Teachers’ Training College	17
Government Physical Education College	4
Government – Aided Physical Education College	3
Self Financed General Degree College	29
Self Financed B.Ed. College	324
Self Financed Physical Education College	8
Government Engineering College	8
Self Financed Engineering College (including 10 Pharmacy College)	84
Self Financed MBA College	45
Self Financed MCA College	39
Self Financed Hotel Management College	3

Source

Department of Higher Education, West Bengal (https://www.rbcec.in/wbhed.gov.in/page/college_education.html).

Education

Number of Universities in West Bengal and prominent technical universities



Indian institute of
Technology (IIT)
Kharagpur

Indian Statistical
Institute (ISI)
Kolkata

Indian Institute of
Science Education
and Research
(IISER) Kolkata

Indian Institute of
Management
Calcutta (IIM)
Kolkata

Indian Institute of
Engineering Science
and Technology,
Shibpur (Howrah)

Source

Department of Higher Education, West Bengal (<https://banglaruchchashiksha.wb.gov.in/statistics>)

Factor Endowments – Labour

Labour force steadily increasing

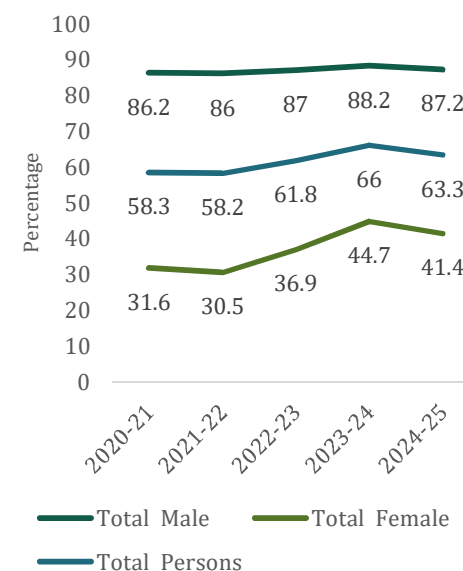
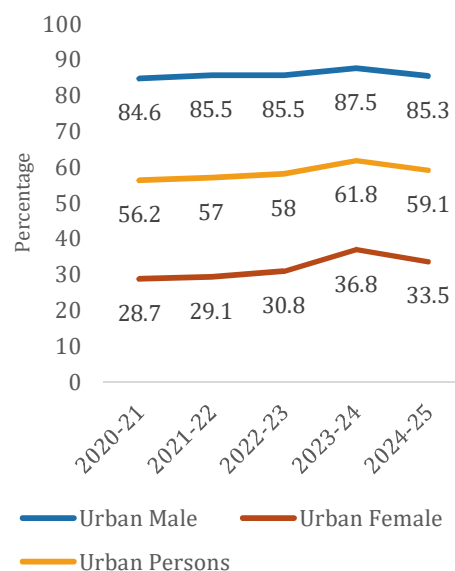
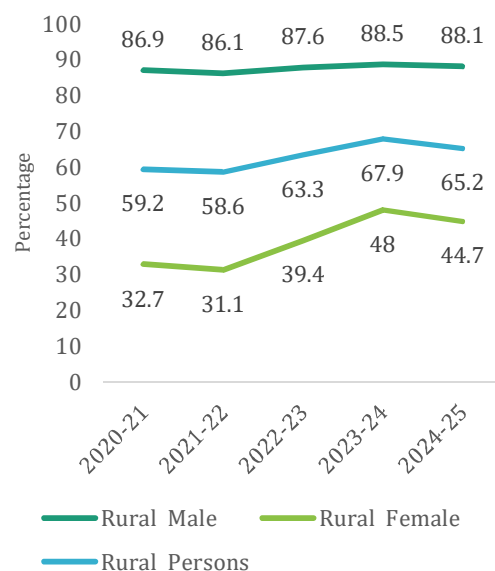
- Labour Force Participation Rates (LFPR) show a minimal yet steady incline from 2020-21 to 2024-25. The female labour force grew faster than the male labour force, with each growing by 9.8% and 1% from 2020-21 to 2024-25 respectively.
- Rural labour force grew by 6% whereas urban labour force grew by only 2.9% from 2020-21 to 2024-25.
- While female labour force increased more than male labour force in both rural and urban areas, the growth was higher in rural areas (12% in rural areas compared to 4.8% in urban areas) from 2020-21 to 2024-25.
- Similar trends are observed in Worker Population Ratio (WPR) from 2020-21 to 2024-25. The female worker population increased more than the male's (9.2% vs 2.1%), rural WPR grew faster than urban (6.3% vs 3%) and the WPR for rural female increased more than for urban female (11.4% vs 4.1%)
- Similar trends in LFPR and WPR show that minimal efforts have been made to systematically reduce employment. This is because additional efforts would have resulted in the gap between LFPR and WPR reducing over the years, which is not the case.

Unemployment systematically unchanged

- The gap between the LFPR and WPR have remained relatively stable from 2020-21 to 2024-25.
- The difference between the two estimates for total persons was 2.2% in 2020-21 and 2% in 2024-25.
- The difference between the estimates for rural persons was 2.1% in 2020-21 and 1.8% in 2024-25.
- Similarly, the difference between the two estimates for urban persons was 2.6% in 2020-21 and 2.5% in 2024-25.
- This stability suggests that minimal measures have been taken to systematically reduce unemployment from 2020-21 to 2024-25. If efforts were made, the gap between LFPR and WPR would have reduced over the years.

Factor Endowments – Labour

Labour Force Participation Rate (%) of usually working persons aged 15-59 years



Source

Periodic Labour Force Survey (PLFS) of respective years

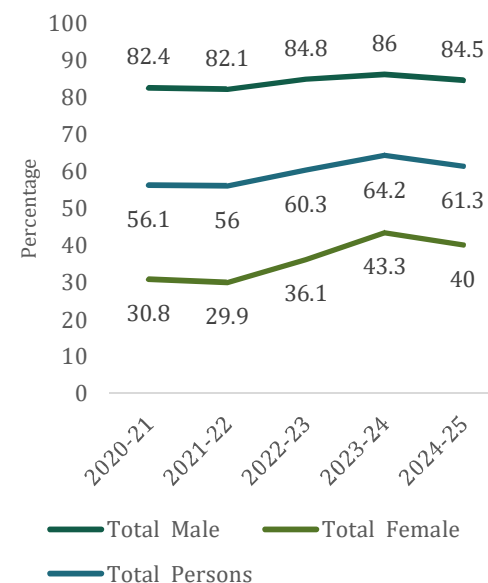
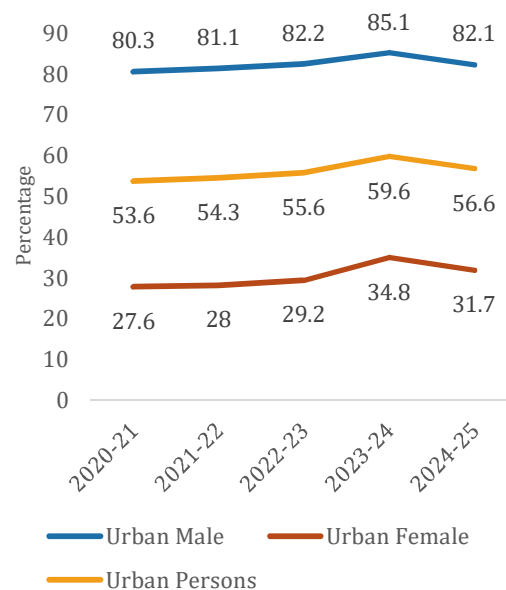
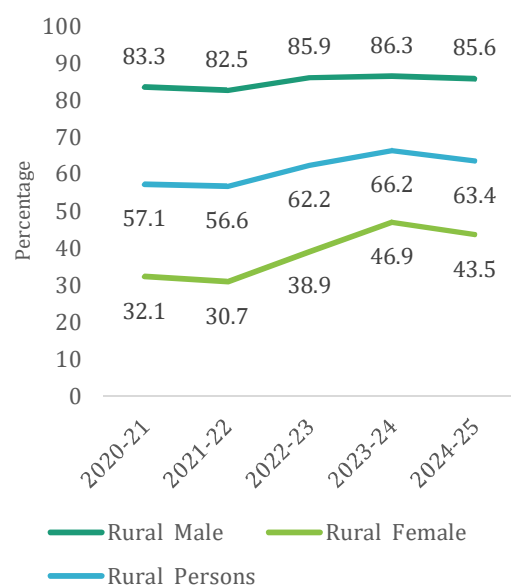
Notes

1) Labour Force Participation Rate (LFPR) is defined as the number of persons/ person-days in the labour force per 1000 persons /person-days.

2) Usually working persons: According to usual status approach, (with a reference period of 365 days) adopted by National Sample Survey Organisation (NSSO) a person in the labour force is considered as working or employed if he/she is engaged relatively for a longer time, during the reference period of last 365 days in any one or more of the work activities. He/she was considered as seeking or available for work or unemployed if he/she was not working but was either seeking or available for work for a relatively longer period of the Specified reference period.

Factor Endowments – Labour

Worker Population Ratio of usually working persons aged 15-59 years



Source

Periodic Labour Force Survey (PLFS) of respective years

Notes

1) Worker Population Ratio is defined as the number of persons/person-days employed per 1000 persons/person-days.

2) Usually working persons: According to usual status approach, (with a reference period of 365 days) adopted by National Sample Survey Organisation (NSSO) a person in the labour force is considered as working or employed if he/she is engaged relatively for a longer time, during the reference period of last 365 days in any one or more of the work activities. He/she was considered as seeking or available for work or unemployed if he/she was not working but was either seeking or available for work for a relatively longer period of the Specified reference period.

Factor Endowments – Labour

Developing skills leading to growth of industries requiring skilled/semi-skilled industries

- The heatmap of Labour Force Participation Rates according to educational levels indicates that persons with diploma certificate courses, graduates and post graduates and above are a significant part of West Bengal's Labour Force. Additionally, the LFPR for persons with diploma certificate courses shows the highest increase of 14.9%, followed by higher secondary (6.30%) and secondary (6%) from 2020-21 to 2024-25.
- Industry-wise analysis simultaneously indicates that the distribution of usually working persons amongst industries requiring semi-skilled labour is increasing while those among industries requiring unskilled labour is decreasing. The distribution share for Agriculture (sector A) decreased by a CAGR of 0.21% while that for Mining and Quarrying (sector B) decreased by 26.12% from 2020-21 to 2024-25. Conversely, distribution of workers in Accommodation and Food Service activities increased by a CAGR of 14.32% and for Real Estate Activities (sector L) increased by 11.28% in the same period.
- The industries requiring skilled labour, such as Professional, Scientific and Technical Activities (sector M) and Financial and Insurance Activities (sector K) show a slower growth, with worker distribution increasing by only 1.50% and 1.27% respectively from 2020-21 to 2024-25.
- Unemployment Rates (UR) for persons with diploma certificate courses and graduates was the highest amongst all categories as of 2024-25, being 11.60% and 11.40% respectively. When analyzed alongside industry-wise distribution of workers, this indicates that industries requiring skilled workers are growing at a much slower pace than the skilled labour force. This is causing a lack of job opportunities for skilled workers. Support to such industries to foster their growth will result in lower unemployment rates, higher output-per-capita and increasing Gross Value Added of West Bengal.

Factor Endowments – Labour

High literacy rates resulting in increasing per capita output

- West Bengal has 433 government-aided general degree colleges, 49 government general degree colleges and 8 government engineering colleges.
- West Bengal has multiple technical-skill-oriented universities, including 324 B.Ed colleges, 45 MBA colleges, 39 MCA colleges.
- West Bengal has multiple prestigious universities such as Indian Institute of Technology (IIT) Kharagpur, Indian Statistical Institute (ISI), Kolkata and Indian Institute of Management (IIM) Kolkata.
- Due to availability of education institutes, the literacy rate in West Bengal as of 2024-25 was 85%, with literacy rate for males being 89% and for women being 85%.
- High literacy rates have also led to an increase in per capita output, with Gross Value Added per person engaged increasing by a CAGR of 12.33% from 2019-20 to 2023-24.

Factor Endowments – Labour

Labour Force Participation Rate (%) according to usual status for person of age 15 years and above (rural + urban, persons) of different highest levels of education successfully completed

Labour Force Participation
Rate (%)



Years	not literate	literate & upto primary	middle	secondary	higher secondary	diploma/ certificate course	graduate	post graduate & above	secondary & above	all
2020-21	52.70%	65.50%	52.70%	42.30%	43.30%	67.20%	62.80%	69.20%	49.30%	54.90%
2021-22	53.00%	63.40%	51.30%	43.40%	44.40%	76.70%	64.00%	67.00%	50.40%	54.60%
2022-23	55.60%	65.90%	54.90%	47.40%	46.50%	66.50%	66.30%	70.40%	53.10%	57.30%
2023-24	59.50%	71.90%	59.60%	50.90%	46.10%	75.00%	69.00%	69.30%	55.20%	61.10%
2024-25	55.70%	69.90%	56.00%	48.30%	49.60%	82.10%	65.90%	72.00%	54.90%	59.10%

Created with Datawrapper

Source

Periodic Labour Force Survey (PLFS) of respective years

Factor Endowments – Labour

Worker Population Ratio (%) according to usual status for person of age 15 years and above (rural + urban, persons) of different highest levels of education successfully completed

Worker Population Ratio (%)



Years	not literate	literate & upto primary	middle	secondary	higher secondary	diploma/ certificate course	graduate	post graduate & above	secondary & above	all
2020-21	52.50%	64.70%	51.00%	40.50%	39.80%	51.70%	56.10%	61.10%	45.20%	53.00%
2021-22	52.90%	62.30%	49.40%	41.80%	40.50%	71.90%	57.80%	61.70%	46.80%	52.70%
2022-23	55.50%	65.50%	53.90%	46.50%	44.10%	54.40%	61.50%	64.20%	50.30%	56.10%
2023-24	59.40%	71.10%	58.20%	49.30%	43.80%	69.30%	63.20%	64.00%	52.00%	59.60%
2024-25	55.60%	69.50%	54.80%	47.00%	46.40%	72.60%	58.40%	67.50%	51.20%	57.40%

Created with Datawrapper

Source

Periodic Labour Force Survey (PLFS) of respective years

Factor Endowments – Labour

Unemployment Rate (%) according to usual status for person of age 15 years and above (rural + urban, persons) of different highest levels of education successfully completed

Unemployment Rate (%)



0.10% 23.00%

Years	not literate	literate & upto primary	middle	secondary	higher secondary	diploma/ certificate course	graduate	post graduate & above	secondary & above	all
2020-21	0.40%	1.10%	3.30%	4.10%	8.00%	23.00%	10.50%	11.70%	8.20%	3.50%
2021-22	0.10%	1.70%	3.70%	3.60%	8.70%	6.30%	9.70%	8.00%	7.20%	3.40%
2022-23	0.30%	0.70%	1.80%	1.80%	5.10%	18.20%	7.30%	8.80%	5.10%	2.20%
2023-24	0.20%	1.00%	2.40%	3.10%	4.90%	7.60%	8.50%	7.70%	5.70%	2.50%
2024-25	0.20%	0.60%	2.20%	2.80%	6.40%	11.60%	11.40%	6.30%	6.80%	2.80%

Created with Datawrapper

Source

Periodic Labour Force Survey (PLFS) of respective years

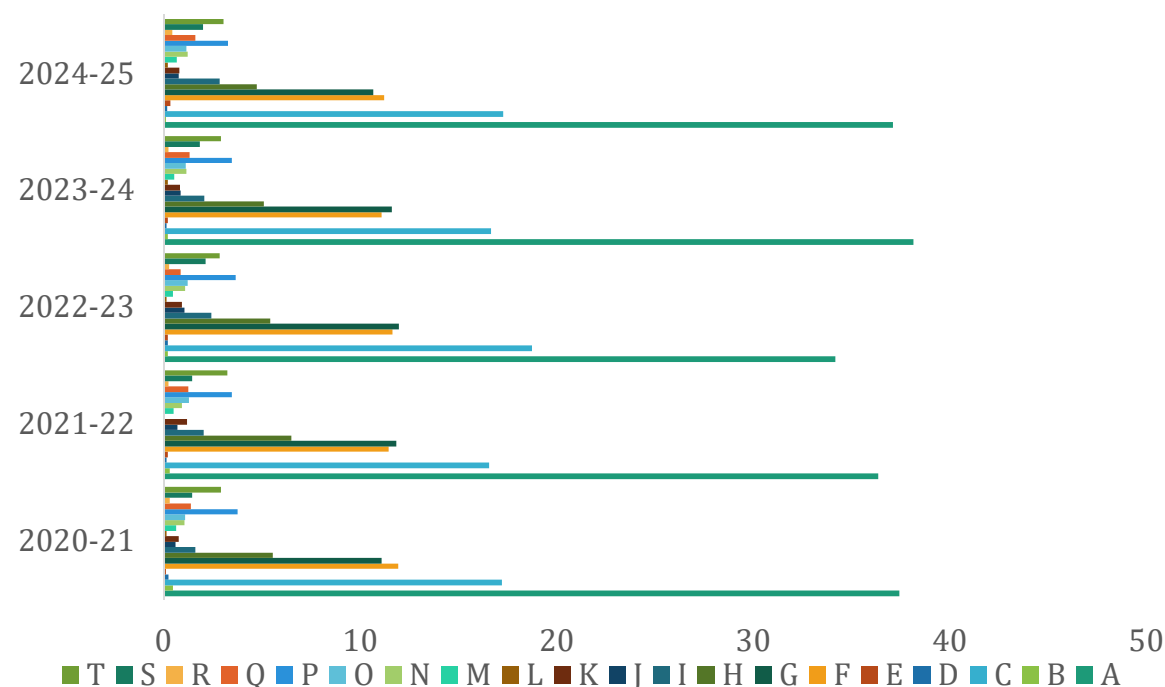
Notes

1) Unemployment Rate is defined as the number of persons/person-days unemployed per 1000 persons/person-days in the labour force (which includes both the employed and unemployed).

2) Usually working persons: According to usual status approach, (with a reference period of 365 days) adopted by National Sample Survey Organisation (NSSO) a person in the labour force is considered as working or employed if he/she is engaged relatively for a longer time, during the reference period of last 365 days in any one or more of the work activities. He/she was considered as seeking or available for work or unemployed if he/she was not working but was either seeking or available for work for a relatively longer period of the Specified reference period.

Factor Endowments – Labour

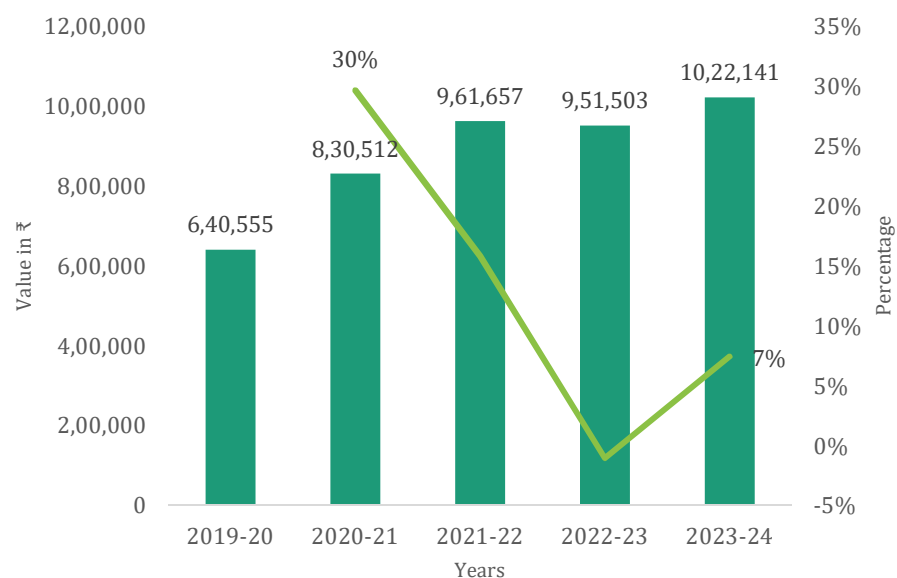
Percentage distribution of usually working persons (ps + ss) by industry of work (industry sections of NIC-2008)
(rural + urban, persons)



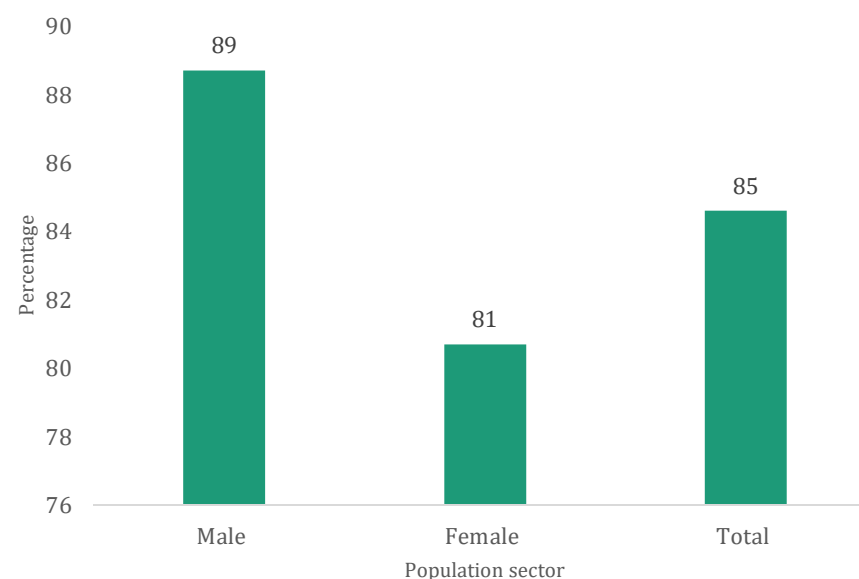
Source
Periodic Labour Force Survey (PLFS) of respective years

Factor Endowments – Labour

Gross Value Added per Person Engaged (₹)



Literacy Rate (%) as of 2024-25



Source

Annual Survey of Industries: Summary results for factory sector for 2019-20 to 2023-24

Notes

1) Annual Survey of Industries was not conducted after 2023-24

WBIDC's Industrial Parks



Industrial Parks
Bishnupur I.P.
Bolpur Shilpa Niketan
Coochbehar I.P. Phase-I
Coochbehar I.P. Phase-II
Dabgram I.P.
Falta I.P.: Sec III
Falta I.P.:Sec IV
Falta I.P.:Sec V
Haldia I.P.
Kalyani I.P.: Phase I
Kalyani I.P.: Phase II
Kalyani I.P.: Phase III
Kharagpur I.P.
Malda I.P.:Phase I
Malda I.P.: Phase II
Raninagar I.P.
Uluberia I.P.

Factor Endowments – Industrial Land

Factor Endowments – Industrial Land

From Land Bank to Investment-Ready Industrial Land Pipeline

A strategic framework for West Bengal

- Objective should be to move from a **static inventory of industrial land** to a **rolling pipeline of investment-ready industrial sites**, capable of responding to both incremental MSME demand and large anchor-investor requirements.
- This is relevant because WBIIDC currently reports **2,112.1 acres across its prominent industrial parks, of which 1,784.3 acres are allotable and about 130.8 acres are presently available.**
- Latest vacant-land dashboard shows that availability is highly concentrated, with **Falta** accounting for about **106.8 acres**, while Kharagpur, Bishnupur, Cooch Behar, Raninagar and Dabgram have substantially smaller available parcels.
- Therefore, a **5,000–10,000 acre rolling pipeline** should not mean 5,000–10,000 acres of immediately vacant WBIIDC land. It should comprise **different stages of land readiness.**

Vision

Establish a 5,000–10,000 acre rolling Industrial Land Pipeline in West Bengal, comprising identified, legally clear, appropriately zoned and progressively infrastructure-ready land, including a dedicated portfolio of 50–500+ acre contiguous parcels for anchor industries.

Factor Endowments – Industrial Land

From Land Bank to Investment-Ready Industrial Land Pipeline

The pipeline should have two components:

A. Anchor Industry Land Bank 2,000–4,000 acres

Large contiguous parcels of:

- 50–100 acres
- 100–250 acres
- 250–500 acres
- 500+ acres

for large manufacturing and infrastructure projects.

B. General Industrial Land Bank 3,000–6,000 acres

Smaller parcels for:

- MSMEs
- Logistics
- Warehousing
- Food processing
- Engineering
- Textiles
- Plastics
- Chemicals
- Electronics
- Repair and maintenance
- Industrial services

West Bengal should maintain a **five-stage land pipeline**

Stage	Definition	Target
Stage 1	Land identified	10,000–15,000 acres
Stage 2	Legally/land-use verified	8,000–12,000 acres
Stage 3	Aggregated & development planned	6,000–10,000 acres
Stage 4	Infrastructure under development	5,000–8,000 acres
Stage 5	Investment-ready	5,000–10,000 acres

Factor Endowments – Industrial Land

From Land Bank to Investment-Ready Industrial Land Pipeline

Create a dedicated "Mega Industrial Parcel" programme

- The most important gap is large contiguous land.
- WBIIDC's existing industrial parks demonstrate the issue: although several parks have sizeable total areas, current vacant land is generally small.
- For example, Kharagpur has 257 acres overall but only 4.323 acres available; Bishnupur has 9.432 acres available; Cooch Behar has 6.052 acres; and Falta is the major exception with 106.785 acres available.

West Bengal Mega Industrial Parcel Programme should identify at least:
 Therefore, a separate:

Parcel category	Target number	Target land
50–100 acres	15–20	750–2,000 acres
100–250 acres	10–15	1,000–3,750 acres
250–500 acres	5–8	1,250–4,000 acres
500+ acres	2–4	1,000–2,000+ acres
Total	32–47 parcels	4,000–11,750+ acres

The State does not need all of these parcels to be vacant today. They should progressively move through the land-readiness pipeline.

Dashboard for Vacant Land Updated data as on 09/08/2026, 10:00 hours	
Industrial Park Name	Area Available for allotment
Kharagpur Industrial Park	4.323 acres
Rennagar Industrial Park	2.094 acres
Coochbehar Industrial Park	6.0517 acres
Falta Industrial Park	106.7853 acres
Kalyani Industrial Park	0 acres
Bishnupur Industrial Park	9.432 acres
Uluberia Industrial Park	0 acres
Debgram Industrial Park	2.0690 acres

Source: https://wbiidc.wb.gov.in/dashboard_for_landavailability?

Factor Endowments – Industrial Land

Develop a "Land Readiness Score" - Proposed IRIP Score

Parameter	Weight
Land title & legal clarity	20
Contiguity & size	15
Industrial land-use status	10
Road connectivity	10
Power availability	10
Water availability	8
Logistics/rail/port connectivity	8
Environmental suitability	7
Drainage/wastewater	5
Digital/telecom infrastructure	2
Development cost	5
Total	100

Classification

Score	Classification
85-100	Investment Ready
70-84	Near Ready
50-69	Development Pipeline
<50	Strategic Land Reserve

This would allow the State to publish a **transparent land-readiness dashboard** rather than simply reporting acreage.

Every potential industrial parcel could receive a score out of 100

Factor Endowments – Industrial Land

Land bank available for Industry use				
Industrial Park	District	Total area (acres)	Allotable (acres)	Current availability*
Falta Industrial Park	South 24 Parganas	380.3	303.95	High
Kalyani Industrial Park	Nadia	324	304.51	Nil
Malda Industrial Park	Malda	252	228.62	Nil
Kharagpur Industrial Park	Paschim Medinipur	257	215.55	~4.3
Bishnupur Industrial Park	Bankura	173	140.79	~9.4
Cooch Behar Industrial Park	Cooch Behar	131.0	85.43	~6.1
Haldia Industrial Park	Purba Medinipur	120	110.98	Nil
Raninagar Industrial Park	Jalpaiguri	152	125.95	~2.1
Dabgram Industrial Park	Jalpaiguri	106	95.0	~2.1
Uluberia Industrial Park	Howrah	160	116.26	Nil
Bolpur Shilpa Niketan	Birbhum	55	55.0	Nil
Total		2,112.1	1,784.3	~130.8

Source
 West Bengal Industrial Infrastructure Development Corporation (WBIIDC) (<https://wbiidc.wb.gov.in/growth-centres>), WBIIDC website page for respective Industry Park

Notes

- 1) The website was last accessed on 19/6/2026. The data shown is privy to changes.
- 2) *The WBIIDC growth-centre table reports approximately 130.755 acres available. The newer live land-allotment dashboard shows additional/updated plot-level availability, so the two figures should not be treated as perfectly contemporaneous.

Factor Endowments – Industrial Land

Land bank available for Industry use – Source: WBIIDC

S. No.	Name of Industrial Park	District	Area (acre)	Allotable (acre)	Available (acre)	Revised Lease Premium (Rates In Rupees/acre)	No. of Units in allotment	Internal Roads, Water Pipelines and Power	Types of Units
1	Coochbehar Industrial Park	Coochbehar	131.035	85.4282	6.0517	33,78,700	99	6.75 Kms internal roads, 6.5 km CI pipeline, 33/11 K.V.A Power substation	Units for Jute, Food Processing and agro-based industries procuring raw material from nearby districts in West Bengal, Assam and Bangladesh
2	Dabgram Industrial Park	Jalpaiguri	106	95	2.069	1,10,88,300	49	0.9 Kms internal roads, self-arrangement of water by units, 33/11 K.V.A Power substation	Units for agro-Processing, Plastic Products, packaging, engineering , marbles procuring raw material from nearby districts, with distribution centers in North Bengal and Assam

Source

West Bengal Industrial Infrastructure Development Corporation (WBIIDC) (<https://wbiidc.wb.gov.in/growth-centres>), WBIIDC website page for respective Industry Park

Notes

1) The website was last accessed on 19/6/2026. The data shown is privy to changes.

Factor Endowments – Industrial Land

Land bank available for Industry use – Source: WBIIDC

S. No.	Name of Industrial Park	District	Area (acre)	Allotable (acre)	Available (acre)	Revised Lease Premium (Rates In Rupees/acre)	No. of Units in allotment	Internal Roads, Water Pipelines and Power	Types of Units
3	Raninagar Industrial Park	Jalpaiguri	152	125.95	2.094	28,19,800	32	3.7 Kms internal roads, 3.3 Kms CI pipeline, 2 x 6.30 MVA transformers for power	Units for beverages, agro-processing, plastic products, petroleum, LPG bottling plant procuring raw materials from nearby districts with distribution centers in North Bengal, Assam and Sikkim
4	Malda Industrial Park	Malda	252	228.6226	0	26,28,900	81	2.6 Kms internal roads, 3.2 Kms CI pipeline, 33/11 K.V.A Power Substation	Units for agro-processing, starch & chemicals, warehousing, petroleum and plastic products, engineering procuring raw materials from nearby districts in West Bengal with distribution centers in Murshidabad, Birbhum and Dinajpur

Source

West Bengal Industrial Infrastructure Development Corporation (WBIIDC) (<https://wbiidc.wb.gov.in/growth-centres>), WBIIDC website page for respective Industry Park

Notes

1) The website was last accessed on 19/6/2026. The data shown is privy to changes.

Factor Endowments – Industrial Land

Land bank available for Industry use – Source: WBIIDC

S. No.	Name of Industrial Park	District	Area (acre)	Allotable (acre)	Available (acre)	Revised Lease Premium (Rates In Rupees/acre)	No. of Units in allotment	Internal Roads, Water Pipelines and Power	Types of Units
5	Bolpur Shilpa Niketan	Birbhum	55	55	0	19,97,550	2	Kabi Joydeb road crosses through the center while N.H. 2B passes through the wester border of the park. Nearest railway station is 5 km away	Units for Information and Technology, handicrafts and textiles
6	Bishnupur Industrial Park	Bankura	173	140.7885	9.432	22,77,000	12	2.1 Kms internal road, 5.1 Kms HDPE/CI, 2 X 6.30 M.V.A Power substations	Units for metal and metal alloys, poultry feed, cement plant, steel and related industry procuring raw materials from Rajasthan, Andhra Pradesh, Australia, South Africa and Turkey with both domestic and international demand.
7	Kharagpur Industrial Park	Paschim Medinipur	257	215.55	4.323	46,92,000	27	2.5 Kms of internal roads, 3 Kms HDPE/CI pipeline, 33/11 K.V.A Power Substation	Units for manufacturing, bearing, metal and related industries, agro-processing, chemicals and gases procuring raw material from within a radius of 300 kms using available rail, road and sea routes

Source

West Bengal Industrial Infrastructure Development Corporation (WBIIDC) (<https://wbiidc.wb.gov.in/growth-centres>), WBIIDC website page for respective Industry Park

Notes

1) The website was last accessed on 19/6/2026. The data shown is privy to changes.

Factor Endowments – Industrial Land

Land bank available for Industry use – Source: WBIIDC

S. No.	Name of Industrial Park	District	Area (acre)	Allotable (acre)	Available (acre)	Revised Lease Premium (Rates In Rupees/acre)	No. of Units in allotment	Internal Roads, Water Pipelines and Power	Types of Units
8	Kalyani Industrial Park	Nadia	324	304.51	0	58,88,000 * Kalyani I.P Phase II 4,78,400	78	5.5 Kms of internal roads, 6.5 Kms of HDPE/CI pipeline, 33 K.V.A, 33/11 K.V.A Power substations	Units for engineering/ancillary, chemicals, metal based and training
9	Uluberia Industrial park	Howrah	160	116.26	0	1,25,18,900	73	3.7 Kms of internal roads, 5 Kms of HDPE pipeline, 33/11 K.V.A Power substation	Units for iron and steel casting, food processing, plastic and PVC molding units using both locally available and imported raw materials

Source

West Bengal Industrial Infrastructure Development Corporation (WBIIDC) (<https://wbiidc.wb.gov.in/growth-centres>), WBIIDC website page for respective Industry Park

Notes

1) The website was last accessed on 19/6/2026. The data shown is privity to changes.

Factor Endowments – Industrial Land

Land bank available for Industry use – Source: WBIIDC

S. No.	Name of Industrial Park	District	Area (acre)	Allotable (acre)	Available (acre)	Revised Lease Premium (Rates In Rupees/acre)	No. of Units in allotment	Internal Roads, Water Pipelines and Power	Types of Units
10	Falta Industrial Park	South 24 Parganas	380.3	303.95	106.7853	49,56,500	47	1.94 Kms of internal roads, 0.5 Kms of CI pipeline, 33 K.V.S power substation	Units for steel pipes, textile and related products, LED and related products, cotton spinning mill and training

Source

West Bengal Industrial Infrastructure Development Corporation (WBIIDC) (<https://wbiiidc.wb.gov.in/growth-centres>), WBIIDC website page for respective Industry Park

Notes

1) The website was last accessed on 19/6/2026. The data shown is privity to changes.

Factor Endowments – Industrial Land

Land bank available for Industry use – Source: WBIDC

S. No.	Name of the Industrial Park	Type of Industries	Land/Modules Available	Tentative Base Price for the Year 2026	Infrastructure	Types of Units
1	Manikanchan, Salt Lake, Kolkata	Multi product (Red Category Industry)	21,244.70 Sq. Ft.	Rs. 6,447 /sq.ft Rs. 7,370 /sq.ft	2 independent highways connecting to airport, proximity to bus depot, 2 main roads on either side of park, electron beam irradiation facility, 3000 K.V.A power substation	Units for jewelry and precious metals, exempt from multiple import custom's duty and other taxes

Source

West Bengal Industrial Development Corporation (<https://www.wbidc.com/wbidc-land/availability-of-land-modules>), WBIDC website page for respective Industrial Parks

Notes

- 1) The website was last accessed on 19/6/2026. The data shown is privity to changes.
- 2) Red Category: Industrial Sectors having a pollution Index score of 60 & above; Orange category: industrial sectors having a pollution Index score of 41 to 59; Yellow category: industrial sectors having a pollution Index score of 21 to 40; White category: Industrial sectors having a pollution Index score of Inc. and up to 20 (https://www.greentribunal.gov.in/sites/default/files/news_updates/Counter%20Affidavit%20by%20R-3%20P-78-154.pdf)

Factor Endowments – Industrial Land

Land bank available for Industry use – Source: WBIDC

S. No.	Name of the Industrial Park	Type of Industries	Land/Modules Available	Tentative Base Price for the Year 2026	Infrastructure	Types of Units
2	Gems and Jewellery Park, Ankurhati, Domjur, Howrah	Gems & Jewellery (Orange Red Category Industry)	SDF-B for manufacturing unit 2534.09 Sq.ft.(GJB-3C7)	Rs. 2,825/Sq.Ft. (e file moved for current valuation from IGR)	Proximity to NH-6 and NH-2, nearest railway station is 5 Kms, connectivity to Netaji Subash Chandra Bose Airport, water supply with treatment plant, power lines and gas bank with lines	Units for gold manufacturing. Presence of skilled and semi-skilled artisans for jewelry designing
			CFB for office space Office 1(2503.84 Sq.Ft.) Office 3(657.90 Sq.Ft.) Office 7 & 8 (admeasuring 3834 Sq.Ft.) earmarked for JOSH Project	Rs. 3,390/sq.ft		

Source

West Bengal Industrial Development Corporation (<https://www.wbidc.com/wbidc-land/availability-of-land-modules>), WBIDC website page for respective Industrial Parks

Notes

- 1) The website was last accessed on 19/6/2026. The data shown is privy to changes.
- 2) Red Category: Industrial Sectors having a pollution Index score of 60 & above; Orange category: industrial sectors having a pollution Index score of 41 to 59; Yellow category: industrial sectors having a pollution Index score of 21 to 40; White category: Industrial sectors having a pollution Index score of Inc. and up to 20 (https://www.greentribunal.gov.in/sites/default/files/news_updates/Counter%20Affidavit%20by%20R-3%20P-78-154.pdf)

Factor Endowments – Industrial Land

Land bank available for Industry use – Source: WBIDC

S. No.	Name of the Industrial Park	Type of Industries	Land/Modules Available	Tentative Base Price for the Year 2026	Infrastructure	Types of Units
3	Jungle Sundari Karmanagari	Multi product	JSK – I – 0.00 JSK – II – 0.00	Rs. 18.43 Lakhs/acre	Accessible via State highway – 5, proximity to NH-19, well connected to Eastern and South-Eastern railways	Units for smelting and manufacturing of steel and related products
4	Vidyasagar Industrial Park, Kharagpur, Paschim Medinipur	Engineering and Multi product manufacturing, Non-Polluting (Green & Orange as per WBPCB norms)	174.00 acres (Including cycle park)	Base Price-Rs. 65.23 lakh/acre (Freehold Price- 75.02 lakh/acre)	Bound by NH – 6, NH – 60, proximity to South-Eastern railway, connectivity to Haldia port, 220/132 K.V and 33/11 K.V.A power substations	Units for manufacturing, food processing, packaging, agro-processing, chemicals
5	Panagarh Industrial Park Panagarh, Burdwan	Engineering and Multi Product Manufacturing (Red Category Industry)	43.18 acres	60.52 lakh/acre Freehold price - 69.598 lakh per acre (Inclusive of 15% extra as freehold conversion charge)	Road connectivity to Kolkata, bounded by NH – 2, NH – 34, closest railway is 0.8 Kms away, proximity to Durgapur Industrial Zone, 33/11, 132, 220/130 K.V. substations being set up	Units for fertilizers and chemicals, beverages, ceramics, cements, LPG bottling

Factor Endowments – Industrial Land

Land bank available for Industry use – Source: WBIDC

S. No.	Name of the Industrial Park	Type of Industries	Land/Modules Available	Tentative Base Price for the Year 2026	Infrastructure	Types of Units
6	Haldia Industrial Park Haldia, Purba Medinipur	Medium and Large Scale Industry	194.38 acres	Rs. 157.80 lakhs / acre (base price of Rs. 137.22 lakh /acre + 15 % freehold conversion charge)	Highly connected with neighboring states via NH – 34, connected with Haldia port via South-Eastern railways,	Units for agro-processing and retail products.
7	Haringhata Industrial Park, Nadia	Medium and Large Scale Industry	55.47 acres	Rs. 73.02 lakh / acre (base price of Rs. 63.49 lakh /acre + 15 % freehold conversion charge)	Bound by NH – 34, proximity to major industrial zones of dairy industry, paper industry etc, Netaji Subash Chandra Bose Airport 41 Kms away	Units of Jute, consumer products, services, paint
8	Budge Budge Industrial Park	Garment & Apparel, Non-Polluting, (Exempted Category Industry)	760,000 Sq. Ft.	Rs. 2500/ sft (Gr to 02nd Floor) Rs. 2000/ sft (03rd to 07th Floor) (Awaiting valuation from IGR for the revised rate)	`45 KLD sewage treatment plant and water treatment plant of capacity 14 m ³ / hr, rainwater harvesting system	-

Factor Endowments – Industrial Land

Land bank available for Industry use – Source: WBIDC

Sl. No.	Name of the Industrial Park	Type of Industries	Land/Modules Available	Tentative Base Price for the Year 2026	Infrastructure	Types of Units
9	Rishi Bankim Shilpaudyan Phase-II	Multi product	5.36 acres	Rs 1.886 Crore/ acre (base price of Rs. 1.64 crore per acre +15% freehold conversion)	Proximity to Kalyani Expressway, and educational hub, Netaji Subash Chandra Bose Airport is 25 Kms away, proximity to ferry services	-
10	Durgapur Industrial Land (DPL Land)	Multi product	131.099 acres	Rs.1.65 Cr / acre	Proximity to NH – 19, Durgapur Industrial Zone, road and rail connectivity	-
11	Dhakeswari Cotton Mill Premise	Multi product	193.29 acres	Rs. 55.235 lakh /acre (base price of Rs. 48.03 lakh /acre + 15% freehold conversion charge)	Proximity to MH – 19, nearest railway station 2 Kms away, part of Ansansol-Durgapur Development area	-
12	Land for Industry at Mangalpur	Multi product	185.48 acres	Rs. 40.50 lakh/acre to 59.29 lakh/acre (Exclusive of 15% extra as freehold conversion charge)	Proximity to NH – 19, nearest railway station is 6.5 Kms away, nearest airport is 20 Kms away, part of Ansansol-Durgapur development area	-

Factor Endowments – Industrial Land

Land bank available for Industry use – Source: WBIDC

S. No.	Name of the Industrial Park	Type of Industries	Land/Modules Available	Tentative Base Price for the Year 2026	Infrastructure	Types of Units
13	Land for Industrial Park at Belur (NISCO)	Multi product	66 acres	Rs. 2,60,24,355.00 per acre	Proximity to NH – 12, NH – 19, SH – 6 and Belur railway station. Netaji Subash Chandra Bose Airport 15 Kms away	-
14	Plasto Steel Park	Iron & Steel and Plastic	Phase-II-Plot AJ of 2.15 acres Phase-III- Plot 3D- 7.47 acres [4.83 acres of WBIDC & 2.64 acres private land]	-	Proximity to NH – 2 , nearest railway station is 12 Kms away, 220 M.V.A power substation,	-

Source

West Bengal Industrial Infrastructure Development Corporation (WBIDC) (<https://wbidc.wb.gov.in/growth-centres>), WBIDC website page for respective Industrial Parks

Notes

1) The website was last accessed on 19/6/2026. The data shown is privy to changes

Factor Endowments – Natural Resources

Factor Endowments – Natural Resources

Imported crude oil refined at Haldia

- West Bengal has minimal estimated reserves of crude oil, measuring 0.2 million tonnes as of 2025. Consequently, except for in 2021-22, there has been no production of crude oil in West Bengal from 2019-20 to 2024-25.
- However, the ICOL refinery in Haldia hosts a refining capacity of 8000 thousand metric tonnes and has managed to utilize 106.33%, 100.74% and 86.68% of its capacity in 2022-23, 2023-24 and 2024-25 respectively.
- Low domestic reserves and production combined with over-utilization of refinery capacity indicates that the ICOL refinery in Haldia refines large amounts of imported crude oil.

Abundant natural gas reserves supporting increasing production

- West Bengal is endowed with Coal Bed Methane reserves, estimated to be approximately 44.93 MMSCM as of 2025.
- Due to these reserves, the production of natural gas has increased from 306 MMSCM in 2019-20 to 415 MMSCM in 2024-25.
- However, due to increasing production, the extent of natural gas (Coal Bed Methane) reserves has decreased with a CAGR of 24.74% from 2023 to 2025.
- This suggests the need to switch to alternatives such as renewable energy sources like solar, wind and hydro energy.

Factor Endowments – Natural Resources

Estimated Reserves of Coal (Million Tonnes)

Years	Proved	Indicated	Inferred	Total	Proportion of Indian total (%)
2023	17,459	12,699	3,775	33,933	8.97
2024	18752	11433	3773	33958	8.72
2025	18752	11425	4209	34386	8.58

Estimated Reserves of Lignite (Million Tonnes)

Years	Proved	Indicated	Inferred	Total	Proportion of Indian total (%)
2023	0	1	3	4	0.01
2024	0	1	3	4	0.01
2025	0	1	3	4	0.01

Source

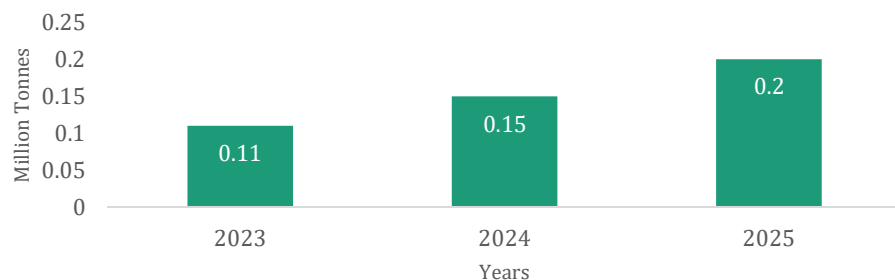
MoSPI [Energy Statistics report](#) for Respective years

Notes

- Proved:** A 'Proven Mineral Reserve' is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.
- Indicated:** An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.
- Inferred:** An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral

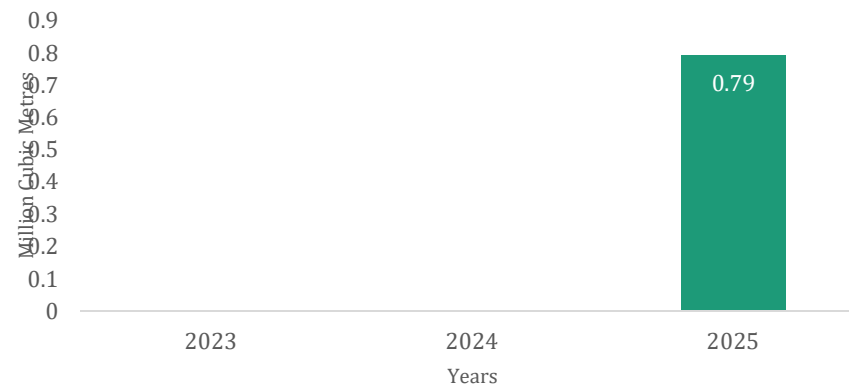
Factor Endowments – Natural Resources

Estimated Reserves of Crude Oil in West Bengal (Million Tonnes)



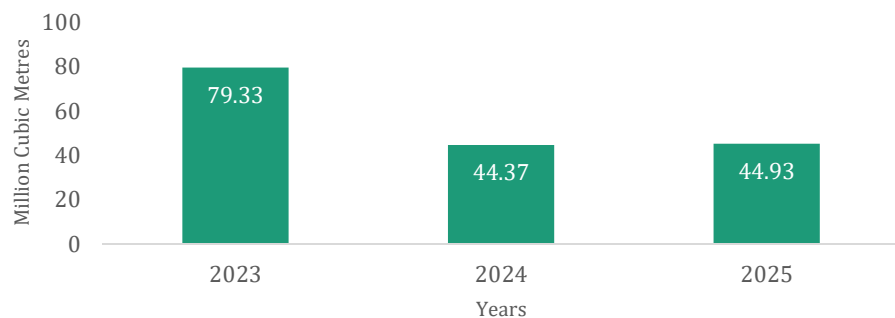
■ Estimated

Estimated Reserves of Natural Gas in West Bengal (Million Cubic Meters)



■ Estimated

Estimated Reserves of Natural Gas in West Bengal Coal Bed Methane (Million Cubic Meters)

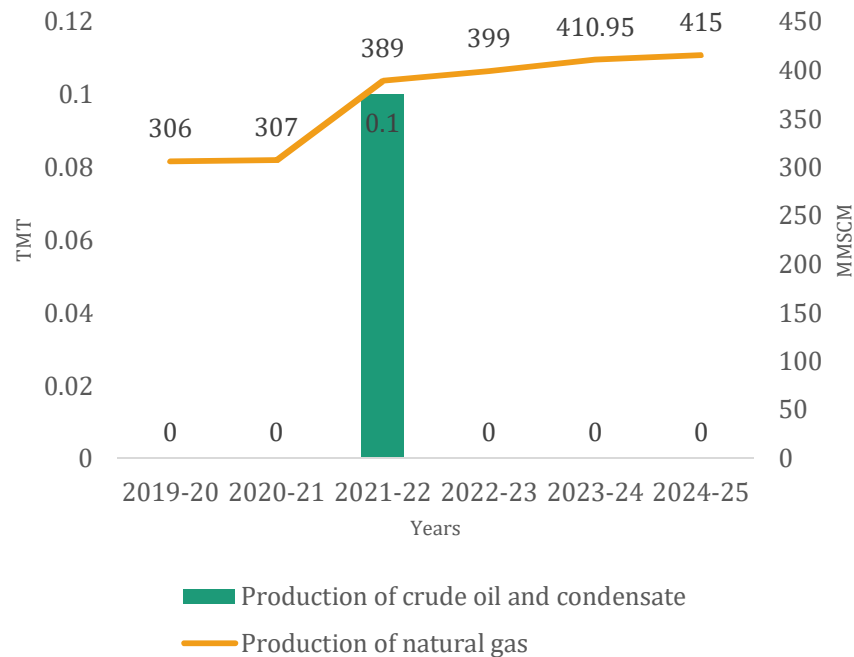


■ Estimated

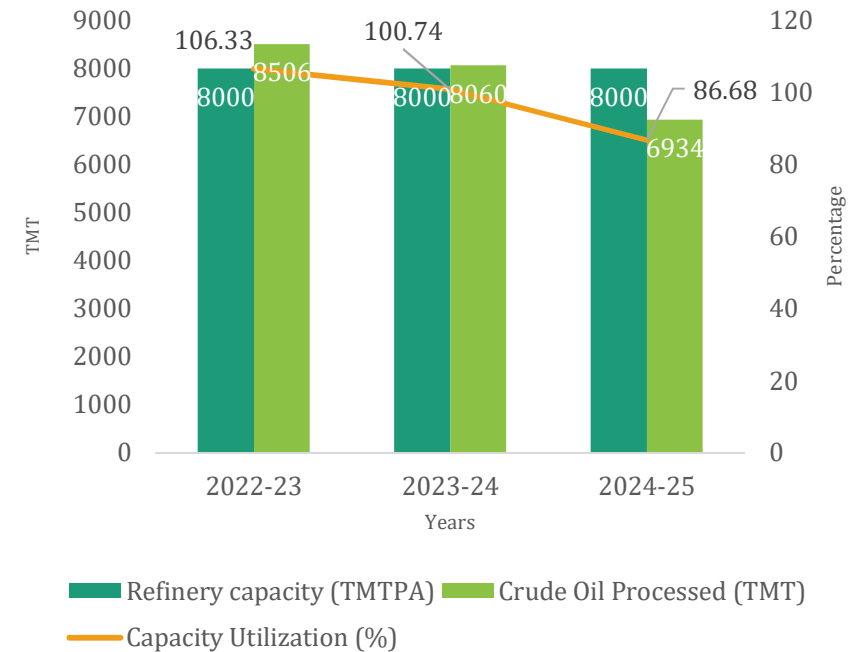
Source
 MoSPI [Energy Statistics report](#) for Respective years

Factor Endowments – Natural Resources

Production of Crude Oil (Thousand Metric Tonnes) and Natural Gas (Million Standard Metric Metres)



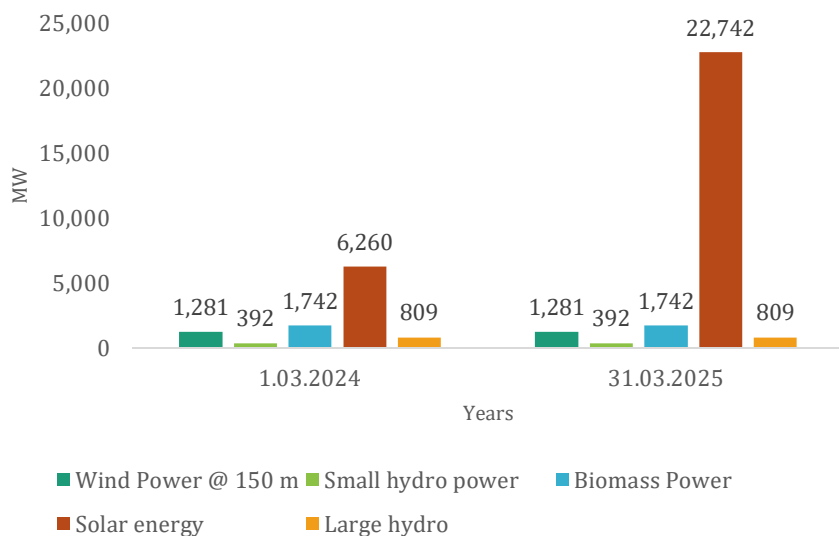
Installed Capacity (Thousand Metric Tonnes) and utilization (%) of Crude Oil in ICOL Haldia, West Bengal



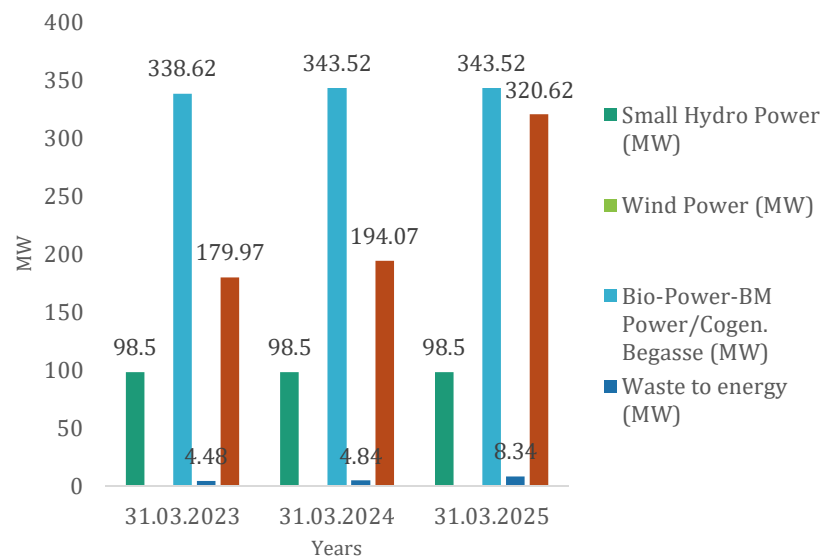
Source
 Indian Petroleum and Natural Gas Statistics, 2024-25 (https://mopng.gov.in/files/TableManagements/2026-02-25-141451-b06fw-IPNG_Statistics-Report_2024-25.pdf)

Factor Endowments – Natural Resources

Estimated Potential of Renewable Power in West Bengal (in Mega Watts)



Cumulative Installed Capacity of Renewable Energy (in Mega Watts)



Source

MoSPI [Energy Statistics report](#) for Respective years

Notes

- 1) Wind Power @ 150m: 150 meters refers to the hub height. It refers to how high the engine hub of the windmill is above ground.
- 2) Small hydro power: Capacity up to 25 MW, Large Hydro: Capacity more than 25 MW

Factor Endowments – Natural Resources

Installation of off-grid/Decentralised Renewable Energy Systems/Devices

Year	Biogas plants (Numbers)	SPV pumps (numbers)	SLS (Numbers)	Solar PhotoVoltaic (SPV) Systems			Waste to energy (off- grid) (MW)
				HLS (Numbers)	SL (numbers)	PP (KWP)	
31.03.2024	1,216	653	18,203	145,332	17,662	1,730	5
31.03.2025	1293	653	18203	145332	17662	1730	8.34

Installed Capacity of Electricity Generation (in Giga Watts)

Year	Large Hydro	Thermal	Nuclear	RES	Total	Growth rate (%)
31.03.2023	0.99	6.93	0	0.62	8.53	
31.03.2024	0.99	6.93	0	0.64	8.55	0.23
31.03.2025	0.99	6.93	0	0.77	8.68	1.52

Source

MoSPI [Energy Statistics report](#) for Respective years

Notes

1) RES: Comprising of Solar, Wind, Bio-Power and Small Hydro Power.

Factor Endowments – Natural Resources

High growth potential for renewable energy sources

- West Bengal has managed to accommodate the switch from non-renewable to renewable energy, with solar energy playing a major part. The installed capacity for solar energy has increased from 179.97 megawatts in 2023 to 320.62 megawatts in 2025. Solar devices include 1,82,927 off grid/decentralized solar PhotoVoltaic (PV) systems as of 2025.
- Unlike solar energy, wind energy has yet to be established in West Bengal. Despite having an estimated potential of 1281 megawatts, there are no wind turbines (hub-height of 150 meters) installed as of 2025. This leaves room for growth of industries which manufacture devices (and components thereof) which can be used to harness wind energy.
- While facilities to capture hydro-power, and biomass power have been established, these facilities fail to capture even 50% of the potential for these renewable energy sources. Development of such facilities and related industries allow for opportunities for increasing employment across all sectors including construction, information and technology, services, research and development etc.

Agriculture

Overview of the Agriculture Sector in West Bengal

- Total Geographical Area of the state is 8.87 million hectare. The cultivated area of the state is 5.5 million hectare comprising 62% of the total geographical area.
- About 54% of cultivated area is irrigated and the cropping intensity is high at 193.2%.
- The soils are acidic, saline and sodic and low in fertility.
- The important crops are rice, potato, mustard, pulses, vegetables and jute.

Sector profile - 2023-24

Indicator	West Bengal
Share of India's geographical area	~2.7%
Share of India's population	~8%
Farm families	71.23 lakh
Small & marginal farmers	~96%
Average operational holding	0.77 hectare
Net cropped area	52.05 lakh hectare
Net cropped area as % geographical area	68%
Net cropped area as % arable area	92%
Cropping intensity – (Gross Cropped Area / Net Sown Area) * 100	193.2 %

Where:

- **Net Sown Area (NSA)** = physical area cultivated at least once during the agricultural year.
- **Gross Cropped Area (GCA)** = total area counted for all crops, including the same land when it is cultivated more than once.

193.2% cropping intensity means that, on average, each hectare of net sown land is cultivated 1.9 times a year or 100 hectares of net cultivated land generate approximately 193 hectares of crop area over the year. In other words, around 93% of the net cultivated area is effectively used for a second crop, in aggregate terms.

Overview of the Agriculture Sector in West Bengal

Rice

- State has 5.8 million hectare under rice cultivation, which covers irrigated and rainfed areas, with the average productivity of 2.6 tonnes/ hectare. The major constraints in production are frequent floods and poor drainage, micronutrient deficiency, moderate to strong soil acidity and related nutrient constraints. The suggested interventions for enhancing productivity are:
 - Growing of varieties: Shatabdi, Rasi, Sasyasree, Khitish (irrigated); Rasi,
 - PNR 381 (uplands); Manasarovar, Swarnadhan, Shashi (shallow land); Sabita, Madhukar,
 - Bhudeb (semi-deep water); Neeraja, Jalpriya, Jitendra (deep water); CSR 10, CSR 13, CSR 27 (saline soils)
 - Cultivation of hybrids such as CNRH 3, DRRH 2, JKRH 401, both in kharif and Boro cultivation
 - Cultivation of Boro rice using IR64 and Krishnahamsa rice varieties.

Rapeseed-mustard

- The area, production and productivity are 4.2 lakh ha, 3.8 lakh tonnes and 909 kg/ha respectively. The major constraints in production are late sowing due to late harvesting of kharif (aman) paddy, inadequate moisture at sowing time, particularly in rice-fallow lands, flood affected areas leading to delayed land preparation and occurrence of heavier soils and major biotic stress (mustard aphid, Alternaria blight, white rust and club root). Suitable technological interventions are:
 - Use of improved varieties of Indian mustard: Sej 2, JD 6 (Pusa Mahak), Pusa Bold; toria:
 - PT 507, Panchali; yellow sarson: Ragini, Jhumka, Subinoy
 - Replacement of toria with early duration mustard varieties

Overview of the Agriculture Sector in West Bengal

- High crop intensity of West Bengal agriculture is significant because the state can increase agricultural output without necessarily expanding agricultural land, through:
 - multiple cropping;
 - irrigation;
 - shorter-duration crop varieties;
 - crop diversification;
 - better water management;
 - improved post-harvest infrastructure
- High cropping intensity creates a larger and more regular supply of agricultural raw materials for agro-processing.
- For example : Kharif season: Paddy in Rabi season: Potato / vegetables and in Summer: Boro rice / vegetables
- This can provide processors with raw materials across multiple seasons.
- However, high cropping intensity does not automatically mean high farmer income. If production increases faster than storage, processing and market demand, it can contribute to seasonal price declines and post-harvest losses.
- Therefore, for West Bengal, the policy objective should be:
- Higher Cropping Intensity+ Higher Productivity+ Better Value Addition rather than simply increasing cropping intensity.
- **For an industrial strategy, the key question, therefore, is "How much of the additional production can be processed and sold at higher value?"**

Overview of the Agriculture Sector in West Bengal

West Bengal's agricultural economy can broadly be divided into:

Agriculture

- Rice/paddy
- Potato
- Wheat
- Maize
- Pulses
- Oilseeds
- Jute
- Sugarcane

Horticulture

- Vegetables
- Mango
- Pineapple
- Banana
- Litchi
- Guava
- Citrus
- Tomato
- Brinjal
- Cabbage
- Cauliflower
- Onion
- Chilli
- Ginger

Plantation

- Tea
- Cashew
- Coconut
- Betel leaf

Floriculture

- Rose
- Marigold
- Gladiolus
- Tuberose

Allied activities

- Fisheries
- Livestock
- Poultry
- Dairy

The state's agro-climatic diversity—from the Himalayan region and Terai to the Gangetic plains, Rarh region and coastal/sundarbans areas—supports substantial crop diversification.

Agriculture - Rainfall

Rainfall

Rainfall patterns in Sub-Himalayan West Bengal and Sikkim

- The rainy season in West Bengal stretches from July to the end of September.
- During this period, the **South-West Monsoons** pick up moisture from the Bay of Bengal and blow over the state. The average actual rainfall in Sub-Himalayan West Bengal and Sikkim was 398.875 mm in 2025. Similarly, the average actual rainfall in Gangetic West Bengal was 316.125 mm in the same year.
- The southwesterly monsoons show an erratic pattern in Sub-Himalayan West Bengal and Sikkim. The departure of actual rainfall from the normal rainfall was -6%, 37% and -16% in 2015, 2020 and 2025 respectively. The excess rainfall noted in 2020 was driven by occurrence of Triple-Dip La Niña (2020-2022) which reached its highest intensity in November, 2020. This is reflected by a 91% departure of actual rainfall from normal levels in Sub-Himalayan West Bengal in 2020.
- Comparatively, the rainfall patterns in Gangetic West Bengal are less erratic. The departure of actual rainfall from normal levels was 8%, -19% and 8% in 2015, 2020 and 2025 respectively.

Rainfall

Rainfall (in mm) patterns in Sub-Himalayan West Bengal and Sikkim															
Year	June			July			August			September			Total		
	Actual	Normal	Departur e	Actual	Normal	Departur e	Actual	Normal	Departur e	Actual	Normal	Departur e	Actual	Normal	Departur e
2015	508.2	485.2	5%	393.3	615.8	-36%	626.6	495.2	27%	354.9	410	-13%	1883	2006.2	-6%
2020	680.2	483.3	41%	870.7	625.9	39%	414.5	480.7	-14%	725.7	380.9	91%	2691.1	1970.8	37%
2025	328.6	455.9	-28%	405.3	586.3	-31%	515.3	459.1	12%	346.3	388.2	-11%	1595.6	1889.5	-16%

Source
IMD Mausam Journal reports for respective years (https://mausam.imd.gov.in/imd_latest/monsoon_report_2025_2.pdf)

Rainfall

Rainfall (in mm) patterns in Gangetic West Bengal															
Year	June			July			August			September			Total		
	Actual	Normal	Departur e	Actual	Normal	Departur e	Actual	Normal	Departur e	Actual	Normal	Departur e	Actual	Normal	Departur e
2015	235.4	244.4	-4%	615.3	331.7	86%	257.8	312.3	-17%	156.9	279.5	-44%	1265.5	1167.9	8%
2020	279	256.2	9%	277.2	334.7	-17%	341.3	314.1	9%	167	276.5	-40%	1064.6	1181.5	-10%
2025	298.2	247.9	20%	427.5	344.8	24%	308.6	308.3	0%	230.2	265.8	-13%	1264.6	1166.8	8%

Source
IMD Mausam Journal reports for respective years (https://mausam.imd.gov.in/imd_latest/monsoon_report_2025_2.pdf)

Agriculture – Land Use Pattern

Agriculture – Land Use Pattern

Extent of cultivation increasing as scope for government supported irrigation and related programs evident

- The area classified as agri-land/cultivable land has increased in West Bengal has increased from 2014-15 to 2023-24. This has resulted in a simultaneous increase in are of land actually cultivated in the same time period. Importantly, land which can be cultivated yet is left uncultivated (cultivable – cultivated land area) has decreased with a CAGR of 3.05% from 2014-15 to 2023-24.
- From the net area sown of 5245 thousand hectares in 2023-24, 3757 thousand hectares is irrigated. Furthermore, from the net area irrigated, only 553 thousand hectares is irrigated via government sources. This suggests that 28% of net area sown is dependent on rainfall for good harvest. Additionally, from the net area irrigated, 85.28% is not via government sources, making it sensitive to changes in weather patterns and other volatile factors like depletion of groundwater levels.
- Government aid in irrigation facilities will result in decrease in volatility of agricultural harvests. Adoption of developing technologies such as irrigation using drones will allow for growth of related industries like electronic component manufacturing, manufacturing of metal and related products etc.

Agriculture – Land Use Pattern

Rice and Potato can boost food processing industry

- Rice is grown on majority of the net area sown, occupying 5342 thousand hectares as of 2023-24.
- Alongside rice, potato occupied 496 thousand hectares in the same year.
- In addition to fulfilling direct demand, these staple foods can be used as raw materials in agro-processing industries including food-processing to make ready-made/pre-prepared meals.
- With agriculture and processed food exports reaching nearly USD 49.4 million (as on 2025), processing of rice and potato via these export-oriented industries will add significant value to these product.

Potential to grow exports of Sesame oil to Asia and rest of the world

- Rapeseed, Mustard and Sesamum occupied 909 thousand hectares of land as of 2023-24.
- These crops are raw materials for industries manufacturing edible oils.
- Sesamum produces Sesame seeds which is used to produce sesame oil.
- As of 2023, India exported USD 3,69,79,560 worth of Sesame oil to the world, including prominent consumers like China, Singapore and other Asian countries.

Textiles relying heavily on Jute

- Jute occupied 479 thousand hectares of land as of 2023-24. It is used as a raw material for textile manufacturing, a well established industry in West Bengal.
- Of the 115 composite Jute mills in India in 2023, West Bengal had 85.
- Downstream products like Man Made Fibres (MMF) have a significant export potential, with exports in 2023-24 reaching USD 8.19 billion.
- Continued support in harvesting of Jute and development of the textile industry will benefit West Bengal's economy.

Source:

PIB Press Release (<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2150877®=48&lang=2>), World Integrated Trade Solution (<https://wits.worldbank.org/trade/comtrade/en/country/IND/year/2023/tradeflow/Exports/partner/ALL/product/151550>) , Ministry of Textiles Annual Report 2024-25 (<https://www.texmin.gov.in/static/uploads/2025/12/c865d599cae0c357c02d247a8a82d24e.pdf>)

Agriculture – Land Use Pattern

Sowing patterns in West Bengal (Thousand Hectares)

Year	Fallow Lands			Net area sown	Total cropped area	Area sown more than once	Agri. Land/cultivable land/culture-able land /arable land	Cultivated land	Uncultivable land	Uncultivated land
	Fallow lands other than current fallow	Current fallows	Total							
2015-16	11	328	339	5243	9881	4638	5648	5571	3036	3113
2016-17	10	313	322	5246	9618	4372	5633	5559	3052	3126
2017-18	7	308	315	5247	9945	4698	5625	5555	3060	3129
2018-19	6	301	307	5248	9960	4711	5615	5549	3069	3135
2019-20	5	300	305	5250	10100	4850	5608	5550	3076	3134
2020-21	6	259	265	5282	10207	4925	5602	5541	3082	3143
2021-22	6	254	260	5281	10259	4978	5595	5535	3089	3149
2022-23	6	314	320	5216	9974	4758	5589	5529	3095	3155
2023-24(p)	6	278	284	5245	10133	4887	5582	5523	3102	3161

Source

Land Use Statistics 2023-24, 2022-23 (<https://desagri.gov.in/wp-content/uploads/2025/07/LUS-2023-24-to-be-printed-Uploaded.pdf>)

Notes

1) (p): Data is provisional 2) Net area is calculated by counting areas in which multiple crops are grown only once while gross area counts this area multiple times

Agriculture – Land Use Pattern

Area of Land Irrigated in West Bengal (Thousand Hectares)

Year	Net Irrigated Area	Gross Irrigated Area	Area Irrigated More Than Once	Net Un-irrigated Area	Gross Un-irrigated Area	Percentage of Gross Irrigated Area to Total Cropped Area	Cropping Intensity
2015-16	3105	6486	3382	2139	3395	65.6	188.5
2016-17	3106	6317	3211	2140	3301	65.7	183.4
2017-18	3107	6481	3374	2140	3464	65.2	189.5
2018-19	3107	6526	3418	2141	3434	65.5	189.8
2019-20	3108	6631	3522	2141	3469	65.7	192.4
2020-21	3128	6703	3576	2155	3504	65.7	193.2
2021-22	3127	6761	3634	2154	3497	65.9	194.2
2022-23	3088	6628	3540	2128	3346	66.5	191.2
2023-24(p)	3757	7389	3632	1489	2744	72.9	193.2

Source

Land Use Statistics 2023-24, 2022-23 (<https://desagri.gov.in/wp-content/uploads/2025/07/LUS-2023-24-to-be-printed-Uploaded.pdf>)

Notes

(p): Data is provisional

Agriculture – Land Use Pattern

Net Area of Land Irrigated via Different Sources (Thousand Hectares)

Year	Government	Canals Private	Total	Tanks	Wells Tube-wells	Other Wells	Other Sources	Net Irrigated Area
2015-16	-	-	-	-	-	-	3105	3105
2016-17	-	-	-	-	-	-	3108	3108
2017-18	-	-	-	-	-	-	3107	3107
2018-19	-	-	-	-	-	-	3107	3107
2019-20	-	-	-	-	-	-	3108	3108
2020-21	-	-	-	-	-	-	3128	3128
2021-22	-	-	-	-	-	-	3127	3127
2022-23	-	-	-	-	-	-	3088	3088
2023-24(p)	553	-	553	904	1913	87	300	3757

Net Irrigated Area:

It is the area irrigated through any source once in a year for a particular crop.

Source

Land Use Statistics 2023-24, 2022-23 (<https://desagri.gov.in/wp-content/uploads/2025/07/LUS-2023-24-to-be-printed-Uploaded.pdf>)

Notes

1) (p): Data is provisional

2) Percentage share of Net Irrigated Area with respect to Net Area sown was calculated, on the basis of data received from Agricultural Census Unit-I for the AY 2021-22. More information is available in the Appendix of the linked source.

Agriculture – Land Use Pattern

Area Under irrigation for Cereals (Thousand Hectares)

Year	Cereals								Total cereals and millets
	Rice	Jowar	Bajra	Maize	Rgi/Marua	Wheat	Barley	Other cereals and millets	
2015-16	5524	0	0	153	10	340	3	2	6032
2016-17	5397	0	0	163	10	322	3	2	5897
2017-18	5537	0	0	245	3	117	0	2	5906
2018-19	5513	0	0	264	3	112	1	5	5899
2019-20	5491	0	0	362	3	188	0	6	6051
2020-21	5586	0	0	361	6	193	0	1	6148
2021-22	5586	0	0	361	5	221	0	1	6175
2022-23	5189	0	0	362	5	180	0	1	5737
2023-24(p)	5342	0	0	401	6	190	0	1	5940

Source

Land Use Statistics 2023-24, 2022-23 (<https://desagri.gov.in/wp-content/uploads/2025/07/LUS-2023-24-to-be-printed-Uploaded.pdf>)

Notes

1) (p): Data is provisional

Agriculture – Land Use Pattern

Area Under irrigation for Pulses (Thousand Hectares)

Year	Pulses			Total pulses	Total Food Grains
	Gram	Tur or Arhar	Other pulses (excluding gram tur or arhar)		
2015-16	31	3	311	345	6377
2016-17	28	3	276	307	6204
2017-18	30	4	409	443	6348
2018-19	36	4	423	463	6361
2019-20	36	5	440	481	6532
2020-21	40	4	421	465	6613
2021-22	40	3	405	449	6623
2022-23	40	3	415	457	6194
2023-24(p)	39	1	402	442	6383

Source

Land Use Statistics 2023-24, 2022-23 (<https://desagri.gov.in/wp-content/uploads/2025/07/LUS-2023-24-to-be-printed-Uploaded.pdf>)

Notes

1) (p): Data is provisional

Agriculture – Land Use Pattern

Area Under Sugar, Condiment and Spice Crops (Thousand Hectares)

Year	Sugar			Condiments and spices							Total Condiment s and Spices
	Sugarcane	Others	Total	Black pepper	Chillies	Ginger	Turmeric	Cardamom	Betelnuts	Other	
2015-16	17	-	17	-	65	12	17	-	12	25	130
2016-17	21	-	21	0	65	12	17	3	12	22	130
2017-18	19	-	19	0	66	12	17	3	12	22	133
2018-19	19	-	19	-	62	12	18	-	12	31	135
2019-20	19	-	19	-	68	13	18	-	12	26	136
2020-21	19	-	19	-	67	13	18	-	12	28	138
2021-22	19	-	19	-	63	13	19	-	12	32	139
2022-23	18	-	18	0	60	12	20	6	12	30	141
2023-24 (P)	17	-	17	0	60	12	20	4	13	31	140

Source

Land Use Statistics 2023-24, 2022-23 (<https://desagri.gov.in/wp-content/uploads/2025/07/LUS-2023-24-to-be-printed-Uploaded.pdf>)

Notes

1) (p): Data is provisional

Agriculture – Land Use Pattern

Area Under Fresh Fruit Crops (Thousand Hectares)

Year	Fresh fruits								Total fresh fruits
	Mango	Citrus	Banana	Grapes	Pome fruits	Papaya	Apple	Others	
2015-16	-	-	-	-	-	-	-	233	233
2016-17	95	-	48	-	-	-	-	68	224
2017-18	99	-	49	-	-	-	-	70	231
2018-19	105	10	50	-	-	12	-	41	219
2019-20	107	11	50	-	-	12	-	72	253
2020-21	110	18	52	-	-	13	-	74	266
2021-22	114	16	55	-	-	13	-	75	273
2022-23	116	-	65	-	-	15	-	101	297
2023-24 (P)	116	-	66	-	-	13	-	102	298

Source

Land Use Statistics 2023-24, 2022-23 (<https://desagri.gov.in/wp-content/uploads/2025/07/LUS-2023-24-to-be-printed-Uploaded.pdf>)

Notes

1) (p): Data is provisional

Agriculture – Land Use Pattern

Area Under Dry Fruit and Vegetable Crops (Thousand Hectares)

Year	Dry fruits			Vegetables					Total Fruits and Vegetable s	Other Food Crops	Total Food Crops	
	Cashew Nut	Others	Total dry fruits	Potato	Tapioca	Sweet Potato	Onions	Others				Total Vegetables
2015-16	-	-	-	492	-	-	-	981	1473	1706	12	8242
2016-17	12	-	12	417	-	23	29	930	1399	1635	-	7991
2017-18	13	-	13	432	-	-	35	954	1421	1666	-	8166
2018-19	-	-	-	438	-	20	35	938	1431	1650	30	8196
2019-20	13	-	13	435	-	20	37	943	1435	1701	-	8388
2020-21	13	-	13	457	-	19	41	951	1467	1747	-	8517
2021-22	15	-	15	448	-	19	44	971	1483	1770	-	8552
2022-23	14	-	14	504	-	17	44	985	1550	1862	-	8216
2023-24(p)	15	-	15	496	-	16	45	991	1548	1861	-	8400

Source

Land Use Statistics 2023-24, 2022-23 (<https://desagri.gov.in/wp-content/uploads/2025/07/LUS-2023-24-to-be-printed-Uploaded.pdf>)

Notes

1) (p): Data is provisional

Agriculture – Land Use Pattern

Area Under Oilseeds (Thousand Hectares)

Year	Oilseeds											Total Oilseeds
	Groundnut	Castorseed	Sesamum	Rapeseed & Mustard	Linseed	Coconut	Nigerseed	Safflower	Soyabean	Sunflower	Others	
2015-16			228	458	6	30					90	811
2016-17	71	0	236	459	7	30	4	0	1	7		814
2017-18	68		246	617	5	30	3	0	0	7		977
2018-19	67	0	240	606	4	31	1	0	0	8		958
2019-20	71		263	610	4	31	1			8		989
2020-21	71		259	593	4	32	1	0	0	7		967
2021-22	74		260	610	3	33	1	0	0	4		986
2022-23	78		258	657	3	32	1	0	0	5		1035
2023-24(p)	85		276	633	3	33	1			4		1035

Source

Land Use Statistics 2023-24, 2022-23 (<https://desagri.gov.in/wp-content/uploads/2025/07/LUS-2023-24-to-be-printed-Uploaded.pdf>)

Notes

1) (p): Data is provisional

Agriculture – Land Use Pattern

Area under Fibre Crops (Thousand Hectares)

Year	Fibres					Total Fibres
	Cotton	Jute	Mesta	Sannhemp	Others	
2015-16	0	545	9	1		555
2016-17	0	522	14	1		537
2017-18	0	515	10	1		526
2018-19	0	518	11	0		530
2019-20	0	505	12	0		518
2020-21	0	506	12	0		519
2021-22	0	506	13	0		519
2022-23	0	504	13	0		517
2023-24(p)		479	12			491

Source

Land Use Statistics 2023-24, 2022-23 (<https://desagri.gov.in/wp-content/uploads/2025/07/LUS-2023-24-to-be-printed-Uploaded.pdf>)

Notes

1) (p): Data is provisional

Agriculture – Land Use Pattern

Area under Plantation Crops (Thousand Hectares)

Year	Tobacco	Cinchona	Indian-hemp	Tea	Coffee	Rubber	Others	Total	Fodder Crops	Green Manure Crops	Other Non-Food Crops	Total Non-Food Crops
2015-16	15	9	-	201	-	-	20	244	3	-	26	1639
2016-17	16	11	-	201	-	-	20	246	3	-	26	1627
2017-18	14	9	-	201	-	-	20	243	3	-	30	1779
2018-19	15	9	-	201	-	-	20	244	3	-	28	1764
2019-20	15	0	-	138	-	-	20	173	2	-	29	1712
2020-21	14	0	-	138	-	-	20	172	2	-	29	1691
2021-22	13	0	-	138	-	-	19	169	2	-	30	1707
2022-23	12	0	-	138	-	-	20	170	2	-	34	1758
2023-24(p)	12	0	-	138	-	-	20	169	2	-	34	1733

Source

Land Use Statistics 2023-24, 2022-23 (<https://desagri.gov.in/wp-content/uploads/2025/07/LUS-2023-24-to-be-printed-Uploaded.pdf>)

Notes

1) (p): Data is provisional

Agriculture – Land Use Pattern

Area sown (Thousand Hectares)			
Years	Total Area Sown Under All Crops	Area Sown More Than Once	Net Area Sown
2015-16	9881	4638	5243
2016-17	9618	4372	5246
2017-18	9945	4698	5247
2018-19	9960	4711	5248
2019-20	10100	4850	5250
2020-21	10207	4925	5282
2021-22	10259	4978	5281
2022-23	9974	4758	5216
2023-24(p)	10133	4887	5245

Source

Land Use Statistics 2023-24, 2022-23 (<https://desagri.gov.in/wp-content/uploads/2025/07/LUS-2023-24-to-be-printed-Uploaded.pdf>)

Notes

1) (p): Data is provisional

Rice: Backbone of Agriculture in West Bengal

- Rice remains the principal crop of West Bengal.
- Historically, the state has ranked among India's largest rice-producing states, with its advantage arising particularly from its large rice-growing area.
- West Bengal also has multiple rice seasons, including Aus, Aman and Boro, which contributes to high cropping intensity.
- The current scale of the rice economy can also be seen from procurement: during Kharif Marketing Season 2025-26, the state had registered around 33.97 lakh farmers, with 27.07 lakh farmers having sold paddy and procurement of approximately 48.34 lakh tonnes as of late July 2026

Rice Value Chain

From Paddy to Global Markets



Potato: Major Commercial Crop

This creates an important industrial value chain towards :
 Farmer → Trader → Cold storage → Wholesale market



Farmer/FPO → Collection → Grading → Cold storage →
 Processing → Branded product → Retail/export

- Potato is one of West Bengal's most important commercial crops and an important link between agriculture and the cold-storage, food-processing and logistics industries.
- The state has developed a substantial cold-storage ecosystem. The state government's 2026 potato programme reports total potato storage capacity of approximately 8.2 million tonnes.
- The major policy challenge is therefore shifting from seasonal potato production and storage towards year-round processing and value addition.

Key opportunity

Large scale

- French fries
- Frozen potato products
- Potato starch
- Potato flakes
- Dehydrated potato

Medium scale

- Potato chips
- Potato powder
- Specialty snacks

Supporting investments

- Pre-cooling
- Sorting/grading
- Pack houses
- Reefer transportation
- Controlled-atmosphere storage

Horticulture, One of the Strongest Growth Opportunities

- Horticulture is particularly important because West Bengal has a strong comparative advantage in vegetables, fruits, spices and flowers.
- The state has particularly strong national positions in several horticultural products. For example, according to the state's horticulture department, West Bengal is a leading producer of pointed gourd, pineapple, cucumber, cauliflower, radish, elephant-foot yam, capsicum, cabbage and brinjal.
- This provides a strong basis for developing horticulture-based industrial clusters.

Horticulture 2023-24

Crop	West Bengal production
Tomato	~1.37 million tonnes
Brinjal	~3.10 million tonnes
Cabbage	~2.39 million tonnes
Cauliflower	~2.00 million tonnes
Mango	~0.88 million tonnes
Banana	~1.44 million tonnes
Pineapple	~0.35 million tonnes
Onion	~0.87 million tonnes
Guava	~0.22 million tonnes

Investment model



Agro Processing Opportunities

Priority agro-processing opportunities

Priority	Value chain	Investment opportunity	Potential locations
1	Potato	French fries, flakes, starch, powder, chips, frozen potato	Hooghly, Purba Bardhaman, Paschim Medinipur
2	Rice	Modern milling, parboiling, fortified rice, rice bran oil, poha, puffed rice, noodles	Purba Bardhaman, Birbhum, Murshidabad, Nadia, Uttar/Dakshin Dinajpur
3	Vegetables	IQF frozen vegetables, fresh-cut, dehydration, puree, sauces	Nadia, North & South 24 Parganas, Murshidabad, Hooghly
4	Mango	Pulp, concentrate, juice, pickle, dried mango, aam papad	Malda, Murshidabad, Nadia
5	Pineapple	Pulp, juice, concentrate, canned products, jam/jelly	Jalpaiguri, Alipurduar, Uttar Dinajpur
6	Fish	Chilling, filleting, frozen seafood, ready-to-cook products	South 24 Parganas, North 24 Parganas, East Midnapore, Howrah
7	Maize	Starch, grits, flour, feed and industrial ingredients	North Bengal, Purba Bardhaman, Bankura/Purulia belt
8	Dairy	Milk powder, cheese, ghee, yoghurt, flavoured milk, ice cream	Nadia, North 24 Parganas, Hooghly and other milk-producing clusters
9	Banana	Chips, flour, starch, puree, fibre	Nadia, Hooghly, South 24 Parganas
10	Tomato	Puree, paste, ketchup, sauces, concentrates	Nadia, Murshidabad, Cooch Behar, Bankura, Purulia
11	Tea	Blending, packaging, specialty tea, extracts	Darjeeling, Jalpaiguri, Alipurduar
12	Spices	Cleaning, grinding, oleoresins, extracts, branded products	North Bengal, Nadia, Murshidabad

Potential for Pulses Production

Why West Bengal

Suitable Soil

1. Fertile alluvial soils

1. Large parts of southern and central West Bengal consist of deep alluvial soils rich in potassium and micronutrients.
2. These soils are particularly suitable for lentil, chickpea and field pea.

2. Residual moisture after rice

1. Most pulses require relatively little irrigation.
2. Rice harvest leaves sufficient residual soil moisture for rabi pulses, reducing irrigation costs.

3. Good drainage

1. Pulses perform best in well-drained soils.
2. Many alluvial and red loam soils provide adequate drainage, especially during the rabi season.

4. Moderate soil pH

1. Most pulse crops prefer a pH of **6.0–7.5**.
2. Much of West Bengal's alluvial belt falls within or close to this range.

Most suitable pulse crops by soil type

Soil Type	Recommended Pulses
Alluvial loam	Lentil, chickpea, field pea, moong
Sandy loam	Black gram, moong, cowpea
Red loam	Pigeon pea, horse gram, black gram
Lateritic soils	Pigeon pea, cowpea
Slightly saline soils	Moong, urad (salt-tolerant varieties)

Potential for Pulses Production

Soil suitability by region			
Region	Dominant Soil Type	Suitable Pulses	Potential
Gangetic Alluvial Plains (Nadia, Murshidabad, Hooghly, Bardhaman, North & South 24 Parganas)	Fertile alluvial, loam to clay loam	Lentil, chickpea, field pea, moong, urad	Very High
Old Alluvial Zone (Malda, Uttar Dinajpur)	Sandy loam to loam	Lentil, chickpea, black gram	High
Red & Lateritic Zone (Bankura, Purulia, Jhargram, Paschim Medinipur, Birbhum)	Red loam, lateritic, well-drained	Pigeon pea, horse gram, black gram, cowpea	Moderate to High
Terai & Foothill Region (Darjeeling, Jalpaiguri, Alipurduar, Cooch Behar)	Sandy loam, acidic	Field pea, rajma, lentil	Moderate
Coastal Saline Zone (East Midnapore, South 24 Parganas)	Saline alluvial	Salt-tolerant moong and urad (with improved management)	Moderate

Potential for Pulses Production

Strong Agro-climatic Advantage

West Bengal possesses diverse agro-climatic zones suitable for several pulse crops.

The state's moderate winter temperatures and residual soil moisture after paddy harvest provide favourable conditions for rabi pulses.

Agro-climatic Zone	Suitable Pulses
Gangetic Alluvial Plains	Lentil, Chickpea, Field pea, Green gram
Red & Lateritic Zone	Pigeon pea, Black gram, Horse gram
Coastal Saline Zone	Mung bean, Black gram
Terai & Himalayan Foothills	Field pea, Lentil, Rajma
Old Alluvial Zone	Chickpea, Lentil, Black gram

Potential for Pulses Production

Large Scope through Rice-Fallow Utilization

- One of the biggest opportunities lies in utilizing rice-fallow lands.
 - Millions of hectares remain uncropped after kharif paddy harvest.
 - Residual soil moisture allows cultivation without major irrigation investment.
 - Lentil
 - Chickpea
 - Field pea
 - Lathyrus
 - Green gram
- can all be grown successfully after rice.
- Rice-fallow intensification represents the largest opportunity for increasing pulse production.

Value Addition Opportunities

Investment opportunities include:

- Dal milling
- Pulse grading
- Cleaning and sorting
- Protein flour
- Ready-to-cook products
- Pulse snacks
- Plant-based protein ingredients

Investment Potential

Segment	Potential
Seed production	Very High
Dal mills	Very High
Pulse processing	High
Contract farming	High
Warehousing	High
Cold chain for seed	Medium
Food processing	High
Export logistics	High

Potential for Pulses Production

Key Recommendations

1. **Expand pulses in rice-fallow areas** through short-duration lentil, chickpea, moong and urad varieties.
2. **Develop district-level pulse clusters** in suitable agro-climatic zones with integrated support for seed, extension, mechanization and market access.
3. **Strengthen seed systems** to improve varietal replacement and productivity.
4. **Promote value addition** by encouraging dal milling, pulse processing and protein-based food industries.
5. **Leverage logistics connectivity**, including Kolkata and Haldia ports and border trade, to develop export-oriented pulse supply chains.
6. **Improve market assurance** through procurement, Farmer Producer Organisations, warehouse receipt systems and better price discovery.

Infrastructure



Source

Maps of India (<https://www.mapsofindia.com/maps/westbengal/westbengal-district.htm>) (2023)

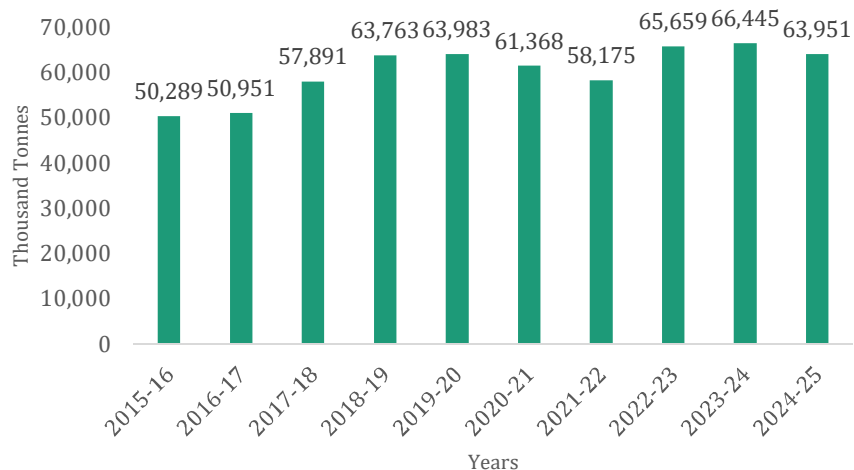
Infrastructure – Shipping and Ports

Cargo traffic handled in West Bengal increases as trade of fertilizers strengthens

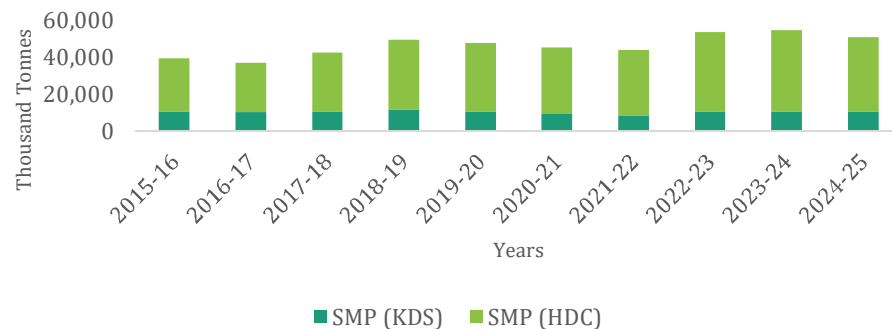
- The combined extent of cargo traffic handles at the two major seaports in West Bengal, SMP Kolkata Dock System (KDS) and SMP Haldia Dock Complex (HDC) increased with a CAGR of 3.66% from 2015-16 to 2024-25.
- From the cargo handled, 79.56% was unloaded on to the port as on 2024-25. Additionally, from the cargo unloaded, 79.24% was unloaded at SMP HDC. This indicates that West Bengal is a major hub for receiving imported cargo, with SMP HDC receiving a major proportion of the cargo.
- Of the two major seaports in Kolkata, SMP HDC had 2092 ships with a total capacity of 56.423 GRT as of 2024-25. This was 4.35 times the ship capacity of the 1036 ships present at SMP KDS, explaining why the former was the preferred landing dock of the two.
- This indicates that the seaports in West Bengal have the required capacity to support the increase in exports which will be followed by growth of export-oriented industries like food processing and textile manufacturing.

Shipping and Ports

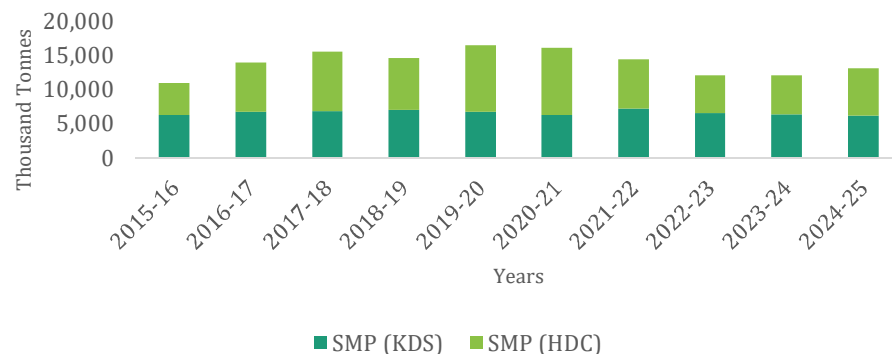
Cargo Traffic Handled in West Bengal (Thousand Tonnes)



Cargo Unloaded (Overseas and Coastal) in West Bengal (Thousand Tonnes)



Cargo Loaded (Overseas and Coastal) in West Bengal (Thousand Tonnes)



Source

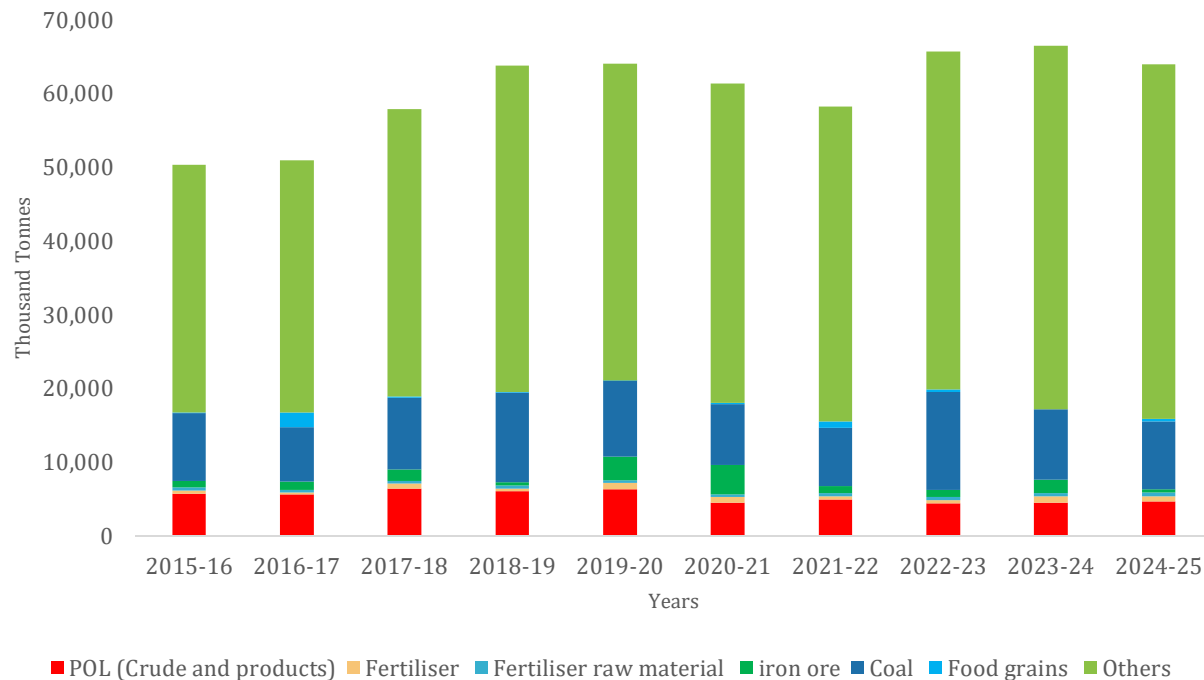
Basic Port Statistics of India 2024-25 (https://shipmin.gov.in/sites/default/files/BPS%202024-25_compressed.pdf)

Notes

SMP (KDS): Syama Prasad Mookerjee Port, Kolkata Dock System; SMP (HDC): Syama Prasad Mookerjee Port, Haldia Dock Complex

Shipping and Ports

Commodity-wise Cargo Traffic Handled in SMPA (Kolkata/Haldia) (Thousand Tonnes)



Coal and POL (Crude and products) lead amongst the commodity handled

- From the different commodities being handled at the two seaports, the average proportion of POL handles from 2015-16 to 2024-25 was 8.96% and for Coal was 16.09%.
- The standard deviation of proportion of POL handled from 2015-16 to 2024-2025 was 1.88% while for Coal was 2.42%. This indicates that POL imports were more consistent over the years compared to Coal imports.

Source

Basic Port Statistics of India 2024-25 (https://shipmin.gov.in/sites/default/files/BPS%202024-25_compressed.pdf)

Notes

SMP (KDS): Syama Prasad Mookerjee Port, Kolkata Dock System; SMP (HDC): Syama Prasad Mookerjee Port, Haldia Dock Complex

Shipping and Ports

Number, Type and Size of CARGO Ships at SMP (Kolkata Dock Sytem)

Year	Container No.	Container GRT	Break bulk No.	Break bulk GRT	dry bulk No.	dry bulk GRT	Liquid bulk No.	Liquid bulk GRT	LASH No.	LASH GRT	Ro-Ro No.	Ro-Ro GRT	Total No.	Total GRT
2015-16	793	6999	254	2148	124	2596	257	1856	0	0	14	216	1442	13815
2016-17	777	6977	246	2553	34	730	237	1712	0	0	12	184	1306	12157
2017-18	764	6724	221	2527	59	1612	262	1894	0	0	16	214	1322	12971
2018-19	782	6464	163	1183	175	5571	222	1633	0	0	16	218	1358	15069
2019-20	808	6772	165	1276	87	2696	220	1680	0	0	5	66	1285	12489
2020-21	677	6003	162	1118	79	2774	108	877	0	0	1	8	1027	10779
2021-22	682	6015	142	1065	54	2298	111	828	0	0	0	0	989	10206
2022-23	695	6253	153	1344	93	4803	147	1738	0	0	1	8	1089	14145
2023-24	814	7831	161	1645	87	7287	113	951	0	0	0	0	1175	17713
2024-25	672	6782	170	1968	77	3028	117	1178	0	0	0	0	1036	12957

Source

Basic Port Statistics of India 2024-25 (https://shipmin.gov.in/sites/default/files/BPS%202024-25_compressed.pdf)

Notes

- 1) Break Bulk: Goods that cannot fit inside a standard container due to size, shape or weight; Dry bulk: Solid materials loaded and shipped loosely (unpackaged); Liquid bulk: Liquid materials loaded and shipped loosely (unpackaged); LASH: Lighter Aboard Ship, its primary function is loading and unloading barges; RO-RO: Roll-on/Roll-off, used for loading of wheeled cargo such as automobiles.
- 2) GRT: Gross Register Tonnage: a MEASURE OF A SHIPS CAPACITY

Shipping and Ports

Number, Type and Size of CARGO Ships at SMP (Haldia Dock Complex)

Year	Container No.	Container GRT	Break bulk No.	Break bulk GRT	Dry bulk No.	Dry bulk GRT	Liquid bulk No.	Liquid bulk GRT	LASH No.	LASH GRT	Ro-Ro No.	Ro-Ro GRT	Total No.	Total GRT
2015-16	223	2453	70	1310	714	24190	1019	19806	0	0	0	0	2026	47759
2016-17	286	2980	74	1445	748	25929	979	19970	0	0	0	0	2087	50324
2017-18	257	3225	88	1532	876	30426	1102	22741	0	0	0	0	2323	57923
2018-19	262	3365	78	1332	878	31877	1052	23326	0	0	0	0	2270	59901
2019-20	249	3331	78	1213	883	32137	1038	24510	0	0	0	0	2248	61190
2020-21	317	4140	91	1729	786	29336	844	24062	0	0	0	0	2038	59267
2021-22	264	3383	77	1612	641	24368	974	25174	0	0	0	0	1956	54537
2022-23	204	2728	46	681	788	30546	929	23115	0	0	0	0	1967	57069
2023-24	206	2447	46	841	852	32751	980	23375	0	0	0	0	2084	59414
2024-25	312	4142	25	491	715	27305	1040	24485	0	0	0	0	2092	56423

Source

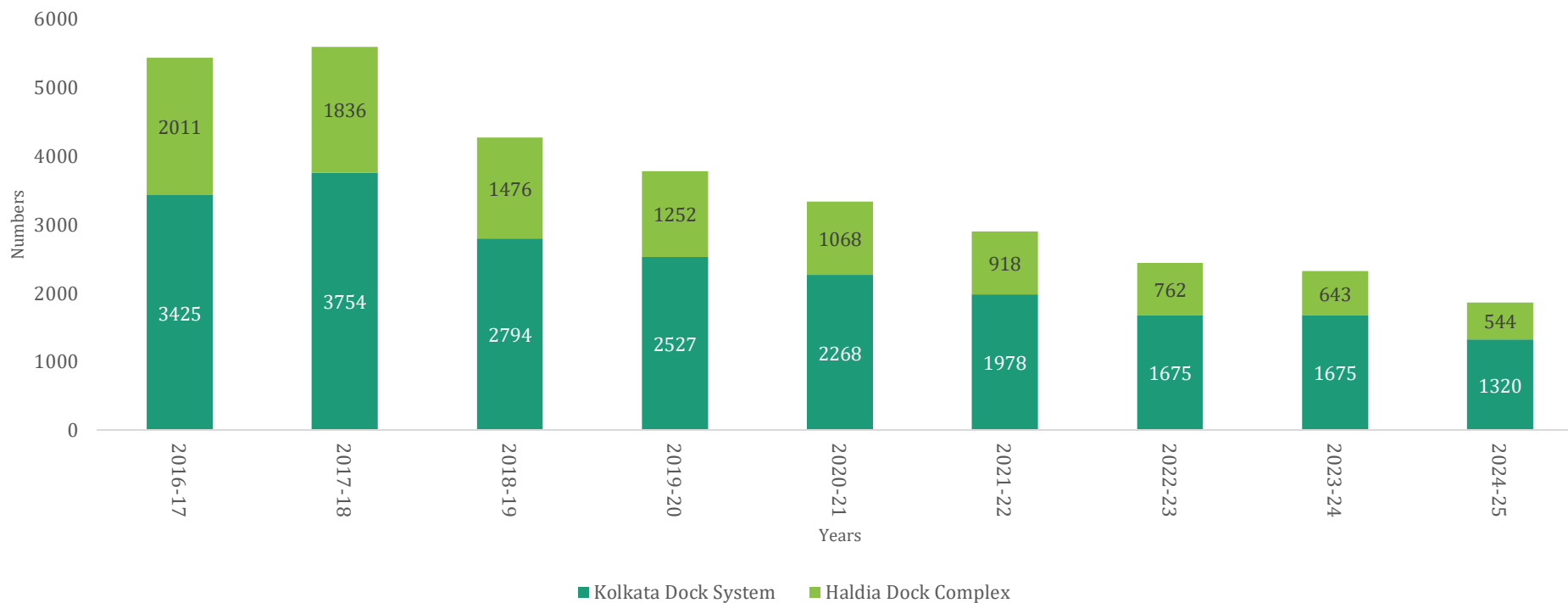
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- 2) GRT: Gross Register Tonnage: a MEASURE OF A SHIPS CAPACITY

Shipping and Ports

Manpower Employed in Numbers at Major Ports in West Bengal



Source

Basic Port Statistics of India 2024-25 (https://shipmin.gov.in/sites/default/files/BPS%202024-25_compressed.pdf)

Infrastructure - Ship Building Potential

Ship Building Potential

- West Bengal has significant potential to emerge as a major shipbuilding, ship repair, and inland vessel manufacturing hub
- Possesses several natural advantages:
 - Gateway to **Eastern and North-Eastern India**
 - Access to the **Bay of Bengal**
 - Extensive river network through the **Ganga–Bhagirathi–Hooghly** system
 - National Waterway-1 (NW-1) terminates at Haldia
 - Access to Bangladesh through the **India-Bangladesh Protocol Route**

Major assets

Asset	Significance
Kolkata Port	Historic river port with engineering ecosystem
Haldia Dock Complex	Bulk cargo handling and industrial hinterland
Hooghly Cochin Shipyard	Builds inland vessels, ferries and cruise vessels
Garden Reach engineering ecosystem	Marine engineering and defence supply chain
Titagarh industrial cluster	Heavy engineering and fabrication capability
Large MSME fabrication base	Steel fabrication, machining, electrical systems

Competitive Advantages

Compared with very large ocean-going vessels, these segments require relatively smaller dry docks and lower draft requirements.

West Bengal comparative strengths:

- River vessel construction
- Small and medium commercial vessels
- Inland barges
- Passenger ferries
- Modular ship construction
- Ship repair
- Retrofit of green vessels
- Cruise vessel construction

Ship Building Potential

Demand Drivers

Government emphasis on inland waterways and coastal shipping is expected to increase demand for domestically built vessels.

Demand for vessels is expected from:

- Inland cargo vessels
- Barges
- Coastal cargo ships
- Passenger ferries
- Ro-Ro vessels
- Hybrid and electric ferries
- River cruise vessels
- Fishing vessels
- Dredgers
- Harbour tugs
- Offshore support vessels
- Defence auxiliary vessels

Export Potential

Potential export markets include:

- Bangladesh
- Nepal (through inland logistics)
- Bhutan
- Myanmar
- Sri Lanka
- ASEAN countries
- East African coastal nations
- Possible exports:
 - Inland barges
 - Patrol boats
 - Harbour tugs
 - Small cargo vessels
 - Passenger ferries
 - Fishing vessels

Key opportunities

- Deep-sea port development
- Green shipbuilding
- LNG and hybrid vessels
- Electric ferries
- Inland water transport expansion
- Cruise tourism
- Ship recycling and repair
- Maritime industrial clusters

Ship Building Potential

Employment Potential

Shipbuilding has one of the highest employment multipliers in manufacturing.

Each direct shipyard job generally supports several indirect jobs across steel, machinery, logistics and engineering services.

Approximate direct employment

Activity	Jobs
Shipbuilding	High
Ship repair	High
Marine equipment manufacturing	High
Steel fabrication	Medium
Electrical equipment	Medium
Paints & coatings	Medium
Logistics	Medium

Ship Building Potential

SWOT Analysis

Strengths

Strong engineering base
Extensive inland waterways
Strategic location
Skilled workforce

Weaknesses

River port draft limitations
Continuous dredging requirements
Limited large commercial shipyards
Competition from deep-water ports

Opportunities

National Shipbuilding Mission
Inland waterways expansion
Green vessels
Cruise tourism

Threats

Competition from Neighboring countries
Global shipbuilding competition
Cyclical shipping demand
Rising steel and input costs

Infrastructure Gaps

- Limited large dry docks
- Need for modern fabrication facilities
- Limited marine equipment manufacturing cluster
- Need for marine testing facilities
- Higher logistics costs for some imported inputs

Ship Building Potential

Infrastructure Requirements

Gap	Requirement	Suggested Location
Large dry docks	1–2 Panamax-size dry docks and 2–3 medium dry docks	Haldia / Tajpur
Ship repair	Floating docks, synchrolifts, repair berths	Kolkata, Haldia
Fabrication	Automated steel fabrication shops, robotic welding, panel lines	Haldia Industrial Area
Outfitting	Pipe, electrical, accommodation block workshops	Maritime industrial cluster
Launching	Heavy-lift quays, Goliath cranes (600–1,200 t), ship lifts	Greenfield shipyard

Marine Equipment Manufacturing Cluster

A localized supply chain could substantially reduce logistics costs, improve delivery times, and increase domestic value addition.

Product	Potential Suppliers
Marine engines	Joint ventures with global OEMs
Propellers & shafts	Forging and machining firms
Pumps & valves	Engineering MSMEs
Electrical systems	Electrical manufacturers
Navigation equipment	Electronics manufacturers
HVAC systems	Industrial HVAC firms
Marine coatings	Paint manufacturers

Ship Building Potential – Creating the Ecosystem

These capabilities can leverage eastern India's existing steel production base

Steel and Fabrication Ecosystem

Shipbuilding requires large volumes of specialized steel processing.

Required investments include:

- CNC plasma cutting facilities
- Robotic welding lines
- Automated panel assembly
- Pipe fabrication workshops
- Heavy plate rolling
- Surface blasting and painting facilities
- Modular block construction yards

Shared facilities lower costs for multiple shipyards and suppliers, consistent with the SbDS cluster approach.

Testing, Certification and R&D

A modern shipbuilding ecosystem also requires common technical infrastructure:

- Hydrodynamic testing tank
- Structural testing laboratory
- Marine materials testing
- Corrosion laboratory
- Propulsion testing centre
- Digital twin and simulation centre
- Classification society offices
- Green vessel research centre

Port Infrastructure required

- Deep-draft berths (14–18 m where feasible)
- Additional dredging capacity
- Heavy-lift cargo handling
- Roll-on/Roll-off facilities
- Dedicated shipbuilding jetties
- Breakwaters (for greenfield coastal facilities)
- Efficient rail and road connectivity

A deep-sea port would significantly enhance competitiveness for constructing larger ocean-going vessels.

Ship Building Potential – Creating the Ecosystem

Human Capital

Partnerships with institutions such as the Indian Maritime University and technical universities could support workforce development.

West Bengal would need a dedicated maritime skills programme covering:

- Naval architecture
- Marine engineering
- Welding (marine standards)
- Ship fitting
- Marine electrical systems
- Robotics and automation
- Composite materials
- LNG, hybrid and electric vessel technologies

Logistics and Industrial Ecosystem

Supporting infrastructure should include:

- Multi-modal logistics parks
- Steel service centres
- Bonded warehouses
- Customs facilitation
- Container freight stations
- Vendor parks
- Industrial gas supply
- Reliable power and water infrastructure

Ship Building Potential – Creating the Ecosystem

Estimated Investment Requirement

Component	Indicative Investment (₹ crore)
Greenfield shipyard and dry docks	8,000–12,000
Marine equipment manufacturing cluster	3,000–5,000
Fabrication facilities	2,000–3,000
Testing and R&D infrastructure	500–1,000
Port and connectivity upgrades	5,000–10,000
Skill development ecosystem	300–500
Utilities and common infrastructure	2,000–3,000
Total	20,800–34,500

Potential Economic Impact (10–15 Years)

This cluster-based approach would be consistent with India's national objective of creating globally competitive shipbuilding ecosystems through shared infrastructure, supplier localization and coordinated industrial development.

If these investments are implemented, West Bengal could potentially achieve:

- Annual shipbuilding output of ₹25,000–40,000 crore.
- Direct employment of 50,000–70,000 people.
- Indirect employment of 150,000–250,000 across steel, engineering, logistics and services.
- Development of 300–500 MSMEs supplying marine components.
- Emergence as India's leading hub for inland and coastal vessel construction and a major centre for medium-sized commercial shipbuilding serving eastern India, Bangladesh, ASEAN and Indian Ocean markets.

Ship Building Potential – Creating the Ecosystem

Policy Recommendations

1. To realize its potential, West Bengal could prioritize:
2. Develop a modern deep-water port integrated with a shipbuilding cluster.
3. Establish a dedicated maritime manufacturing park for marine equipment suppliers.
4. Expand ship repair and dry dock infrastructure.
5. Promote public-private partnerships in shipbuilding.
6. Build specialized skills through maritime engineering and vocational institutes.
7. Encourage construction of green vessels (electric, hybrid and LNG-powered).
8. Strengthen multimodal connectivity between ports, rail and inland waterways.
9. Leverage defense and inland water transport procurement to create a stable order pipeline.

Infrastructure – Ongoing Projects

Ongoing Projects

Number of Ongoing Infrastructure Projects undertaken by Central Government in West Bengal, along with Financial Burden

Ministry	Sector	Project Count	Original Cost (Latest Revised Cost) (₹ Crores)	Cumulative Expenditure (₹ Crores)
Department of Higher Education	Education	1	500 442	415.35
Department of Telecommunications	Telecommunication	2	3462.17 3462.17	1,078.46
Department of Water Resources, River Development & GR	Waste & Water	1	154.73 154.73	96.17
Ministry of Civil Aviation	Aviation & Aviation Infrastructure	2	1877.3 1877.3	581.18
Ministry of Coal	Coal	12	13,202.01 13,202	2,274.29
Ministry of Mines	Construction	1	255.37 255.37	98.92
Ministry of Petroleum & Natural Gas	Energy Storage	1	10,228 11,407	10,912.42
	Oil & Gas	10	18,730.65 19,675.2	12,003.18

Source
MoSPI 486th Flash Report on Central Sector Infrastructure Projects (April 2026) (https://www.mospi.gov.in/uploads/publications_reports/publications_reports1779688125413_332125c5-1fb9-4d23-87ca-dd89fc14cd15_Flash_Report_April_2026.pdf)

Note
Data as of April 2026

Ongoing Projects

Number of Ongoing Infrastructure Projects undertaken by Central Government in West Bengal, along with Financial Burden (contd.)

Ministry	Sector	Project Count	Original Cost (Latest Revised Cost) (₹ Crores)	Cumulative Expenditure (₹ Crores)
Ministry of Ports, Shipping and Waterways	Inland Waterways	1	5369.18 5061.15	3,990.06
Ministry of Power	Electricity Generation	3	20,091.84 21,644.6	4,652.59
	Transmission & Distribution	2	751.63 751.63	108.93
Ministry of Railways	Railways	16	49,559.1 60,771	37,993.71
Ministry of Road Transport & Highways	Roads & Highways	24	16,531.77 15,962	3,926.88
Ministry of Steel	Steel	6	6733.06 6733.06	1,476.68
Total		82	1,47,446.81	79,608.82

Source
MoSPI 486th Flash Report on Central Sector Infrastructure Projects (April 2026) (https://www.mospi.gov.in/uploads/publications_reports/publications_reports1779688125413_332125c5-1fb9-4d23-87ca-dd89fc14cd15_Flash_Report_April_2026.pdf)

Note
Data as of April 2026

Production Linked Incentive Schemes (PLIS)

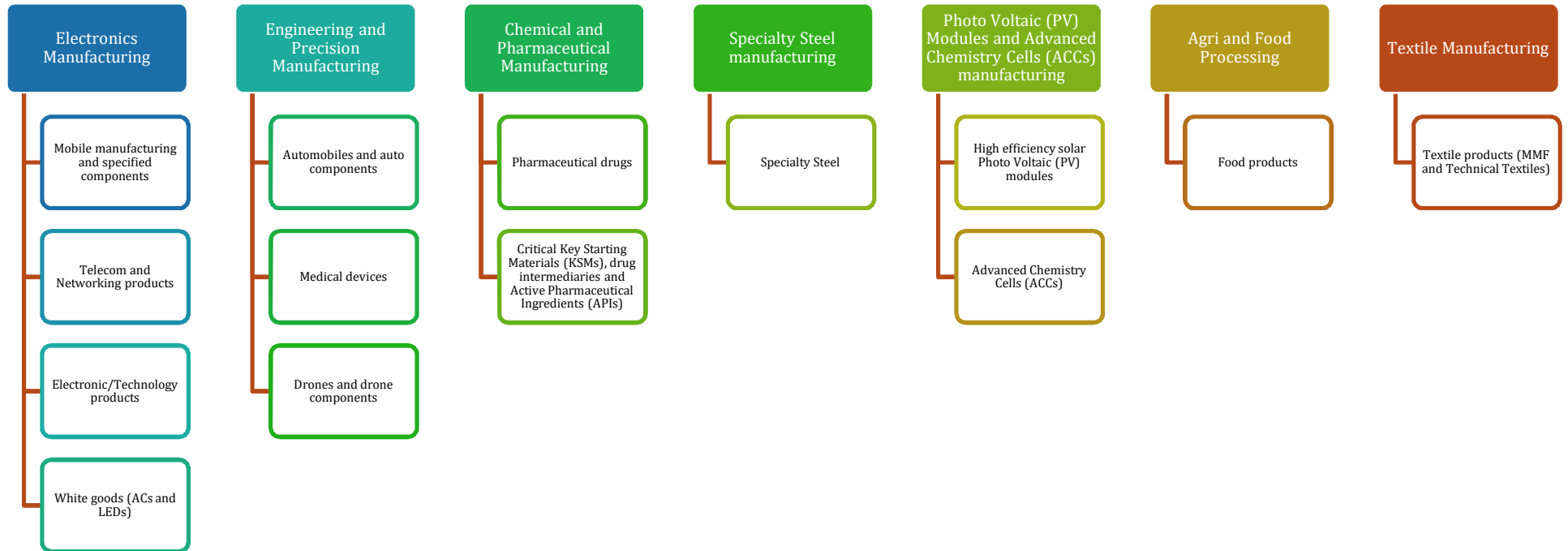
Production Linked Incentive Schemes (PLIS)

The Production Linked Incentive Scheme (PLIS) is a government initiative launched in 2020. The primary aim of PLIS was strengthening India's manufacturing capabilities by offering financial incentives to eligible companies based on their incremental scale. As of 2026, the scheme has expanded to include 14 sectors.

The following sections of the report identifies the potential for growth of each of these sectors by:

- Classifying each of the 14 sectors into 7 ecosystems based on common required factor endowments
- Identifying the factor endowments present in West Bengal for each ecosystem
- Identifying potential industrial clusters which can support the growth of the respective ecosystem
- Describing the strength of each industrial cluster identified

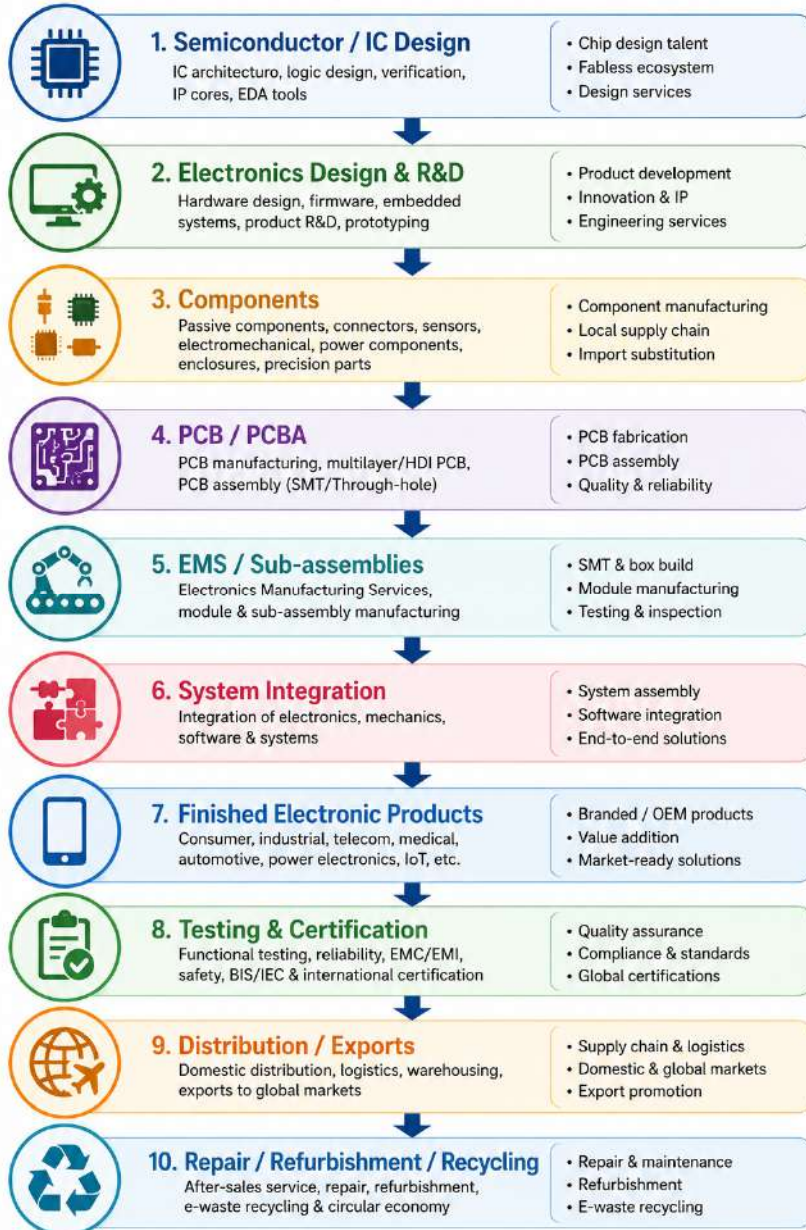
Ecosystem Classification



Source:

PIB Press release: <https://www.pib.gov.in/PressNoteDetails.aspx?NotelId=155082&ModuleId=3®=3&lang=2>

West Bengal ESDM Value Chain



PLIS – Potential for Electronics Manufacturing

Electronics System Design and Manufacturing (ESDM)

West Bengal has the **foundational factor endowments for an ESDM industry**, but its current position is better characterized as an **emerging ESDM ecosystem rather than a mature electronics manufacturing cluster**.

The State's principal strengths are:

- Kolkata's IT, engineering and knowledge base
- IIT Kharagpur, IEST Shibpur, Jadavpur University and other technical institutions
- Established state-level electronics institutions through WBEIDC/WEBEL
- Industrial land and parks at locations such as Kalyani, Kharagpur and Falta
- Kolkata–Haldia port connectivity
- Rail, road and air connectivity
- Proximity to Eastern and North-Eastern India and neighbouring countries
- Existing electronics manufacturing cluster infrastructure at **Naihati and Falta**

Existing electronics manufacturing infrastructure

▪ Naihati EMC

West Bengal has established a **70-acre Electronics Manufacturing Cluster at Naihati**, within the Rishi Bankim Industrial Park in North 24 Parganas. WEBEL describes it as infrastructure intended to attract ESDM investment and promote domestic electronics manufacturing.

▪ Falta EMC

The State also has a **58.04-acre Greenfield EMC at Falta Industrial Centre**, South 24 Parganas. Government of India data records project outlay of about ₹58.86 crore and approved grant-in-aid of ₹25.64 crore.

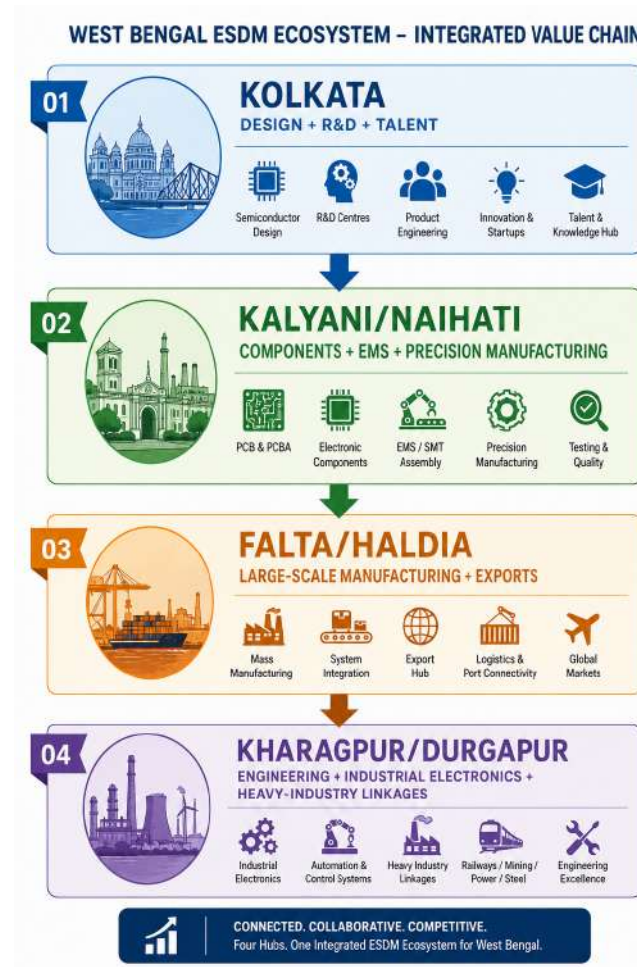
Electronics System Design and Manufacturing (ESDM)

Strategy

Differentiated strategy should be to build for West Bengal as an **Eastern India electronics manufacturing and component hub**, using Kolkata's engineering and technology ecosystem, existing electronics clusters, access to ports and inland waterways, and proximity to the eastern and northeastern markets as Union Government is now placing greater emphasis on domestic components and integration into global value chains

Five layer Strategy

1. Electronics assembly and system integration
2. Component manufacturing
3. Industrial and embedded electronics
4. Electronics design, R&D and semiconductor ecosystem
5. Electronics logistics, repair, refurbishment and circular economy



The strategic positioning

West Bengal should position itself as:
"Eastern India's Integrated Electronics & ESDM Hub"
with four complementary strengths

Electronics System Design and Manufacturing (ESDM)

Factor endowments required for electronics manufacturing

Factor endowment	Requirement for electronics manufacturing	Importance
Industrial land	Ready-to-use industrial plots, factory shells, expansion land	Very High
Reliable power	24×7 high-quality, low-interruption electricity	Very High
Water & utilities	Process water, industrial water, wastewater treatment	High
Skilled labour	Electronics technicians, engineers, operators, designers	Very High
Engineering ecosystem	Tooling, moulds, PCB assembly, testing, maintenance	Very High
Component ecosystem	PCBs, connectors, displays, batteries, sensors, passive components	Very High
Logistics	Ports, airports, rail, highways, ICDs, express logistics	Very High
Digital infrastructure	High-speed broadband, data centres, cloud, 5G	High
R&D/design	Universities, laboratories, semiconductor/design capability	High
Finance & incentives	Capex support, working capital, investment incentives	High
Market access	Domestic market + export connectivity	Very High
Institutional ecosystem	Single window, testing/certification, industry associations	High

Electronics System Design and Manufacturing (ESDM)

West Bengal already possesses many of the basic factors, although several require upgrading or better integration

West Bengal's existing factor endowments

Required factor	West Bengal availability	Assessment
Large labour pool	Large population and urban labour market	Strong
Engineering talent	IIT Kharagpur, IEST Shibpur, Jadavpur University, NIT Durgapur and other institutions	Strong
IT/software talent	Large Kolkata IT/ITeS ecosystem	Strong
Industrial land	WBIDC industrial parks and industrial growth centres	Moderate
Power availability	Broad electricity access and established power system	Sufficient
Ports	Kolkata/Haldia port system	Sufficient
Inland waterways	National Waterway network including NW-1	Strong
Air connectivity	Kolkata international airport; Andal/Durgapur airport	Sufficient
Rail connectivity	Major eastern railway junction and freight network	Strong
Road connectivity	NH network and eastern freight corridors	Sufficient

Connectivity through roads, railways, ports and airports, while identifying IIT Kharagpur, IEST-Shibpur, NIT Durgapur and Jadavpur University among its higher-education assets.

Electronics System Design and Manufacturing (ESDM)

West Bengal's existing factor endowments

Required factor	West Bengal availability	Assessment
IT infrastructure	Sector V, New Town, IT parks	Strong
Existing electronics ecosystem	WEBEL, electronics parks and ESDM activities	
Electronics component ecosystem	Limited relative to major electronics clusters	Limited
Large OEM anchor base	Limited	Limited
PCB/component suppliers	Relatively shallow	Limited
Semiconductor fabrication	No established commercial fab ecosystem	Limited
Advanced testing/certification	Requires significant strengthening	Limited
Electronics-specific R&D	Strong academic base but limited industrial commercialisation	Limited
Global electronics GVC integration	Relatively limited	Limited
Specialised electronics logistics	General logistics strong; electronics-specific infrastructure limited	Limited

Factor Endowments for Electronics Manufacturing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Electronics Manufacturing	Competitive Advantage
Electronics Manufacturing Ecosystem	Existing electronics manufacturing units, EMS facilities and electronics industrial parks	Kalyani, Kolkata, Howrah	Supports assembly of mobile phones, telecom equipment, consumer electronics and white goods	Established industrial ecosystem with scope for supplier integration
Electrical & Electronics Component Base	Presence of manufacturers of electrical equipment, cables, switchgear, lighting products and electronic assemblies	Howrah, Kolkata	Provides components used in consumer electronics, telecom equipment and white goods	Strong ancillary supplier ecosystem
Engineering Plastics & Materials	Availability of polymers and engineering plastics through the Haldia petrochemical complex	Haldia	Supplies housings, insulation and moulded parts for electronics and appliances	Reduces dependence on imported plastic components
Industrial Infrastructure	Electronics parks, industrial estates and manufacturing-ready land with reliable utilities	Kalyani, Haldia, Uluberia	Supports large-scale electronics assembly and component manufacturing	Faster project implementation and lower infrastructure costs

Factor Endowments for Electronics Manufacturing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Electronics Manufacturing	Competitive Advantage
Skilled Technical Workforce	Large pool of engineers, diploma holders and technicians in electronics, electrical engineering and IT	Kolkata, Kalyani, Kharagpur	Supports manufacturing, testing, quality assurance and product development	Readily available skilled manpower
Research & Technical Institutions	Presence of IIT Kharagpur, IIST Shibpur, Jadavpur University and electronics training institutes	Kharagpur, Kolkata, Howrah	Supports embedded systems, electronics design, testing and product innovation	Strong R&D and innovation ecosystem
Logistics & Export Connectivity	Access to Kolkata Port, Haldia Port, airport and multimodal transport	Kolkata, Haldia	Enables import of electronic components and export of finished products	Efficient domestic and international supply chains
Large Consumer Market	Kolkata Metropolitan Region and Eastern India provide a large market for consumer electronics and appliances	Kolkata Metropolitan Region	Supports domestic demand for mobile phones, telecom equipment and white goods	Large regional market with access to neighbouring countries
Policy & Investment Support	Electronics manufacturing policy, industrial parks and central/state incentives	Statewide	Encourages investment in electronics manufacturing and component production	Attractive investment environment for electronics OEMs and EMS firms

Electronics System Design and Manufacturing (ESDM)

Suggested ESDM policy KPI framework

KPI	Suggested measure
Investment	₹ crore
Employment	Direct jobs
Domestic value addition	%
Local procurement	%
Component production	₹ crore
Exports	₹ crore
OEM anchors	Number
Tier-1 suppliers	Number
Tier-2 suppliers	Number
Design centres	Number
Patents/IP	Number
R&D expenditure	₹ crore
Electronics MSMEs	Number
Testing facilities	Number
Electronics startups	Number

Anchor-investor strategy

The State should identify **10-15 target anchor companies** across:

1. Consumer electronics
2. Telecom
3. Industrial electronics
4. Power electronics
5. Medical electronics
6. Automotive/EV electronics
7. Semiconductor/OSAT
8. EMS

Each anchor should have a negotiated Supplier Development programme

The most important KPI should be domestic value addition, not merely gross investment.

Recommended Industry Clusters for Electronics Manufacturing in West Bengal

Cluster	Anchor Industry	Supporting Industries	Export/End-use Markets
Kalyani Electronics Cluster	Mobile Phones & Electronics Manufacturing Services (EMS)	PCB Assembly, Electronics Components, Testing & Packaging	Domestic Market, South Asia
Kolkata Metropolitan Cluster	Telecom & Electronic Products	Embedded Systems, Electronics Design, Testing Laboratories, Software Services	South Asia, ASEAN
Howrah Electrical & Components Cluster	Electrical & Electronic Components	Switchgear, Wiring Systems, Metal Components, Precision Fabrication	White Goods, Consumer Electronics
Haldia Electronics Materials Cluster	White Goods & Electronics Components	Engineering Plastics, Polymer Products, Packaging, Logistics	Domestic Market, Export-oriented Manufacturing

Recommended Industry Clusters for Electronics Manufacturing in West Bengal

Kalyani Electronics cluster for mobile phone manufacturing

Strengths	Details	Suitable Industries
Electronics Manufacturing Base	Existing electronics manufacturing ecosystem and industrial parks	Mobile Phones & Components
Planned Industrial Infrastructure	Ready industrial land with reliable utilities	Electronics Manufacturing Services (EMS)
Skilled Technical Workforce	Availability of engineers and technicians	Telecom Equipment
Proximity to Kolkata	Easy access to suppliers, logistics and support services	Consumer Electronics

Kolkata Metropolitan cluster for manufacturing of telecom and related products

Strengths	Details	Suitable Industries
Electronics Design Ecosystem	Strong IT, embedded systems and electronics design capabilities	Telecom & Networking Products
Testing & Certification Facilities	Access to technical institutions and quality testing infrastructure	Electronic Products
Commercial & Export Hub	International airport, ports and logistics services	Consumer Electronics
Skilled Human Capital	Large pool of electronics, electrical and software professionals	Smart Electronic Devices

Recommended Industry Clusters for Electronics Manufacturing in West Bengal

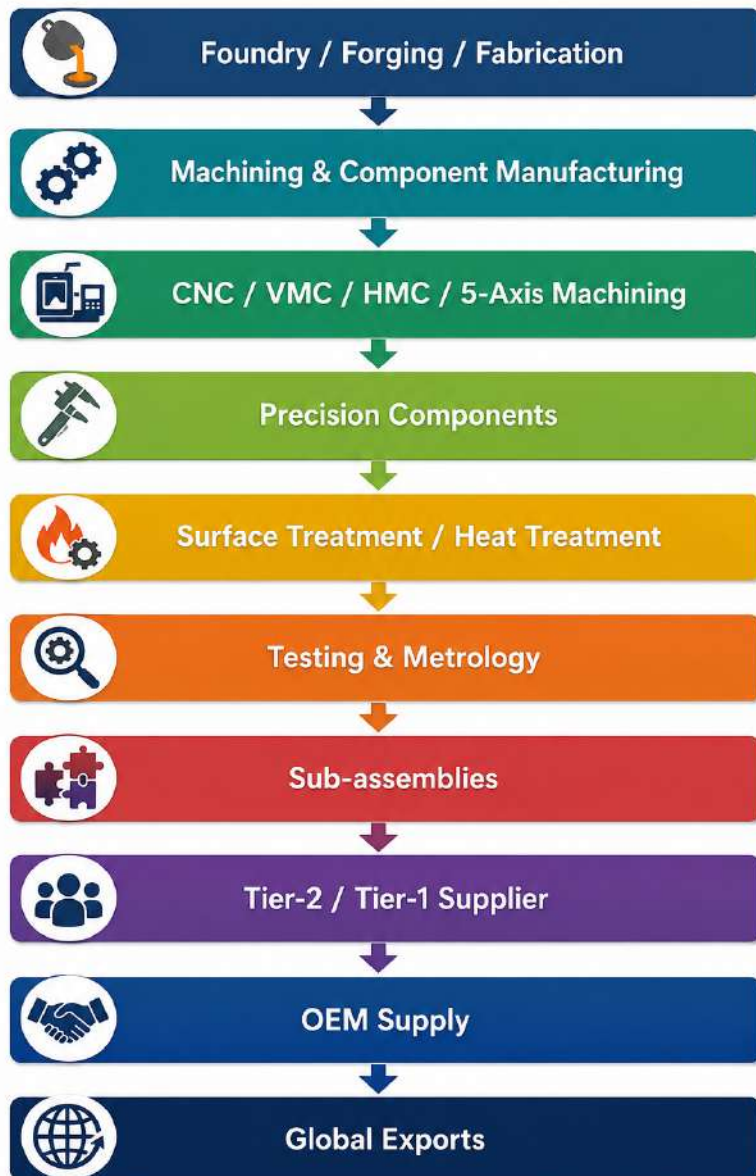
Howrah Electrical and Component cluster for white goods manufacturing

Strengths	Details	Suitable Industries
Electrical Equipment Manufacturing	Established manufacturers of electrical equipment and assemblies	White Goods Components
Precision Component Manufacturing	Strong MSME base producing fabricated metal and electrical components	Electronic Components
Supplier Ecosystem	Dense ancillary network supporting OEMs	AC & LED Components
Excellent Connectivity	Close proximity to Kolkata and logistics infrastructure	Consumer Electronics Components

Haldia Electronics Material cluster for manufacturing of white goods and related electronics

Strengths	Details	Suitable Industries
Petrochemical Ecosystem	Availability of engineering plastics and polymer feedstocks	Plastic Components for Electronics
Industrial Infrastructure	Large industrial estates with reliable utilities	White Goods Manufacturing
Port Connectivity	Efficient import of electronic inputs and export of finished products	Electronics Assembly
Packaging & Logistics Ecosystem	Established logistics and packaging industries	Consumer Electronics

Engineering & Precision Manufacturing Value Chain



PLIS - Potential for Engineering and Precision Manufacturing

Engineering and Precision Manufacturing in West Bengal

Why West Bengal has a structural advantage

Potential for Engineering and Precision Manufacturing in West Bengal

West Bengal has a **strong historical engineering base**, particularly in foundry, forging, heavy engineering, machinery, railways, electrical equipment and engineering MSMEs. The opportunity now is to move from a predominantly **traditional engineering/MSME base towards higher-value precision manufacturing, component manufacturing and export-oriented advanced engineering.**

Advantage	Potential for engineering & precision manufacturing
Existing engineering ecosystem	Large base of foundries, forging units, machine shops, fabrication units and engineering MSMEs
Howrah-Kolkata industrial belt	Established engineering supplier base and skilled workforce
Steel & metallurgical base	Access to steel, castings, forgings and other engineering materials
Durgapur-Asansol	Heavy engineering, steel, machinery and industrial equipment ecosystem
Kharagpur	Engineering education, R&D and industrial ecosystem; potential for advanced manufacturing
Kalyani	Opportunity for precision engineering, automotive components, electrical equipment and machinery
Haldia-Falta	Port-linked manufacturing and export-oriented engineering
Industrial parks	Existing industrial infrastructure across multiple locations
Eastern India market	Access to Bihar, Jharkhand, Odisha and the Northeast
Bangladesh/ASEAN proximity	Potential export gateway for engineering products
Railway ecosystem	Strong opportunity for railway components, rolling-stock components and maintenance equipment
MSME clusters	Large supplier base that can be upgraded through technology and common facilities

Engineering and Precision Manufacturing in West Bengal

The biggest opportunity: move up the engineering value chain

Engineering Manufacturing Value Chain Progression



MSME Challenge

One of the biggest constraints for MSMEs is that individual firms cannot economically invest in sophisticated equipment. Therefore, the State could establish **Common Engineering Centres (CECs)**.

CEC equipment

- CNC machining centres
- 5-axis machines
- EDM/Wire EDM
- Coordinate Measuring Machines
- 3D scanners
- Surface roughness testers
- Metallurgical laboratories
- Heat-treatment facilities
- Surface-treatment facilities
- Additive manufacturing
- CAD/CAM laboratories
- Reverse-engineering facilities

This would allow a ₹5-20 crore MSME to access capabilities that might otherwise require substantially higher capital expenditure.

Engineering and Precision Manufacturing in West Bengal

Create a "West Bengal Precision Manufacturing Mission"

Pillar	Intervention
1. Technology Upgradation	CNC, VMC, 5-axis machining, robotics, automation
2. Common Facilities	Tool rooms, testing labs, metrology, heat treatment, surface treatment
3. Certification	ISO, IATF, AS9100, railway/defence certifications
4. Supplier Development	OEM–MSME vendor development programmes
5. Finance	Technology-upgradation and machinery financing
6. Export Development	Testing, certification, market access and export facilitation

Port-linked Engineering Manufacturing



Engineering and Precision Manufacturing in West Bengal

Priority opportunity areas

A. Precision engineering components

West Bengal could target:

- CNC-machined components
- Precision shafts
- Gears and gearboxes
- Bearings and bearing components
- Valves and pumps
- Hydraulic and pneumatic components
- Industrial fasteners
- Precision castings
- Forged components
- Dies and moulds
- Jigs and fixtures
- Industrial tools

These products can serve **automotive, railways, power, mining, oil & gas, defence, aerospace and general machinery.**

B. Railway engineering

This is one of the most natural opportunities for West Bengal.

Potential products include:

- Railway bogie components
- Brake components
- Couplers
- Suspension components
- Wheel and axle components
- Electrical equipment
- Signalling equipment
- Railway coaches' sub-assemblies
- Metro components
- Track-maintenance equipment

The State already identifies **railway transport and parts** among its engineering export opportunities.

C. Automotive and auto components

West Bengal should focus less on complete vehicle manufacturing initially and more on:

- Forgings
- Castings
- Gears
- Shafts
- Brake components
- Suspension components
- Steering components
- EV components
- Motor housings
- Battery enclosures
- Thermal-management components
- Precision-machined components

This would allow existing MSMEs to become suppliers to OEMs located in **West Bengal, Jharkhand, Odisha, Maharashtra, Tamil Nadu and other automotive centres.**

D. Industrial machinery

Potential segments include:

- Machine tools
- Pumps
- Compressors
- Industrial valves
- Boilers
- Material-handling equipment
- Mining machinery
- Construction equipment
- Food-processing machinery
- Textile machinery
- Packaging machinery
- Industrial automation equipment

This is particularly compatible with West Bengal's existing engineering capabilities.

Engineering and Precision Manufacturing in West Bengal

Aerospace & defense: Long-term high-value opportunity

West Bengal should also develop a **precision-manufacturing supplier ecosystem** for aerospace and defence rather than attempting to immediately build large OEMs.

Potential products:

- Aerospace precision-machined components
- Structural components
- Engine components
- Fasteners
- Ground-support equipment
- Defence vehicle components
- Radar/electronics enclosures
- UAV components
- Precision castings and forgings
- Specialised tooling

The key requirement would be **international-grade quality systems, metrology, traceability and certification**.

The Howrah opportunity

- Howrah deserves special attention.
- The State describes Howrah as an **MSME hub**, while its foundry industry is particularly concentrated there.
- The State Government reports approximately **500 foundry units with around 1 million tonnes of installed capacity**, with about 95% concentrated in Howrah.
- This creates an unusually strong foundation:
- **Foundry → Machining → Heat Treatment → Surface Treatment → Precision Machining → Assembly**

Engineering and Precision Manufacturing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Engineering & Precision Manufacturing	Competitive Advantage
Engineering Manufacturing Base	Established ecosystem of heavy engineering, fabrication, foundries and precision machining	Howrah, Durgapur, Kharagpur	Supports production of automotive components, medical devices, drones and industrial equipment	Mature industrial ecosystem with strong manufacturing capabilities
Precision Fabrication & Foundry Industry	Large network of foundries, casting units, tool rooms and machining industries	Howrah, Liluah, Durgapur	Enables manufacture of high-precision metal components and assemblies	Extensive supplier base reduces production costs and lead times
Industrial Infrastructure	Industrial parks, manufacturing estates and reliable utilities	Durgapur, Panagarh, Kharagpur, Haldia	Facilitates large-scale engineering and advanced manufacturing	Ready-to-use industrial infrastructure for new investments
Skilled Technical Workforce	Availability of engineers, technicians, machinists and industrial workers	Kolkata, Howrah, Durgapur, Kharagpur	Supports precision manufacturing, quality control and product development	Abundant technically skilled manpower
Research & Technical Institutions	Presence of IIT Kharagpur, IIST Shibpur, NIT Durgapur and engineering universities	Kharagpur, Durgapur, Howrah	Supports R&D, prototyping, automation and advanced manufacturing technologies	Strong innovation and technology development ecosystem

Factor Endowments for Engineering and Precision Manufacturing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Engineering & Precision Manufacturing	Competitive Advantage
Metallurgical & Materials Ecosystem	Close proximity to steel plants and alloy producers in eastern India	Durgapur, Burnpur, Kulti	Provides high-quality steel and alloys required for precision components	Secure access to critical engineering materials
Excellent Logistics Connectivity	Extensive rail, road, port and airport connectivity	Kolkata, Haldia, Durgapur	Enables efficient sourcing of inputs and distribution of finished products	Lower logistics costs and improved market access
Large Downstream Industrial Base	Presence of railways, defence, construction, electrical equipment and capital goods industries	Statewide	Generates demand for engineering products and precision components	Strong domestic market with opportunities for export diversification

Recommended Industry Clusters Engineering Product categories

Cluster	Anchor Industry	Supporting Industries	End-use Focus
Howrah Engineering Cluster	Automotive Components	Precision Machining, Foundries, Tooling, Fabrication	Automobiles, Medical Devices, Drones
Durgapur Automotive Cluster	Automotive Components	Forging, Casting, Precision Fabrication, Steel Processing	Automobiles & Precision Components
Kharagpur Advanced Manufacturing Cluster	Drone Manufacturing	Electronics, Mechatronics, Automation, R&D	Drones & Medical Devices
Kolkata Metropolitan Cluster	Medical Devices	Design, Testing, Biomedical Engineering, Electronics	Medical Devices & Precision Equipment

Recommended Industry Clusters Engineering Product categories

Howrah Engineering cluster for automotive and drone component manufacturing

Strengths	Details	Suitable Industries
Precision Engineering Ecosystem	Extensive network of foundries, machining, tooling and fabrication MSMEs	Auto Components
Supplier Base	Established manufacturers of castings, forgings and precision metal parts	Medical Device Components
Skilled Manufacturing Workforce	Experienced workforce in precision machining and component manufacturing	Drone Components
Proximity to Kolkata	Easy access to design, testing and logistics infrastructure	Precision Engineering Products

Durgapur Automotive cluster for automotive medical device component manufacturing

Strengths	Details	Suitable Industries
Metallurgical Base	Easy access to high-quality steel and alloy materials	Automotive Components
Precision Manufacturing	Strong machining, forging and fabrication capabilities	Medical Device Components
Industrial Infrastructure	Large industrial parks with reliable utilities	Precision Mechanical Assemblies
Excellent Connectivity	Efficient rail and highway access for supply chains	OEM & Tier-I Suppliers

Recommended Industry Clusters Engineering Product categories

Kharagpur Advanced Manufacturing cluster for manufacturing of drones and components thereof

Strengths	Details	Suitable Industries
Research & Innovation Ecosystem	IIT Kharagpur and engineering institutions supporting advanced manufacturing	Drones & Drone Components
Electronics & Mechatronics Expertise	Strong capabilities in embedded systems, robotics and automation	Medical Devices
Skilled Technical Workforce	Availability of engineers and R&D professionals	Precision Electronics
Technology-driven Manufacturing	Suitable for prototyping and high-value manufacturing	Advanced Engineering Components

Kolkata Metropolitan cluster for manufacturing of medical devices

Strengths	Details	Suitable Industries
Medical Technology Ecosystem	Presence of hospitals, medical institutions and healthcare industry	Medical Devices
Product Design & Testing	Engineering consultancies, design firms and testing facilities	Diagnostic Equipment
Skilled Human Capital	Large pool of engineers, biomedical professionals and software developers	Smart Medical Devices
Commercial & Export Hub	Strong logistics and business ecosystem	High-value Engineering Products

PLIS - Potential for Chemical and Pharmaceutical Manufacturing

Factor Endowments for Chemical and Pharmaceutical Manufacturing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Pharmaceutical Manufacturing	Competitive Advantage
Established Pharmaceutical Manufacturing Base	Presence of formulation manufacturers, API producers and pharmaceutical MSMEs	Kolkata, Kalyani, Falta, Haldia	Supports formulation, API and bulk drug manufacturing	Established industrial ecosystem with experienced manufacturers
Chemical Manufacturing Ecosystem	Strong base of fine chemicals, specialty chemicals and industrial chemicals	Haldia, Kolkata, Howrah	Provides essential intermediates and chemical feedstocks for APIs and formulations	Facilitates backward integration and lowers production costs
Industrial Infrastructure	Industrial parks, pharmaceutical parks and manufacturing-ready infrastructure	Falta, Kalyani, Haldia	Supports GMP-compliant pharmaceutical manufacturing	Ready infrastructure reduces project implementation time
Research & Academic Institutions	Presence of pharmaceutical colleges, research institutes and universities	Kolkata, Kalyani	Supports drug development, quality control and process innovation	Availability of scientific and technical expertise
Skilled Workforce	Large pool of pharmacists, chemists, microbiologists and chemical engineers	Kolkata Metropolitan Region, Kalyani	Supports pharmaceutical production, R&D and regulatory compliance	Continuous availability of technically skilled manpower

Factor Endowments for Chemical and Pharmaceutical Manufacturing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Pharmaceutical Manufacturing	Competitive Advantage
Logistics & Export Connectivity	Access to ports, airports, highways and multimodal transport	Kolkata, Haldia	Enables import of raw materials and export of pharmaceutical products	Efficient domestic and international supply chains
Quality & Regulatory Ecosystem	Availability of testing laboratories, GMP facilities and regulatory support	Kolkata	Supports production meeting international quality standards	Enhances export competitiveness
Large Domestic & Export Market	Growing pharmaceutical demand in eastern India and neighbouring countries	Statewide	Supports both domestic sales and export-oriented manufacturing	Strategic access to Bangladesh, Nepal, Bhutan and ASEAN markets

Recommended Industry Clusters for Chemical Product Categories

Cluster	Anchor Industry	Supporting Industries	Export Markets
Kolkata–Falta Cluster	Pharmaceutical Formulations	Packaging, Printing, Testing Laboratories, Logistics	Bangladesh, Nepal, Africa
Kalyani Life Sciences Cluster	APIs & Pharmaceutical Manufacturing	Fine Chemicals, Biotechnology, R&D, Packaging	Bangladesh, ASEAN, Middle East
Haldia Chemical Cluster	KSMs & Drug Intermediates	Petrochemicals, Specialty Chemicals, Solvents, Logistics	Domestic Pharma Manufacturers, ASEAN
Durgapur–Panagarh Cluster	Bulk Drug Manufacturing	Industrial Chemicals, Utilities, Engineering Services	Eastern India, Bangladesh

Recommended Industry Clusters for Chemical Product Categories

Kolkata-Falta cluster for manufacturing of export-oriented pharmaceuticals

Strengths	Details	Suitable Industries
Established Pharmaceutical Base	Concentration of formulation manufacturers and pharmaceutical companies	Pharmaceutical Drugs
Export Connectivity	Access to Kolkata Port and airport	Export-oriented Formulations
Supporting Services	Packaging, testing laboratories and logistics ecosystem	Contract Manufacturing
Skilled Workforce	Availability of pharmacists and technical professionals	Finished Dosage Manufacturing

Kalyani Life Sciences cluster for API manufacturing

Strengths	Details	Suitable Industries
Life Sciences Ecosystem	Presence of biotechnology and pharmaceutical industries	APIs
Research Institutions	Universities and research centres supporting innovation	Drug Intermediates
Industrial Infrastructure	Well-developed industrial park with manufacturing facilities	Bulk Drugs
Skilled Technical Workforce	Availability of chemists and pharmaceutical professionals	Biotechnology Products

Recommended Industry Clusters for Chemical Product Categories

Haldia Chemical cluster for KSM manufacturing

Strengths	Details	Suitable Industries
Petrochemical Hub	Availability of chemical feedstocks and industrial chemicals	KSMs
Integrated Industrial Base	Strong chemical manufacturing ecosystem	Drug Intermediates
Port Connectivity	Efficient import of raw materials and export of finished products	API Manufacturing
Reliable Utilities	Industrial-scale power, water and infrastructure	Fine Chemicals

Durgapur-Panagarh cluster for bulk drug manufacturing

Strengths	Details	Suitable Industries
Industrial Land Availability	Large contiguous industrial plots for chemical industries	Bulk Drugs
Utilities Infrastructure	Reliable power, water and industrial services	API Manufacturing
Chemical & Engineering Base	Existing heavy industry supports pharmaceutical manufacturing	Drug Intermediates
Strategic Connectivity	Excellent rail and highway access to eastern India	Industrial Chemical Production

PLIS - Potential for Specialty Steel Manufacturing

Factor Endowments for Specialty Steel Manufacturing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Specialty Steel Industry	Competitive Advantage
Integrated Steel Manufacturing Base	Presence of integrated steel plants, alloy steel and downstream steel producers	Durgapur, Burnpur, Kulti	Provides primary steel and semi-finished products for specialty steel manufacturing	Established upstream supply chain reduces input costs
Abundant Raw Material Access	Close proximity to iron ore, coal, limestone and ferro-alloy producing regions of eastern India	Durgapur, Asansol, Paschim Bardhaman	Ensures secure supply of key raw materials	Lower logistics costs through regional sourcing
Engineering & Fabrication Ecosystem	Strong engineering, foundry and fabrication industries	Howrah, Durgapur, Kolkata	Supports downstream processing and value-added steel products	Well-developed ancillary manufacturing ecosystem
Industrial Infrastructure	Industrial parks, captive utilities, power availability and manufacturing infrastructure	Durgapur, Haldia, Kharagpur	Facilitates production of high-value steel grades	Ready industrial ecosystem for expansion
Excellent Logistics Connectivity	Rail freight corridors, national highways and access to Kolkata & Haldia Ports	Durgapur, Haldia, Kolkata	Enables efficient movement of raw materials and finished products	Competitive domestic and export logistics

Factor Endowments for Specialty Steel Manufacturing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Specialty Steel Industry	Competitive Advantage
Skilled Technical Workforce	Availability of metallurgical engineers, technicians and industrial workforce	Durgapur, Kharagpur, Kolkata	Supports advanced steelmaking and quality control	Strong technical manpower base
Research & Technical Institutions	Presence of IIT Kharagpur, NIT Durgapur and metallurgical research institutions	Kharagpur, Durgapur	Supports R&D, product development and process innovation	Facilitates production of advanced steel grades
Large Downstream Demand Base	Strong presence of automotive, engineering, defence, railways and infrastructure industries	Statewide	Generates sustained demand for specialty steel products	Supports long-term industrial growth

Recommended Specialty Steel Manufacturing Clusters

Cluster	Anchor Industry	Supporting Industries	Key End-use Markets
Durgapur–Burnpur Cluster	Integrated & Specialty Steel Manufacturing	Ferro Alloys, Engineering, Heavy Fabrication, Industrial Machinery	Automotive, Railways, Defence, Capital Goods
Howrah Engineering Cluster	Steel Fabrication & Precision Engineering	Foundries, Tooling, Machining, Industrial Equipment	Capital Goods, Construction Equipment, Industrial Machinery
Haldia Industrial Cluster	Coated & Value-added Steel Processing	Petrochemicals, Pipe Manufacturing, Logistics, Port Services	Oil & Gas, Infrastructure, Renewable Energy
Kharagpur Engineering Cluster	Alloy Steel Components	Precision Engineering, Rail Equipment, Industrial Machinery	Railways, Defence, Heavy Engineering
Kolkata Metropolitan Cluster	Steel Trading & Downstream Manufacturing	Warehousing, Processing Centres, Industrial Services	Domestic Distribution & Export Markets

Recommended Specialty Steel Manufacturing Clusters

Durgapur-Burnpur cluster for integrated specialty steel manufacturing

Strengths	Details	Suitable Industries
Integrated Steel Plants	Presence of SAIL plants and alloy steel manufacturing	Specialty Steel
Raw Material Access	Close to mineral-rich eastern India	Alloy Steel
Heavy Engineering Base	Established industrial ecosystem	Automotive Steel
Skilled Workforce	Strong metallurgical expertise	High-grade Steel Products

Howrah engineering cluster for precision steel products

Strengths	Details	Suitable Industries
Foundry Ecosystem	Large concentration of foundries and fabrication units	Precision Steel Components
Engineering MSMEs	Extensive ancillary supplier network	Industrial Machinery
Skilled Workforce	Expertise in machining and metal fabrication	Tool Steel Products
Kolkata Connectivity	Easy access to logistics and markets	Capital Goods

Recommended Specialty Steel Manufacturing Clusters

Haldia Industrial cluster for coated steel

Strengths	Details	Suitable Industries
Port Connectivity	Direct access to domestic and export markets	Coated Steel
Industrial Utilities	Reliable power and industrial infrastructure	Stainless & Coated Products
Petrochemical Ecosystem	Strong industrial base supporting downstream manufacturing	Pipes & Tubes
Logistics Hub	Efficient multimodal transport	Export-oriented Steel Processing

Kharagpur engineering cluster for alloy steel components

Strengths	Details	Suitable Industries
Engineering Institutions	IIT Kharagpur and technical ecosystem	Advanced Metallurgy
Precision Manufacturing	Strong engineering and fabrication capabilities	Alloy Steel Components
Railway Ecosystem	Established rail engineering activities	Railway Steel Products
Skilled Technical Workforce	Availability of engineers and technicians	High-value Steel Products

Recommended Specialty Steel Manufacturing Clusters

Kolkata Metropolitan cluster for downstream products

Strengths	Details	Suitable Industries
Commercial Hub	Headquarters of steel companies and traders	Steel Processing
Logistics Infrastructure	Port, airport and multimodal connectivity	Steel Distribution
Industrial Services	Financial, testing and certification ecosystem	Value-added Steel Products
Large Domestic Market	Strong demand from manufacturing and construction sectors	Downstream Steel Manufacturing

PLIS - Potential for Manufacturing of Photo Voltaic (PV) Modules and Advanced Chemistry Cells (ACCs)

Factor Endowments for PV Modules and ACC Manufacturing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Solar PV & ACC Manufacturing	Competitive Advantage
Engineering & Manufacturing Base	Strong heavy engineering, electrical equipment and fabrication ecosystem	Howrah, Durgapur, Kharagpur	Supports fabrication of module structures, battery systems and manufacturing equipment	Established engineering ecosystem reduces dependence on imports
Chemical & Materials Ecosystem	Presence of petrochemical, specialty chemical and advanced materials industries	Haldia	Supports production of battery chemicals, encapsulants, electrolytes and specialty materials	Facilitates upstream integration for clean energy manufacturing
Industrial Land & Utilities	Availability of large industrial parks with reliable power and water	Haldia, Panagarh, Kharagpur	Suitable for large-scale gigafactories and PV module plants	Ready industrial infrastructure lowers project implementation time
Logistics & Port Connectivity	Access to Haldia and Kolkata Ports with multimodal transport	Haldia, Kolkata	Enables import of wafers, cells, lithium compounds and export of finished products	Efficient global supply chain integration
Research & Technical Institutions	Presence of IIT Kharagpur, IIST Shibpur and engineering universities	Kharagpur, Howrah, Kolkata	Supports R&D in advanced materials, battery technology and power electronics	Strong innovation ecosystem

Factor Endowments for PV Modules and ACC Manufacturing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Solar PV & ACC Manufacturing	Competitive Advantage
Skilled Technical Workforce	Large pool of engineers, technicians and electrical professionals	Kolkata Metropolitan Region, Durgapur, Kharagpur	Supports automated manufacturing and quality control	Availability of technically skilled manpower
Growing Renewable Energy Market	Increasing deployment of solar power, battery storage and EV infrastructure	Statewide	Creates domestic demand for solar modules and energy storage systems	Supports economies of scale and long-term investment
Policy & Industrial Support	Industrial parks, renewable energy policy and PLI incentives	Statewide	Encourages investment in clean energy manufacturing	Attractive policy environment for green manufacturing

Factor Endowments for PV Modules and ACC Manufacturing in West Bengal

Cluster	Anchor Industry	Supporting Industries	Key End-use Markets
Haldia Clean Energy Cluster	Battery Materials & Cell Manufacturing	Specialty Chemicals, Petrochemicals, Logistics, Port Services	Energy Storage, EVs, Renewable Energy
Kharagpur Advanced Manufacturing Cluster	Solar PV Modules	Electrical Equipment, Precision Engineering, R&D, Automation	Utility-scale Solar, Rooftop Solar
Durgapur Industrial Cluster	Battery Packs & Energy Storage Systems	Steel Fabrication, Electrical Equipment, Heavy Engineering	EVs, Grid Storage, Industrial Applications
Howrah Engineering Cluster	Solar Mounting Structures & Battery Components	Fabrication, Foundries, Industrial Machinery	Solar Plants, Renewable Infrastructure

Recommended PV Modules and ACC Manufacturing Clusters

Haldia Clean Energy cluster for battery and cell manufacturing

Strengths	Details	Suitable Industries
Petrochemical Ecosystem	Availability of specialty chemicals and industrial feedstocks	Battery Materials
Port Connectivity	Efficient import of lithium compounds, graphite and other critical materials	ACC Manufacturing
Industrial Utilities	Reliable power, water and industrial infrastructure	Gigafactories
Large Industrial Land	Suitable for integrated battery manufacturing facilities	Battery Cell Production

Kharagpur Advanced Manufacturing cluster for solar PV module manufacturing

Strengths	Details	Suitable Industries
Research Ecosystem	IIT Kharagpur and engineering institutions	Solar PV Modules
Precision Engineering	Strong manufacturing and automation capabilities	Module Assembly
Skilled Technical Workforce	Availability of engineers and technicians	Power Electronics
Industrial Infrastructure	Manufacturing-ready industrial estates	Renewable Energy Equipment

Recommended PV Modules and ACC Manufacturing Clusters

Durgapur Industrial cluster for storage system manufacturing

Strengths	Details	Suitable Industries
Heavy Engineering Base	Established engineering and electrical manufacturing ecosystem	Battery Packs
Steel Industry	Ready availability of fabricated steel structures	Battery Enclosures
Industrial Utilities	Reliable power and manufacturing infrastructure	Energy Storage Systems
Transport Connectivity	Excellent rail and highway network	Large-scale Manufacturing

Howrah Engineering cluster for manufacturing of mounting structures and battery casings

Strengths	Details	Suitable Industries
Fabrication Ecosystem	Extensive metal fabrication and machining industries	Solar Mounting Structures
Engineering MSMEs	Strong ancillary manufacturing network	Battery Casings
Precision Manufacturing	Tooling and component manufacturing capabilities	Electrical Components
Industrial Supplier Base	Dense engineering value chain	Renewable Energy Equipment

PLIS - Potential for Agri and Food Processing

Factor Endowments for Agro and Food Processing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Agri & Food Processing Industry	Competitive Advantage
Diverse Agro-climatic Conditions	Six agro-climatic zones, fertile alluvial soils, abundant water resources and varied topography support cultivation of a wide range of crops.	Himalayan Region, Terai, Gangetic Alluvial Plains, Coastal Belt, Lateritic Plateau	Enables year-round production of cereals, fruits, vegetables, spices, tea and plantation crops for continuous industrial supply.	Diverse raw material base reduces supply risk and supports multiple food-processing value chains.
Agricultural Land Resources	Large extent of cultivable land and sowing area with high cropping intensity.	Burdwan, Nadia, Murshidabad, Hooghly, Cooch Behar, Birbhum	Ensures large and reliable availability of agricultural produce for processing industries.	High land productivity enables multiple crop cycles and year-round procurement.
Established Foodgrain Production	West Bengal is among India's largest producers of rice and produces significant quantities of maize and oilseeds.	Purba Bardhaman, Nadia, Murshidabad, Hooghly, Purulia, Bankura	Supports rice milling, edible oil, cereal processing, starch and feed industries.	Strong production volumes support economies of scale in primary processing.
Horticultural Base	Second-largest vegetable producer with substantial production of potato, mango, banana, pineapple, litchi and jackfruit.	Hooghly, Purba Bardhaman, Nadia, Malda, Murshidabad, Jalpaiguri, Darjeeling	Provides raw materials for frozen foods, fruit pulp, juices, dehydrated products and processed vegetables.	Wide product diversity enables value addition across fresh and processed segments.

Factor Endowments for Agro and Food Processing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Agri & Food Processing Industry	Competitive Advantage
Tea Resources	Second-largest tea-producing state with internationally recognised GI-tagged Darjeeling Tea and large CTC tea production.	Darjeeling, Jalpaiguri, Alipurduar	Supports packaged tea, specialty tea, tea extracts and export-oriented beverage industries.	Globally recognised branding and strong export potential.
Fisheries & Aquaculture	Second-largest fish-producing state with inland fisheries, marine fisheries and aquaculture.	South 24 Parganas, Purba Medinipur, Paschim Medinipur, Nadia	Supports seafood processing, frozen fish, shrimp exports and ready-to-cook products.	Large production base with access to domestic and export markets.
Livestock & Dairy	Strong milk, poultry, meat and egg production supported by cooperatives and veterinary infrastructure.	Paschim Medinipur, Hooghly, Murshidabad, Nadia, North 24 Parganas, Purulia	Supports dairy processing, meat processing, poultry processing and value-added animal products.	Integrated livestock ecosystem provides diversified raw material supply.
Food Processing Ecosystem	Presence of food parks, with a large number of registered and unregistered food processing units	Murshidabad (Mega Food Park), Kolkata Metropolitan Region, Howrah, Hooghly	Provides established industrial ecosystem, supplier base and processing expertise.	Existing industrial base lowers entry barriers for new investments.

Factor Endowments for Agro and Food Processing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Agri & Food Processing Industry	Competitive Advantage
Storage & Cold Chain Infrastructure	Extensive warehousing, licensed cold storages and food parks supporting post-harvest management.	Major agricultural districts across the state; Jangipur Mega Food Park	Reduces post-harvest losses and improves storage of perishable commodities.	Facilitates year-round processing and improves supply chain efficiency.
Transport & Export Connectivity	Major ports, extensive road and rail network, inland waterways and airports provide multimodal connectivity.	Kolkata, Haldia, Bagdogra, Andal, Dankuni Logistics Hub	Enables efficient movement of raw materials and processed products within India and overseas.	Lower logistics costs and improved export competitiveness.
Large Consumer Market	Population exceeding 91 million, rising incomes, urbanisation and growing demand for processed foods.	Kolkata Metropolitan Area, Asansol, Durgapur, Siliguri and other urban centres	Supports expansion of packaged foods, ready-to-eat products and value-added food products.	Strong domestic demand complements export opportunities.
Policy & Institutional Support	Dedicated food parks, PMKSY, Agri Infrastructure Fund, PLI Scheme, Export Promotion Policy and APEDA support.	Statewide	Encourages investment, infrastructure creation and technological upgradation in food processing.	Improves investment attractiveness and strengthens long-term industry competitiveness.

Recommended Agri and Food Processing Industry Clusters

Cluster	Anchor Industry	Supporting Industries	Export Markets
Malda–Murshidabad Cluster	Mango & Fruit Processing	Cold Chain, Packaging, Fruit Pulp, Juice Processing, Logistics	Middle East, EU, Bangladesh, Nepal
North Bengal Cluster (Darjeeling–Jalpaiguri–Alipurduar)	Tea Processing	Packaging, Tea Blending, Warehousing, Logistics, Spice Processing	UK, EU, Japan, USA, Middle East
Purba Bardhaman–Hooghly–Nadia Cluster	Rice & Cereal Processing	Flour Milling, Edible Oils, Animal Feed, Warehousing, Packaging	Bangladesh, Nepal, Bhutan, Eastern India
Haldia–Purba Medinipur Cluster	Marine Food & Seafood Processing	Cold Chain, Ice Plants, Fish Feed, Packaging, Logistics	Japan, USA, EU, China, ASEAN
Kolkata–Howrah–Hooghly Cluster	Processed Foods & FMCG	Food Packaging, Beverages, Bakery, Cold Storage, Logistics	Eastern India, Bangladesh, Nepal, Bhutan
North 24 Parganas–Nadia Cluster	Poultry & Meat Processing	Hatcheries, Feed Manufacturing, Veterinary Services, Cold Chain, Packaging	Middle East, Bangladesh, Nepal
Paschim Medinipur–Bankura Cluster	Dairy Processing	Milk Chilling, Feed Manufacturing, Packaging, Cold Chain	Eastern India, Bangladesh, Nepal
Cooch Behar–North Dinajpur Cluster	Maize & Oilseed Processing	Feed Manufacturing, Grain Storage, Edible Oil Refining, Warehousing	Bangladesh, Bhutan, Nepal

Recommended Agri and Food Processing Industry Clusters

Malda-Murshidabad cluster for fruit processing

Strengths	Details	Suitable Industries
Rich Horticultural Base	Major producer of mangoes, litchi and vegetables	Fruit Processing
Raw Material Availability	Continuous supply of horticultural produce	Fruit Pulp & Juices
Border Connectivity	Proximity to Bangladesh	Export-oriented Food Processing
Cold Storage Network	Established storage infrastructure	Frozen & Processed Foods

North Bengal cluster for tea processing

Strengths	Details	Suitable Industries
Premium Tea Production	Darjeeling GI Tea and Dooars tea estates	Tea Processing
Diverse Horticulture	Pineapple, ginger, orange and spices	Specialty Foods
Strategic Location	Gateway to Northeast India and neighbouring countries	Export-oriented Food Processing
Established Processing Base	Existing tea factories and logistics	Tea Blending & Packaging

Recommended Agri and Food Processing Industry Clusters

Purba Bardhaman-Hooghly-Nadia cluster for rice and cereal processing

Strengths	Details	Suitable Industries
Major Grain Belt	Leading producer of rice and cereals	Rice Milling
High Agricultural Productivity	Multiple cropping and irrigation	Flour & Grain Processing
Vegetable Production	Large potato and vegetable output	Frozen Foods
Strong Connectivity	Well connected to Kolkata markets	Food Processing

Haldia-Purba Medinipur cluster for seafood processing

Strengths	Details	Suitable Industries
Marine Resources	Major fisheries and aquaculture hub	Seafood Processing
Port Connectivity	Haldia Port supports exports	Frozen Seafood
Cold Chain Infrastructure	Fish landing and storage facilities	Marine Food Processing
Industrial Ecosystem	Strong logistics and utilities	Export-oriented Food Processing

Recommended Agri and Food Processing Industry Clusters

Kolkata-Howrah-Hooghly cluster for FMCG products and distribution channels

Strengths	Details	Suitable Industries
Large Consumer Market	Access to eastern India's largest urban market	Packaged Foods
Established FMCG Base	Presence of major food manufacturers	Bakery & Beverages
Packaging Ecosystem	Advanced packaging and printing industries	Food Packaging
Logistics Hub	Port, airport and multimodal connectivity	Food Distribution

North 24 Parganas-Nadia cluster for meat processing

Strengths	Details	Suitable Industries
Poultry Production	Major poultry and egg producing belt	Poultry Processing
Feed Ecosystem	Established feed manufacturing	Animal Feed
Veterinary Support	Strong livestock infrastructure	Meat Processing
Market Access	Close to Kolkata and Bangladesh	Export-oriented Meat Processing

Recommended Agri and Food Processing Industry Clusters

Paschim Medinipur-Bankura cluster for dairy processing

Strengths	Details	Suitable Industries
Dairy Production	Major milk-producing region	Dairy Processing
Livestock Base	Strong cattle and goat population	Value-added Dairy Products
Cooperative Network	Milk collection infrastructure	Milk Products
Regional Connectivity	Access to major markets	Cold Chain & Dairy Logistics

Cooch Behar-North Dinajpur cluster for grain and oilseed processing

Strengths	Details	Suitable Industries
Grain Production	Strong maize, rice and oilseed production	Grain Processing
Border Trade	Close to Bangladesh and Bhutan	Export-oriented Food Processing
Feed Raw Materials	Abundant maize and oilseeds	Feed Manufacturing
Emerging Agro-processing	Scope for value addition	Edible Oil Processing

PLIS - Potential for Textile Manufacturing

Established Textile Sector

Textile sector in West Bengal: current position and cluster-development strategy

- West Bengal has a deep but fragmented textile ecosystem. Its strengths are not confined to traditional handloom: the state has capabilities across **jute, cotton textiles, silk, handloom, powerloom, hosiery, readymade garments, spinning, weaving, dyeing/processing and technical textiles**.
- The key strategic challenge is to convert these dispersed capabilities into **integrated, market-oriented textile clusters**.

Major strengths of West Bengal

A. Large handloom ecosystem

West Bengal has one of India's major handloom ecosystems.

The Directorate of Textiles reports **2,83,404 handlooms** based on the 4th Handloom Census (2019-20), providing direct and indirect employment to approximately **6.31 lakh persons**.

Important handloom clusters include:

- Nadia – Nabadwip, Phulia, Santipur
- Purba Bardhaman – Dhatrigram, Kalna, Samudragarh
- Hooghly – Begampur, Jangipara
- Murshidabad – silk
- Malda
- Birbhum

The state's MSME cluster database documents numerous handloom clusters in these districts.

Structure of West Bengal's Textile Sector

A Value Chain Perspective: From Fibre to Stitched Garments



Established Textile Sector

Major strengths of West Bengal

B. Jute — a distinctive comparative advantage

Jute is one of West Bengal's strongest structural advantages.

The state has:

- raw jute availability;
- established jute mills;
- jute machinery capabilities;
- skilled labour;
- existing domestic demand;
- export experience.

But the opportunity is to shift from **traditional jute products to diversified and higher-value products.**

Silk: premium-value opportunity

West Bengal has a significant silk ecosystem, particularly:

- Murshidabad
- Malda
- Birbhum
- Bankura and adjoining areas

The opportunity is to move from:

Silk yarn → traditional sari
towards:

Major strengths of West Bengal

Traditional

- Hessian
- Sacking
- Jute yarn

Diversified

- Shopping bags
- Home furnishings
- Floor coverings
- Fashion products

Industrial

- Geo-textiles
- Composite materials
- Particle boards
- Automotive applications
- Technical textiles

Silk → premium apparel → home textiles → accessories → branded luxury products → exports

The state cluster database already records silk-related handloom activity in Murshidabad and silk/tussar activity in Birbhum

Established Textile Sector

Existing cluster infrastructure provides a foundation

- West Bengal is not starting from zero.
- The state has already developed textile parks and clusters.
- The government's investment portal identifies 13 textile parks covering approximately 500 acres, across four broad categories:
 - Apparel & garments
 - Dyeing & processing
 - Powerloom & apparel
 - Technical textiles
- It also identifies government support for roads, substations, CETPs and fiscal incentives.
- More recently, the state's 2026 Budget states that infrastructure development of the Kalyani Integrated Textile Park has been completed.

Structure of West Bengal's Textile Sector

From Fibre to Stitched Garments – Value Chain Perspective



Future Potential for Textiles

Strategy Roadmap

Phase I — 0–12 months

Map and prepare

- GIS mapping of textile units
- Map existing clusters
- Identify vacant/underutilised industrial land
- Map yarn/fabric/processing capacity
- Identify infrastructure gaps
- Identify anchor investors
- Prepare cluster DPRs

Phase II — Year 1–2

Build common infrastructure

- Roads
- Power
- Water
- CETP
- CFC
- Testing laboratory
- Warehousing
- Skill centre

Phase III — Year 2–3

Attract anchor investors

Target:

- Spinning
- Weaving
- Knitting
- Processing
- Garments
- Technical textiles

Phase IV — Year 3–4

Integrate MSMEs

- Vendor development
- Common procurement
- Technology upgrading
- Quality certification
- Digitalisation

Phase V — Year 4–5

Export and branding

- Cluster brand
- Product certification
- E-commerce
- Export buyers
- International trade fairs
- Export logistics

Factor Endowments for Textile Manufacturing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Textile Manufacturing	Competitive Advantage
Natural Fibre Base	Strong production of jute, cotton (limited), silk and wool, with West Bengal being India's leading jute producer and a major silk producer.	Hooghly, North 24 Parganas, Murshidabad, Malda, Birbhum, Bankura	Provides raw materials for jute textiles, silk products, home textiles and blended fabrics.	Integrated fibre-to-fabric value chain with strong export potential.
Traditional Textile Ecosystem	Long-established heritage in handloom, powerloom and sericulture supported by skilled artisans.	Nadia, Murshidabad, Hooghly, Purba Bardhaman, Bankura, Birbhum	Supports value-added textiles, apparel, technical textiles and handicrafts.	Strong craftsmanship and established MSME base reduce entry barriers.
Skilled & Labour-intensive Workforce	Large availability of skilled artisans, weavers, garment workers and embroidery craftsmen at competitive labour costs.	Kolkata, Howrah, Hooghly, Nadia, Murshidabad	Supports labour-intensive garment manufacturing and made-ups.	Cost-competitive manufacturing with abundant skilled labour.
Integrated Textile Manufacturing Base	Presence of spinning, weaving, knitting, dyeing, garmenting and jute mills across the state.	Hooghly, Howrah, Kolkata, North 24 Parganas, Nadia	Enables integrated textile and apparel manufacturing with local supply chains.	Reduced production lead time and stronger industrial linkages.
Silk & Sericulture Resources	One of India's leading producers of mulberry silk with established sericulture clusters.	Murshidabad, Malda, Birbhum	Supports premium silk fabrics, garments and exports.	High-value textile products with established domestic and international markets.

Factor Endowments for Textile Manufacturing in West Bengal

Factor Endowment	Strengths	Key Locations	Relevance to Textile Manufacturing	Competitive Advantage
Jute Industry Base	Largest concentration of jute mills and diversified jute product manufacturers in India.	Hooghly Industrial Belt, Howrah, North 24 Parganas	Supports technical textiles, packaging materials, geo-textiles and sustainable products.	Global leadership in natural fibre products and eco-friendly textiles.
Industrial & Logistics Infrastructure	Ports, highways, railways, airports and textile parks provide efficient connectivity.	Kolkata, Haldia, Dankuni, Kalyani	Facilitates movement of raw materials and finished textile products.	Improved export competitiveness and supply chain efficiency.
Large Domestic & Export Markets	Access to eastern India's largest consumer market and proximity to Bangladesh, Nepal and Bhutan.	Kolkata Metropolitan Region	Supports apparel manufacturing, retail and exports.	Large domestic demand complemented by neighbouring export markets.
Research & Institutional Support	Presence of textile institutes, design centres, training institutes and government support schemes.	Kolkata, Serampore, Kalyani	Enhances productivity, product development and workforce skills.	Supports innovation, quality improvement and technical textile development.
Policy & Investment Support	Dedicated textile policy, integrated textile parks, PLI (MMF & Technical Textiles), PM MITRA linkages and state incentives.	Statewide	Encourages investment in MMF, technical textiles and apparel manufacturing.	Attractive investment climate for large-scale textile manufacturing.

Recommended Industry Clusters for Textile Product Categories

Cluster	Anchor Industry	Supporting Industries	Export Markets
Hooghly–Howrah Textile Cluster	Jute Textiles & Technical Textiles	Jute Mills, Packaging, Engineering, Machinery Manufacturing, Logistics	EU, USA, UK, Bangladesh
Murshidabad–Malda Silk Cluster	Silk Textiles & Apparel	Sericulture, Dyeing & Printing, Handloom, Garment Manufacturing	Middle East, Europe, Japan
Nadia–Shantipur Textile Cluster	Cotton Handloom & Apparel	Weaving, Dyeing, Garmenting, Textile Design, Packaging	Domestic Market, Bangladesh, Nepal
Kolkata Metropolitan Cluster	Apparel & Readymade Garments	Fashion Design, Textile Trading, Embroidery, Printing, Logistics	USA, EU, Middle East
North Bengal Cluster (Jalpaiguri–Cooch Behar–Alipurduar)	Technical Textiles & Jute Diversified Products	Agro-textiles, Packaging Materials, Fibre Processing, Logistics	Bangladesh, Bhutan, Nepal
Bankura–Birbhum Cluster	Tasar Silk & Handloom Textiles	Sericulture, Natural Dyeing, Handloom, Handicrafts	Europe, Japan, Domestic Premium Market

Recommended Industry Clusters for Textile Product Categories

Hooghly-Howrah textile cluster for manufacturing of Jute and technical textiles

Strengths	Details	Suitable Industries
Established Jute Industry	Largest concentration of jute mills in India with a well-developed industrial ecosystem	Jute Textiles
Integrated Manufacturing Base	Presence of spinning, weaving, finishing and diversified jute product manufacturers	Technical Textiles
Excellent Connectivity	Access to Kolkata Port, Haldia Port, railways and highways	Export-oriented Textile Manufacturing
Engineering Ecosystem	Availability of machinery manufacturers and industrial engineering support	Textile Machinery & Packaging

Murshidabad-Malda Silk cluster for manufacturing of silk textiles

Strengths	Details	Suitable Industries
Strong Sericulture Base	Major producer of mulberry silk with an established silk value chain	Silk Textiles
Skilled Artisan Workforce	Traditional expertise in silk weaving and embroidery	Premium Apparel
Heritage Textile Industry	Well-known for high-quality silk fabrics and handicrafts	Fashion & Luxury Textiles
Export Potential	Growing demand for premium silk products in domestic and international markets	Export-oriented Silk Products

Recommended Industry Clusters for Textile Product Categories

Nadia-Shantipur cluster for cotton handloom

Strengths	Details	Suitable Industries
Renowned Handloom Cluster	One of India's leading handloom weaving centres	Cotton Textiles
Skilled Weaving Workforce	Generations of expertise in weaving and textile craftsmanship	Apparel Manufacturing
Existing MSME Ecosystem	Dense network of weaving, dyeing and garment units	Garments & Home Furnishings
Proximity to Kolkata	Easy access to major domestic markets and logistics infrastructure	Fashion & Lifestyle Products

Kolkata Metropolitan cluster for manufacturing of readymade garments

Strengths	Details	Suitable Industries
Apparel Manufacturing Hub	Concentration of garment manufacturers and exporters	Readymade Garments
Design & Fashion Ecosystem	Presence of fashion institutes, designers and buying houses	Fashion Apparel
Logistics Infrastructure	Port, airport and multimodal connectivity facilitate exports	Export-oriented Apparel
Large Consumer Market	Access to eastern India's largest retail market	Branded Clothing & Lifestyle Products

Recommended Industry Clusters for Textile Product Categories

North Bengal cluster for Jute textiles

Strengths	Details	Suitable Industries
Natural Fibre Availability	Strong availability of jute and other natural fibres	Technical Textiles
Border Connectivity	Strategic access to Bangladesh, Bhutan and Northeast India	Agro-textiles
Emerging Industrial Base	Growing opportunities for fibre processing and textile manufacturing	Diversified Jute Products
Logistics Gateway	Siliguri Corridor provides regional connectivity	Export-oriented Textile Products

Bankura-Birbhum cluster for silk and handloom textile manufacturing

Strengths	Details	Suitable Industries
Tasar Silk Production	One of West Bengal's principal tasar silk producing regions	Tasar Silk Products
Traditional Handloom Skills	Established artisan base producing handcrafted textiles	Handloom Textiles
Natural Dyeing Practices	Strong heritage in eco-friendly textile production	Sustainable & Premium Textiles
Scope for Value Addition	Significant potential for branding and design-led products	Handicrafts & Designer Textiles

Investments in Energy Sector

Electrical Power Generation

Current generation base As of July 2026, WBERC reports

Source	Capacity (MW)
Thermal	7,812.0
Hydro	1,075.1
Solar	311.9
Total	9,199.0 MW

Operator	Thermal capacity	UoM
WBPDC	4,925	MW
CESC	1,125	MW
Haldia Energy	600	MW
DPL	550	MW
India Power	12	MW
Hiranmaye Energy	600	MW
Total	7,812	MW

The present generation mix is therefore heavily thermal, while solar capacity remains relatively small.

This creates two simultaneous investment requirements:

A. Ensure adequate firm/dispatchable capacity

B. Rapidly diversify towards renewable + storage capacity

From "adding generation capacity" to building an integrated Power–Renewable–Storage–Grid ecosystem.

Electrical Power Consumption Patterns

Electrical energy consumption in West Bengal

Consumption Categories	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
Energy Consumption – Million Units											
1. Domestic	18248	20074	21301	22586	23935	25350	26838	28407	30074	31857	33646
2. Commercial	6466	7241	7659	8100	8565	9058	9581	10141	10745	11405	12078
3. Public Lighting	825	884	947	1013	1084	1159	1238	1322	1410	1504	1603
4. Public Water Works	1079	1143	1209	1278	1350	1426	1504	1586	1671	1759	1851
5. Irrigation	1395	1413	1429	1445	1459	1475	1487	1496	1506	1514	1520
6. LT Industries	2307	2493	2584	2676	2768	2860	2952	3043	3131	3218	3300
7. HT Industries	11159	12982	13925	15364	17033	18820	20783	22637	25141	25879	26625
8. Railway Traction	1270	1361	1520	1563	1607	1650	1694	1737	1780	1823	1866
9. Bulk Supply	147	152	157	163	168	173	179	184	190	195	200
10. Others	168	493	569	655	754	867	997	1144	1312	1504	1722
Total	43,064	48,236	51,300	54,843	58,723	62,838	67,253	71,697	76,960	80,658	84,411

Source:

Report on the twentieth Electric Power Survey of India (volume – I) (https://cea.nic.in/wp-content/uploads/ps_if/2023/02/Volume I Report of 20th Electric Power Survey.pdf)
DERC Regulation, 2017 (<https://www.derc.gov.in/sites/default/files/Regulations-07.07.2017.pdf>)

Note:

- 1) LT: Low Tension - 230 volts for single phase (electricity delivered using one live and one neutral wire for appliances like TV) and 400 volts for three phase (using three live wires) for operating heavy machinery.
- 2) HT: High Tension - 11 kilovolts for three phase

Electrical Demand in West Bengal

Pattern of utilization (in %) of energy in West Bengal											
Categories	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
Domestic	42.38	41.62	41.52	41.18	40.76	40.34	39.91	39.62	39.08	39.5	39.86
Commercial	15.01	15.01	14.93	14.77	14.59	14.41	14.25	14.14	13.96	14.14	14.31
Irrigation	3.24	2.93	2.79	2.64	2.48	2.35	2.21	2.09	1.96	1.88	1.8
Industrial	31.27	32.08	32.18	32.89	33.72	34.5	35.29	35.82	36.74	36.07	35.45
Others	8.1	8.36	8.58	8.52	8.45	8.4	8.34	8.33	8.27	8.41	8.58
Total	100	100	100	100	100	100	100	100	100	100	100

Source:

Report on the twentieth Electric Power Survey of India (volume – I) (https://cea.nic.in/wp-content/uploads/ps_if/2023/02/Volume_I_Report_of_20th_Electric_Power_Survey.pdf)

Gaps in Power Demand and Supply

Power supply position of West Bengal

Year	Energy required (MU)	Energy supplied (MU)	Gap (MU)	Peak Demand (MW)	Peak Met (MW)	Demand not met (MW)
2020-21	51644	51544	100	8846	8846	0
2021-22	54001	53945	56	9089	9087	2
2022-23	60348	60274	74	10125	9900	225
2023-24	67576	67490	86	11626	11626	0
2024-25	71180	71085	95	12645	12640	5

Predicted energy requirements and peak electricity demand in West Bengal

Consumption Categories	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
Energy Requirement (Ex-Bus) - MU	71820	76352	81182	86018	91771	95599	99443
Peak Demand - MW	12123	12891	13708	14530	15507	16164	16824

Source:

Report on Resource Adequacy Plan (Generation) for West Bengal (2025-26 to 2035-36) (Version 2.0) (https://cea.nic.in/wp-content/uploads/resource_adequacy_st/2026/01/RA_Report_WB_2035_36.pdf)

Note:

Ex-Bus: Energy requirement calculated when energy reaches transformers just before distribution to final consumer

Projected Capacities

Source-wise projected capacities (in MW)

Year	Coal	Hydro	Wind	Solar	Hybrid	PSP	Battery	DRE	STOA	Total
2024-25	8244	1634	220	371	0	900	0	829	4620	16818
2025-26	8244	1634	293	928	250	900	0	1267	5000	18516
2026-27	8244	1634	1639	9412	950	900	1133	1746	3076	28734
2027-28	8244	1634	3140	10341	2060	900	1590	2288	2708	32905
2028-29	12017	1634	4140	10741	2060	900	1590	2880	207	36169
2029-30	12446	1634	5140	10741	2060	1400	1590	3541	236	38788
2030-31	12739	1724	6140	10741	2060	1400	1590	4141	263	40798
2031-32	12938	1724	7140	11143	2060	1650	2004	4794	355	43808
2032-33	13402	1724	8140	11837	2060	1650	2308	5507	729	47357
2033-34	13589	1724	9140	12712	2060	1900	2463	6283	970	50841
2034-35	14148	1724	10140	14167	2060	1900	3219	7255	1062	55675

Source:

Report on Resource Adequacy Plan (Generation) for West Bengal (2025-26 to 2035-36) (Version 2.0) (https://cea.nic.in/wp-content/uploads/resource_adequacy_st/2026/01/RA_Report_WB_2035_36.pdf)

Note:

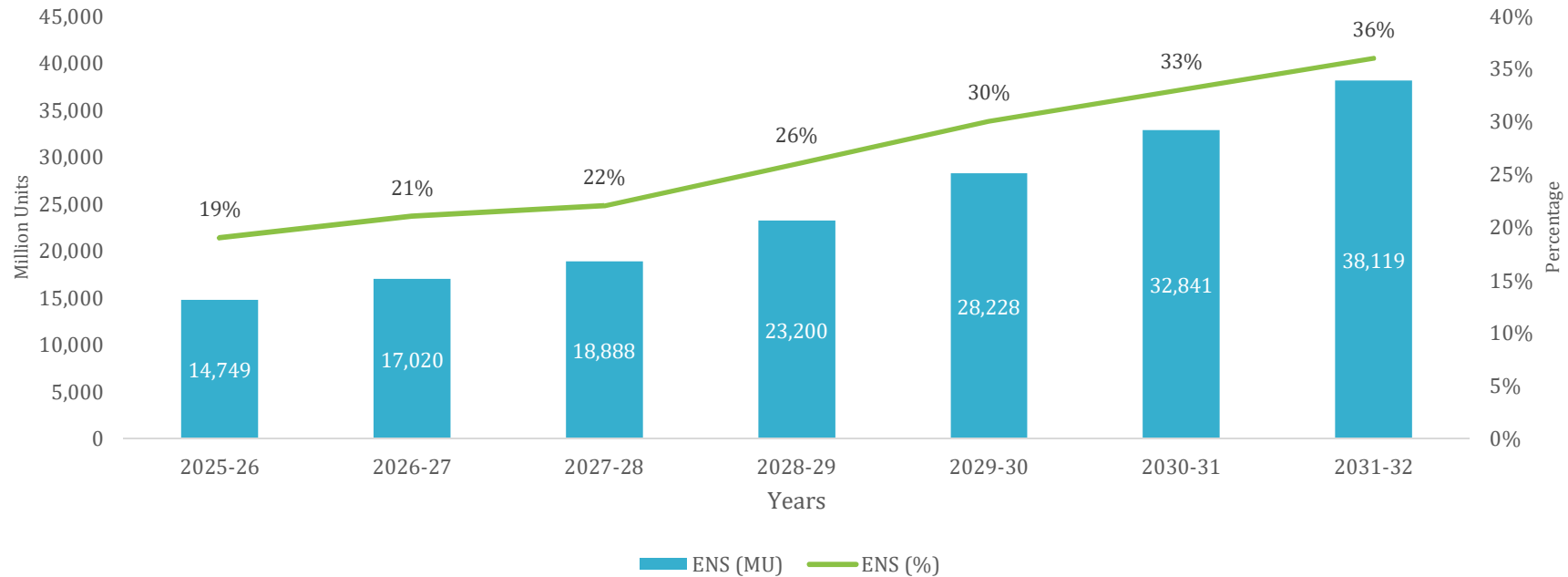
PSP: Pumped Storage Plant, These are hydroelectric sources of energy using two water reservoirs at different levels to generate and store energy

DRE: Distributed Renewable Energy. These are sources used to generate small amounts of energy. For example, solar panels on a house.

STOA: Short Term Open Access. Regulatory mechanisms allowing large electricity consumers to buy/sell power using public distribution and transmission lines

Projected Unserved Energy

Unserved energy projections



Source:

Report on Resource Adequacy Plan (Generation) for West Bengal (2025-26 to 2035-36) (Version 2.0) (https://cea.nic.in/wp-content/uploads/resource_adequacy_st/2026/01/RA_Report_WB_2035_36.pdf)

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Shortage in Renewable Energy Generation

Supply and demand of renewable energy

Year	RE Generation required to meet RPO (MU)	RE Generation required to meet RPO (%)	RE Generation available/met (MU)	RE Generation available/met (%)	RPO Surplus (+) / Deficit (-) (%)
2025-26	23423.6	30.91	8641	11.4	-19.51
2026-27	26594.7	33.25	10410	13.01	-20.24
2027-28	29999.6	35.51	12946	15.32	-20.19
2028-29	33442.7	37.47	12207	13.68	-23.79
2029-30	36621.7	38.83	13264	14.06	-24.77
2030-31	40717.9	41	13639	13.73	-27.27
2031-32	44454.2	42.5	13639	13.04	-29.46
2032-33	48263.2	43.8	13639	12.38	-31.42
2033-34	52245.9	45	13639	11.75	-33.25
2034-35	56895.1	46.5	13639	11.15	-35.35
2035-36	61260.3	47.5	13639	10.58	-36.92

Source:
 Report on Resource Adequacy Plan (Generation) for West Bengal (2025-26 to 2035-36) (Version 2.0) (https://cea.nic.in/wp-content/uploads/resource_adequacy_st/2026/01/RA_Report_WB_2035_36.pdf)

Note:
 RE: Renewable Energy
 MU: Million Units
 RPO: Renewable Purchase Obligation, the minimum required percentage of electricity used by obligated entities to be sources from renewable energy (RE) sources

Strategic Investment Framework

Taken together, the report suggests that West Bengal's next phase of development should be built around **five mutually reinforcing pillars**:

Pillar	Strategic direction
1. Investment-ready land	Create a 5,000–10,000 acre rolling industrial land pipeline and dedicated mega-parcel programme
2. Advanced manufacturing	Move traditional engineering, foundry and MSME clusters towards precision manufacturing and Tier-1/Tier-2 supply chains
3. Cluster-based industrialisation	Develop differentiated clusters around Howrah, Durgapur, Kharagpur, Haldia, Kalyani, Falta and other industrial locations
4. Green & new-age industries	Build capabilities in solar PV, batteries/ACC, energy storage, renewable-energy equipment and green maritime manufacturing
5. Export-oriented growth	Leverage ports, railways, inland waterways and proximity to Bangladesh/ASEAN/East Asia to develop export manufacturing

**The strategic objective can therefore be summarized as:
 Move West Bengal from a traditional resource- and MSME-based industrial economy towards an integrated, technology-intensive, cluster-based and export-oriented manufacturing economy.**

Disclaimer

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