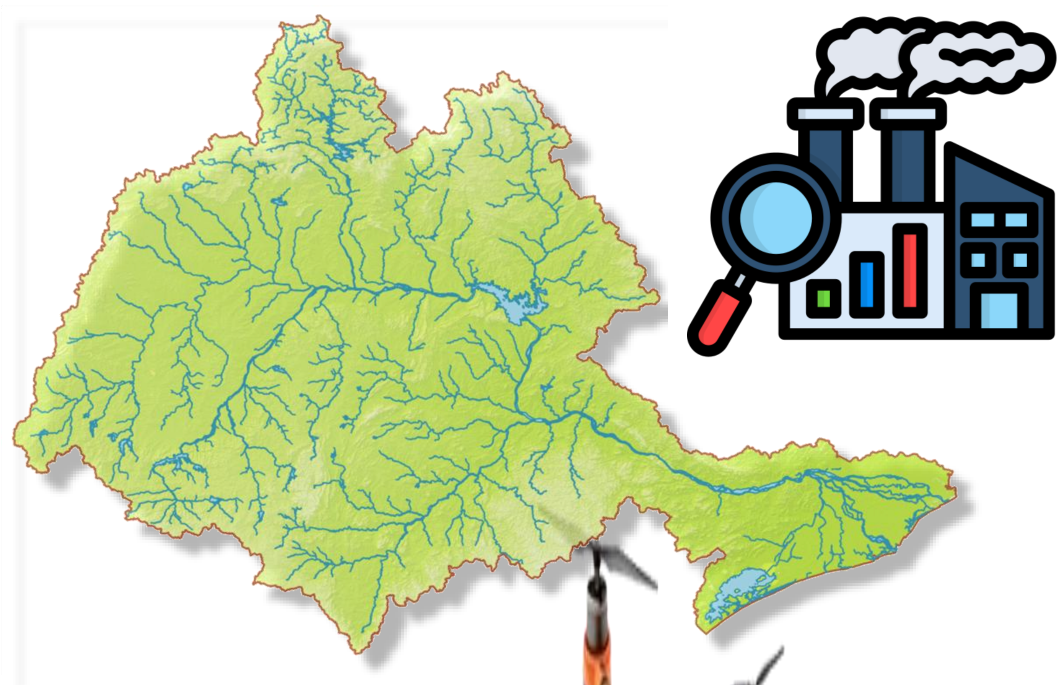
National River Conservation Directorate
Ministry of Jal Shakti,
Department of Water Resources,
River Development & Ganga Rejuvenation
Government of India

Industrial Profile

Mahanadi River Basin



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National River Conservation Directorate (NRCD)

The National River Conservation Directorate, functioning under the Department of Water Resources, River Development & Ganga Rejuvenation, and Ministry of Jal Shakti is providing financial assistance to the State Government for conservation of rivers under the Centrally Sponsored Schemes of 'National River Conservation Plan (NRCP)'. National River Conservation Plan to the State Governments/ local bodies to set up infrastructure for pollution abatement of rivers in identified polluted river stretches based on proposals received from the State Governments/ local bodies.

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Centres for Mahanadi River Basin Management Studies (cMahanadi)

The Centres for Mahanadi River Basin Management Studies (cMahanadi) is a dedicated centre for River Science and River Basin Management for Mahanadi River basin. Established in 2024 by NIT Raipur and NIT Rourkela, under the supervision of cGanga at IIT Kanpur, the centre serves as a knowledge wing of the National River Conservation Directorate (NRCD). cMahanadi is committed to restoring and conserving the Mahanadi River and its resources through the collation of information and knowledge, research and development, planning, monitoring, education, advocacy, and stakeholder engagement.

www.cmahanadi.org

Centre for Ganga River Basin Management and Studies (cGanga)

cGanga is a think tank formed under the aegis of NMCG, and one of its stated objectives is to make India a world leader in river and water science. The Centre is headquartered at IIT Kanpur and has representation from most leading science and technological institutes of the country. cGanga's mandate is to serve as think-tank in implementation and dynamic evolution of Ganga River Basin Management Plan (GRBMP) prepared by the Consortium of 7 IITs. In addition to this, it is also responsible for introducing new technologies, innovations, and solutions into India.

www.cganga.org

Acknowledgment

This report is a comprehensive outcome of the project jointly executed by NIT Raipur (Lead Institute) and NIT Rourkela (Fellow Institute) under the supervision of cGanga at IIT Kanpur. It is submitted to the National River Conservation Directorate (NRCD) in 2026. We gratefully acknowledge the individuals who provided information and photographs for this report.

Disclaimer

This report is a preliminary version prepared as part of the ongoing Condition Assessment and Management Plan (CAMP) project. The analyses, interpretations and data presented in the report are subject to further validation and revision. Certain datasets or assessments may contain provisional or incomplete information, which will be updated and refined in the final version of the report after comprehensive review and verification.

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Preface

In an era of unprecedented environmental change, understanding our rivers and their ecosystems has never been more critical. This report aims to provide a comprehensive overview of our rivers, highlighting their importance, current health, and the challenges they face. As we explore the various facets of river systems, we aim to equip readers with the knowledge necessary to appreciate and protect these vital waterways.

Throughout the following pages, you will find an in-depth analysis of the principles and practices that support healthy river ecosystems. Our team of experts has meticulously compiled data, studies, and testimonials to illustrate the significant impact of rivers on both natural environments and human communities. By sharing these insights, we hope to inspire and empower our readers to engage in river conservation efforts.

This report is not merely a collection of statistics and theories; it is a call to action. We urge all stakeholders to recognize the value of our rivers and to take proactive steps to ensure their preservation. Whether you are an environmental professional, a policy maker, or simply someone who cares about our planet, this guide is designed to support you in your efforts to protect our rivers.

We extend our heartfelt gratitude to the numerous contributors who have generously shared their stories and expertise. Their invaluable input has enriched this report, making it a beacon of knowledge and a practical resource for all who read it. It is our hope that this report will serve as a catalyst for positive environmental action, fostering a culture of stewardship that benefits both current and future generations.

As you delve into this overview of our rivers, we invite you to embrace the opportunities and challenges that lie ahead. Together, we can ensure that our rivers continue to thrive and sustain life for generations to come.

Centres for Mahanadi River Basin
Management Studies (cMahanadi)
NIT Raipur & NIT Rourkela

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Abbreviations and Acronyms

Abbreviation	Full Form
BALCO	Bharat Aluminium Company
BMP	Best Management Practices
cGanga	Centre for Ganga River Basin Management and Studies
cMahanadi	Centre for Mahanadi River Basin Management and Studies
CSIDC	Chhattisgarh State Industrial Development Corporation Limited
CWC	Central Water Commission
GSDP	Gross State Domestic Product
IIDC	Integrated Infrastructure Development Center
IPICOL	Industrial Promotion & Investment Corporation of Odisha Limited
IPR	Industrial Policy Resolution
lpcd	litres per capita per day
MCM	Million Cubic Meter
MoEF	Ministry of Environment and Forests
MoU	Memorandum of Understanding
MTPA	Million Tonnes Per Annum
MW	Mega Watt
NMCG	National Mission for Clean Ganga
NMDC	National Mineral Development Corporation
NRCD	National River Conservation Directorate
NRCP	National River Conservation Plan
NTPC	National Thermal Power Corporation
SAIL	Steel Authority of India Limited
SEZ’s	Special Economic Zone

1. Preamble

The Mahanadi River Basin, a critical geographical and hydrological entity in East-Central India, serves as a vital resource for multiple riparian states. Its intricate network of rivers, tributaries, and associated ecosystems underpins the ecological balance, economic development, and cultural heritage of the region. Understanding the fundamental characteristics of this basin is paramount to appreciating the complexities of its legal and institutional governance.

Geographical Extent and Riparian States

The Mahanadi River originates at an elevation of 442 meters above mean sea level (MSL) near Pharisya village in the Dhamtari district of Chhattisgarh. While its primary beneficiaries are the riparian states of Chhattisgarh and Odisha, its extensive basin also extends into Maharashtra and Jharkhand. This multi-state presence inherently introduces complexities in water resource management and allocation.

The main stem of the Mahanadi River spans a total length of 851 kilometers, with a significant portion, 357 kilometers, flowing through Chhattisgarh, and the remaining 494 kilometers traversing Odisha. The overall basin area encompasses 141,589 square kilometers. Of this, Chhattisgarh accounts for the largest share, covering 73,214 square kilometers, or 51.71% of the total area, while Odisha contributes 65,847 square kilometers, representing 46.51% of the basin. The remaining smaller portions lie within Maharashtra and Jharkhand.

The river system is further defined by its numerous tributaries. Upstream of the Hirakud dam, major tributaries such as the Seonath, Hasdeo, Mand, Ib, and Jonk converge with the Mahanadi. Downstream of the Hirakud dam, the Ong and Tel rivers contribute to the basin's flow. For analytical purposes, the basin is broadly categorized into three distinct reaches: the Upper Mahanadi and Middle Mahanadi, which are predominantly located in Chhattisgarh, and the Lower Mahanadi, which extends across Odisha. The geographical spread of the Mahanadi basin is also reflected in its political footprint, extending over 27 parliamentary constituencies. This includes 13 constituencies in Odisha, 11 in Chhattisgarh, and one each in Jharkhand, Maharashtra, and Madhya Pradesh, underscoring the broad political implications of any water-related dispute within the basin.

1.1. General Importance

The Mahanadi River Basin is indispensable for the ecological, economic, and socio-cultural well-being of the region. Ecologically, it is crucial for sustaining diverse ecosystems, supporting various plant and animal life. However, this vital ecosystem faces extensive decline due to unchecked mining activities, industrial practices, and rapid urbanization.

Economically, the river is a cornerstone for regional development. It provides extensive irrigation networks vital for agriculture and is a significant source of hydroelectric power generation. The basin's rich mineral resources, particularly coal, have attracted substantial industrial investments, further underscoring its economic significance.

Socio-culturally, the Mahanadi is revered as the "lifeline" for the people of Odisha and Chhattisgarh, holding profound religious and cultural importance. Its water is considered sacred and is integral to numerous rituals, festivals such as Boita Bandana and Kartika Purnima, and temple traditions, with many Shiv temples situated along its banks. The river also sustains traditional fishing practices, which are now threatened by environmental changes.

A critical observation concerning the Mahanadi basin is the apparent contradiction between its current status and the escalating disputes. The basin is frequently described as "not yet a closed basin", implying that its utilisable water resources have not been fully allocated, thus presenting "ample opportunity" for integrated development and management. However, this optimistic assessment stands in stark contrast to the documented realities within the basin. There is extensive pollution, a discernible decreasing trend in the average annual flow, and significant localized water scarcity, particularly in its tributaries. This situation reveals a critical paradox: while the basin theoretically possesses sufficient water resources, ongoing unsustainable practices, including unchecked industrialization, unregulated construction of barrages, and widespread pollution, are actively eroding this potential. The window of opportunity for sustainable management is rapidly narrowing due to uncoordinated and environmentally detrimental development. This suggests that the current inter-state dispute is not merely a contest over water allocation but, more fundamentally, a struggle to prevent future, more severe water stress that will inevitably arise from present mismanagement. The implications are profound, indicating a race against time before the basin reaches a point of irreversible degradation, akin to other over-exploited river systems.

2. Industries in the Mahanadi River Basin

2.1. Overview

Industrial development has long been promoted by both the state and central governments as a key strategy for achieving economic transformation in relatively underdeveloped states such as Chhattisgarh and Odisha. Over the past two decades, both states have witnessed significant growth in their Gross State Domestic Product (GSDP), reflecting broader improvements in economic activity and production capacity. In real terms, the size of Chhattisgarh's economy has doubled (**100%**), while Odisha's has expanded by nearly 75% since the fiscal year **2004–05** (Directorate of Economics and Statistics, Government of Chhattisgarh, 2015; Planning and Coordination Department, Government of Odisha, 2015).

Agricultural productivity has also improved in both regions, though at differing rates. Chhattisgarh's agricultural output has nearly doubled, whereas Odisha has experienced a more modest 23% increase during the same period. It is worth noting, however, that a decade ago, Chhattisgarh's agricultural output was only half that of Odisha's, indicating that while progress has been substantial, a gap still exists in agricultural base and capacity (Directorate of Economics and Statistics, Government of Chhattisgarh, 2015).

In the industrial sector, growth patterns vary considerably. Odisha's mining sector expanded by approximately 91%, reflecting the state's rich mineral base and ongoing extraction activities. In contrast, Chhattisgarh's mining sector grew at a relatively moderate rate of **31%**. Meanwhile, the construction sector in Odisha expanded by about 76%, while Chhattisgarh recorded an exponential rise of nearly 316%, largely driven by rapid infrastructure development and industrial investments.

The tertiary or service sector has emerged as a significant contributor to growth in both states, with expansion rates of approximately 110–120%. Although industrial growth has undoubtedly contributed to overall prosperity, the services sector now appears to be the dominant driver of economic advancement in both regions (Planning and Coordination Department, Government of Odisha, 2015).

Despite this progress, structural disparities remain evident. In Chhattisgarh, the share of industry in GSDP has declined from 44.1% to 38.8%, suggesting a relative slowdown in industrial expansion. Conversely, Odisha's industrial share has remained relatively stable, averaging around 23.5% over the same period. The share of the tertiary sector has increased by about 5% in both states, reflecting a transition toward service-based economies. However, this shift indicates uneven development, as the tertiary sector employs a smaller workforce, while agriculture continues to support most of the population (Directorate of Economics and and Statistics, Government of Chhattisgarh, 2015; Planning and Coordination Department, Government of Odisha, 2015). In terms of agriculture's contribution, Chhattisgarh recorded a 1.5% increase in the sector's share of the economy, keeping pace with the state's overall growth, whereas Odisha experienced a 3.4% decline. This divergence underscores differences in sectoral priorities and policy outcomes between the two states.

The following section provides a state-specific analysis, drawing primarily from the Economic Surveys of Chhattisgarh and Odisha, with a particular focus on the secondary (industrial) sector. This includes an assessment of power generation, manufacturing, especially iron and steel production, mining activities. These industries are emphasized due to their substantial share in state output and their significant demand for water resources, necessitating a critical review of current allocation and management strategies.

The distribution of industrial water allocations within the Mahanadi Basin (Table 1) shows a pronounced clustering of high-demand industrial users in regions with established heavy industrial infrastructure and proximity to major surface water reservoirs. The Bhilai–Korba–Jharsuguda–Angul corridor forms the industrial heartland of the basin, characterized by steel, aluminium, and thermal power plants that demand substantial and continuous water supplies.

- **High allocation zones (≥10 MCM):** are dominantly found near Hirakud Command, Bhilai Steel Plant, Angul–Talcher Industrial Belt, and Jharsuguda, reflecting the concentration of large-scale industrial operations that rely on major irrigation reservoirs or river intakes for cooling and processing needs.
- **Moderate allocation areas (1–10 MCM):** occur across smaller industrial clusters in Korba, Raigarh, and western Odisha, typically associated with secondary industries such as cement, sponge iron, and chemical units.
- **Low allocation zones (≤1 MCM):** are dispersed across southern and central Chhattisgarh, indicative of smaller industries that depend on local surface or groundwater sources.
- **Data-deficient (Water Info N/A):** shows regions where industrial water abstraction is either unmonitored or unreported, suggesting the need for improved data management and regulatory oversight.

Table 1: Industrial Water Allocations within the Mahanadi Basin

Category of Industrial Water Allocation	Allocation Range (MCM)	Spatial Distribution (Major Concentration Areas)	Remarks / Observations
Low Allocation	Up to 1 MCM	Scattered across the western and central basin, especially near minor industrial clusters in Raipur, Dhamtari, and small-scale industrial belts	Typically allocated to small- and medium-scale industries, including food processing and light manufacturing.
Moderate Allocation	1–10 MCM	Concentrated near industrial towns such as Korba, Raigarh, Jharsuguda, and Angul	Medium-scale industries like sponge iron, cement, and power plants.
High Allocation	More than 10 MCM	Clustered near Bhilai, Rourkela, Angul-Talcher, Jharsuguda, and other Hirakud region	Major heavy industries, steel, aluminum, and thermal power sectors dominate.
Water Info N/A	—	Scattered occurrences; limited data points across northern Chhattisgarh and western Odisha	Reflects gaps in industrial water data reporting or unregulated extraction.
Major Irrigation Projects (for reference)	—	Hirakud, Hasdeo Bango, Tandula, Sondur, and Mahanadi delta irrigation systems	Key competing users of basin water alongside industries.

2.2 Economic Profile and Sectoral Development of Chhattisgarh

2.2.1 Overview of Economic Growth

Chhattisgarh has experienced significant economic expansion over the past decade. The state's Gross State Domestic Product (GSDP) at current prices increased from Rs. 478,620 million in 2004–05 to Rs. 1,856,820 million in 2013–14, representing a nominal annual growth rate of 14.5% and an estimated real growth rate of around 10% (Directorate of Economics and Statistics, Government of Chhattisgarh, 2015).

The economic structure of the state shows notable diversification. The tertiary sector, encompassing transport, communication, banking, real estate, and other services, now accounts for approximately 40% of Chhattisgarh's total GSDP. The industrial sector, which includes manufacturing, mining, construction, and power generation, contributes about 39%, reflecting the state's growing industrial base. Meanwhile, although the agricultural sector has expanded in recent years, its relative share has been overshadowed by faster growth in tertiary activities.

2.2.2 Sector-Wise Economic Structure

The sectoral composition of Chhattisgarh's economy between 2004–05 and 2013–14 is summarized in Table 2. The data indicate a broad-based increase in real output across all major sectors, with particularly strong growth observed in construction and the tertiary sector.

2.2.3 Power Sector Development

Chhattisgarh is recognized as a power-surplus state, with electricity generation contributing substantially to its revenue base. The Korba district, often referred to as the *"Power Capital of India"*, is the primary center of power production. As of January 2015, the state had an installed thermal power capacity of 10,683 MW, comprising 6,413 MW from private producers and 4,270 MW from state and central units (Directorate of Economics and Statistics, Government of Chhattisgarh, 2015, p. 99).This capacity expanded to 15,802 MW by January 2017, indicating a nearly 48% increase within two years, largely driven by private sector investments in coal-based thermal plants (Central Electricity Authority, 2017, p. 16). The state's power exports also contribute significantly to its revenue stream, reinforcing its position as a key energy hub in central India.

Table 2. Chhattisgarh Economy – Sectoral Statistics

Sector	2004–05 (Current Prices) (Rs. million)	Share (%)	2013–14 (Constant 2004–05 Prices) (Rs. million)	Share (%)	Increase in Real Output (%)
Total GSDP	4,78,620	100	9,52,620	100	99
Agriculture (incl. animal husbandry)	70,570	14.7	1,39,200	14.6	97
Mining	53,670	11.2	88,060	9.2	64

Manufacturing	1,04,790	21.8	1,37,880	14.5	31
Construction	32,740	6.8	1,36,470	14.3	316
Electricity, Gas, Power	21,000	4.3	41,310	4.3	97
Tertiary Sector	1,64,810	34.4	3,66,460	38.5	122

(Source: Directorate of Economics and Statistics, Government of Chhattisgarh, 2015)

2.2.4 Mineral Resources and Industrial Growth

Chhattisgarh's economic development is closely tied to its abundant mineral resources, which have played a pivotal role in attracting resource-intensive industries such as steel, aluminum, and cement manufacturing. The state produces approximately 22.6% of India's coal (127 million tonnes), 19.8% of iron ore (30 million tonnes), and 7.6% of limestone (21 million tonnes) its three most significant minerals (Directorate of Economics and Statistics, Government of Chhattisgarh, 2015).

Additionally, Chhattisgarh contributes 20% of India's cement output and remains the only tin-ore producing state in the country. In 2013–14, the state hosted 202 operational mines, with mining of major minerals accounting for about 9% of the GSDP, a slight decrease from 11% in 2004–05. However, its share in state revenue increased to 25.5% (Rs. 30,280 million) in 2013–14, nearly double the Rs. 15,540 million recorded in 2009–10. The total value of minerals produced in 2013–14 was estimated at Rs. 195,660 million (Directorate of Economics and Statistics, Government of Chhattisgarh, 2015, p. 81).

The South Eastern Coalfields Limited (SECL) remains the largest mining enterprise in the state, primarily operating in Korba, Surguja, and Koriya districts. Prominent private and public sector corporations, including Vedanta, ESSAR, LANCO, Jindal, Monnet, DB Power, NTPC, Steel Authority of India Limited (SAIL), and BALCO, have established major operations in the power, steel, and aluminum industries.

Industrial growth is concentrated around major urban and industrial corridors such as Raipur (Tilda, Urla, Siltara), Bilaspur (Sirgitti, Dagori, Silpahari), and Durg (Borai). Meanwhile, Korba serves as a central industrial hub, and Raigarh continues to develop as a hub for power and mining.

2.2.5 Estimating Water Allocations and Use

To accurately assess the impact of industrial expansion on water allocation within the Mahanadi River Basin, it was necessary to estimate both the scale and spatial distribution of industrial water use. However, the absence of a comprehensive and consolidated database of large industries posed a significant challenge. To address this gap, a detailed database was developed, encompassing all major industries within the Mahanadi Basin that have received environmental clearance from the Ministry of Environment and Forests (MoEF), along with their respective water requirements.

Based on the compiled data, the total volume of water allocated to large industries in the basin is estimated to be approximately 1,130 million cubic meters (MCM) in Chhattisgarh and 944 MCM in Odisha, amounting to a combined 2,074 MCM of water designated for industrial use. Notably, a substantial portion, about 274 MCM, of these recent allocations has been sanctioned by Chhattisgarh for industrial purposes from several major barrages along the main stem of the Mahanadi River. These new water allocations have emerged as a central issue in the ongoing inter-state dispute between Chhattisgarh and Odisha.

Chhattisgarh

Industrial development in the Chhattisgarh region of the Mahanadi Basin has witnessed rapid growth over the past decade. Water allocations for coal-based thermal power plants, based on Environmental Clearances, have surged dramatically from 307 MCM to 1,017 MCM within ten years. If all these clearances result in operational plants, the total installed capacity would reach 33,268 MW, a significant increase from the 8,000 MW capacity approved since 2007. On average, these plants require approximately 30.5 MCM of water per 1,000 MW of power generation.

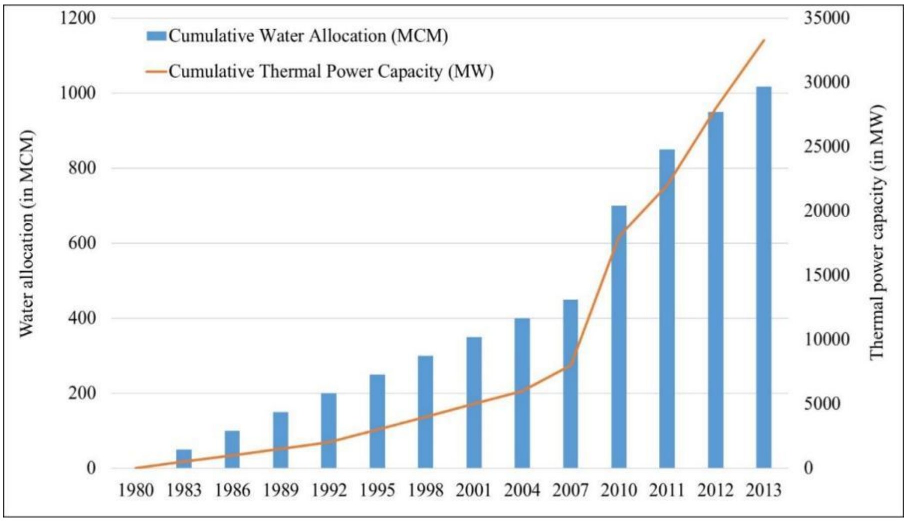
In addition to the power sector, iron and steel industries represent the second-largest water consumers, with allocations totaling 193 MCM to support a combined production capacity of 34 million tonnes per annum (MTPA). This mark a more than threefold increase compared to the 10 MTPA capacity in 2007, which corresponded to an estimated 60 MCM of water allocation at that time. These allocations also account for the captive thermal power plants associated with the iron and steel sector, with a total capacity of 3,568 MW, of which 3,048 MW has received clearance since 2007.

Furthermore, an additional 9 MCM of water has been allocated for aluminium industries, while mining operations covering various minerals have been allotted 65 MCM for a cumulative capacity of 339 MTPA. The total approved mining capacity has more than doubled since 2007, with new and expanded projects adding 177 MTPA of production potential. Overall, the total volume of water allocated to industrial sectors within Chhattisgarh's portion of the Mahanadi Basin stands at approximately 1,284 MCM. By extrapolating backward, the estimated industrial water allocation in 2007 was around 400 MCM, underscoring the rapid escalation of industrial water demand over the past decade.

The Figure 1 illustrates the parallel growth of cumulative water allocation (in million cubic meters, MCM) and thermal power generation capacity (in megawatts, MW) in the

Chhattisgarh part of the Mahanadi basin over the period 1980–2013. From 1980 to 2007, the growth in both parameters remained relatively gradual. However, a sharp escalation occurred post-2007, corresponding to accelerated industrialization and the commissioning of several coal-based thermal power plants.

Water allocations rose steeply from around 307 MCM in 2007 to over 1,017 MCM by 2013, while the thermal power capacity increased from 8,000 MW to about 33,268 MW during the same period. This clearly indicates the direct coupling between industrial (particularly power sector) expansion and freshwater demand. The trend highlights the intensifying pressure on water resources due to thermal power development and underscores the necessity for integrated water resource management and sustainable allocation policies in industrial sectors.



(Source: Ministry of Environment and Forests, 2016)

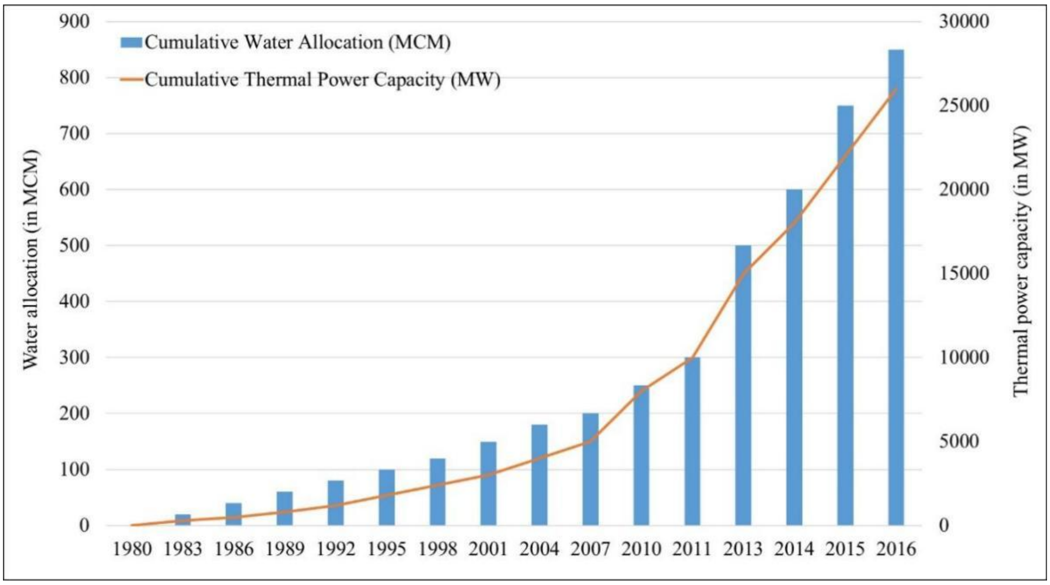
Figure 1: Trend of cumulative water allocations (in MCM) and cumulative thermal power capacity (in MW) in the Chhattisgarh part of the Mahanadi Basin.

Odisha

Coal-based thermal power plants constitute the major share of industrial water use in Odisha. However, the expansion of thermal power in the state began much later compared to Chhattisgarh. Currently, the total water allocation for thermal power generation in Odisha stands at approximately 644 million cubic meters (MCM), a substantial increase from just 57 MCM in 2007.

In comparison, water allocations for the iron and steel sector amount to about 179 MCM, with the largest allocations made to Bhushan Steel, Essar Steel, and Shyam DRI, collectively accounting for roughly 100 MCM, all approved after 2007. This indicates a marked increase in allocations to the steel industry over the past decade. Additionally, around 120 MCM has been allocated to the aluminium sector. Altogether, Odisha's total industrial water allocation (excluding mining) reaches approximately 944 MCM, a dramatic rise from about 200 MCM in 2008.

Interestingly, the Odisha Water Plan (2004) had projected that by 2051, industrial water demand within the Mahanadi Basin would reach only 335 MCM, assuming industries reduced their per capita water use from 900 litres per capita per day (lpcd) to 650 lpcd. The stark contrast between these projected figures and the current allocations highlights a significant and growing disparity in water resource management and planning within the basin.



(Source: Ministry of Environment and Forests, 2016)

Figure 2: Cumulative water allocations (in MCM) and cumulative thermal power capacity (in MW) in the Odisha part of the Mahanadi Basin.

Figure2 depicts the progressive increase in cumulative water allocations and cumulative thermal power capacity in the Odisha part of the Mahanadi basin from 1980 to 2016. The early decades (1980–2007) witnessed a slow and steady rise in both parameters, primarily reflecting limited industrial growth and fewer thermal power installations. However, after 2007, both parameters exhibit a steep upward trend, marking the onset of rapid industrialization and expansion of thermal power generation.

By 2016, cumulative water allocation had reached approximately 850 MCM, while cumulative thermal power capacity rose to about 26,000 MW. The sharp rise in both curves indicates a strong correlation between industrial development and water demand, with thermal power plants emerging as a major water-consuming sector. This trend underscores the increasing stress on regional water resources and highlights the need for integrated water management strategies, efficient water use technologies, and sustainable industrial planning to balance energy development with water resource sustainability.

2.3 Economic Profile and Industrial Composition of Odisha

2.3.1 Overview of Odisha's Economy

Odisha's economy has shown consistent and impressive growth over the last decade. The Gross State Domestic Product (GSDP) of Odisha increased from ₹338,840 million in 2011–12 to ₹733,350 million in 2025-26, when measured in 2011–12 constant prices. This represents an average annual nominal growth rate of 9.5% and a real growth rate of 7.9% (Planning and Coordination Department, Government of Odisha, 2025). The economic composition of Odisha reflects a clear dominance of the tertiary (services) sector, which accounts for approximately 40% of the total GSDP. The secondary sector, encompassing industries and construction, contributes around 42%, while the primary sector, which includes agriculture and allied activities, makes up the remaining share (19.6%). This sectoral distribution highlights that Odisha's economy is more service-oriented compared to other mineral-rich states such as Chhattisgarh, where the industrial sector holds a larger share of the GSDP (Planning and Coordination Department, 2015).

2.3.2 Sectoral Composition of Odisha's Economy

The detailed distribution of Odisha's GSDP across major sectors during 2011-12 and 2025-26 is presented in Table 3. The data reflect significant real output growth across almost all sectors, particularly in mining, manufacturing, and services, underscoring the state's expanding industrial and tertiary base.

Table 3: Odisha's Economy- Sectorial statistics

Sector	2011–12 (Current Prices) (Million ₹)	2025—26 AE (Constant 2011–12 Prices) (Million ₹)	Share in GSDP (2011–12)	Share in GSDP (2013–14)	Increase in Real Output (%)
Agriculture (including Animal Husbandry)	338,840	733,350	15.35%	19.6%	5.3%
Mining	224,150	586,880	12.33%	10.1%	5.8%
Manufacturing	382,900	1,023,050	16.63%	23.1%	8.3%
Construction	165,150	338,300	7.37%	6.1%	8.1%
Electricity, Gas, Power	46,280	114,840	2.07%	2%	7.4%
Tertiary Sector	1,032,050	2,257,200	46.250%	39.1%	9.3%
Total GSDP	**2,309,870**	**5,743,500**	**100%**	**100%**	**7.9%**

(Source: Planning and Coordination Department, Government of Odisha, 2025)

2.3.3 Energy and Industrial Capacity

Odisha has developed a substantial power generation capacity, with approximately 7,100 MW of installed coal-based thermal power. Of this, nearly 5,000 MW is operated by the private sector, while the remainder is managed by state and central government utilities (Central Electricity Authority, 2017).

The state's industrial and mineral resource potential is remarkable. Odisha possesses 52% of India's bauxite reserves, 44% of its manganese, 33% of its iron ore, and 24% of its coal deposits (Planning and Coordination Department, 2015). Among these, coal accounts for nearly 88% of the state's total mineral reserves, with major extraction concentrated in the Angul, Jharsuguda, Sundargarh, and Sambalpur districts. In 2013–14, coal production reached 108 million tonnes (MT). Likewise, iron ore production amounted to 77 MT, predominantly extracted from Keonjhar (71%) and Sundargarh (25%), while bauxite mining activities are primarily located in Koraput district. Out of the 595 mining leases granted in the state, 102 are currently operational, covering a total area of approximately 46,788 hectares (Planning and Coordination Department, 2015). This highlights the strategic importance of Odisha's mineral resources to both the regional and national economies.

2.3.4 Industrial Development and Key Hubs

Odisha's industrial base is anchored by large-scale steel and iron production facilities. The Rourkela Steel Plant, with a capacity of 4.5 million tonnes per annum (MTPA), remains the state's largest integrated steel manufacturing unit. Furthermore, the Government of Odisha has signed 49 Memoranda of Understanding (MoUs) with various steel producers, targeting a cumulative production capacity of 83.6 MTPA. However, the actual production as of 2015 stood at only 12.6 MTPA, along with an additional 11.4 MTPA of sponge iron capacity that is already operational (Planning and Coordination Department, 2015).

Major industrial players such as Vedanta, POSCO, Jindal, Tata Steel, and Essar have established plants across different parts of the state, contributing significantly to Odisha's industrial growth trajectory. Among the key industrial zones, Jharsuguda serves as the primary hub for sponge iron and thermal power production, while Keonjhar and Sundargarh districts collectively hold over 50% of the state's total mineral deposits (Planning and Coordination Department, 2015).

3. Industrial Water Requirement

Today, Chhattisgarh is advancing fast on the path of Overall development. Chhattisgarh is generously bestowed with natural resources like forests, minerals, and surface as well as groundwater. The state has undergone a radical change and is thriving with industrial activities. State rivers, namely Mahanadi, Hasdeo, Kelo, Shivnath, Indravati, etc. can satisfy the needs for drinking water, agriculture, as well as industrial units. The state has started the development of a series of dams to fulfill the future needs of water supply. Chhattisgarh is one of the states of India where the best quality of electricity generation and distribution techniques are practiced. Serious planned efforts have been made towards declaring the state as a "Power Hub". The state has a good geographical location, given its connectivity to big cities and other states. Owing to the geographical advantage, this agriculturally developed State, renowned as the "Bowl of Rice," is becoming famous with great potential to advance in industrial growth, specifically steel, cement, power, and aluminum.

Chhattisgarh aspires to become the growth engine of India. Chhattisgarh's growth rate is higher than the national average. The socio-economic environment in the state has drastically changed in the past 23 years. Chhattisgarh now ranks Sixth in the 'Ease of Doing Business' ranking. Chhattisgarh has become an ideal investment destination. An ultra-mega steel plant worth Rs 18 thousand crore is being set up at Bastar by the Steel Authority of India Limited. Another ultra-mega steel plant worth Rs 25 thousand crore is being set up by the NMDC (Government of India undertaking). The Chhattisgarh Government has taken several steps to upgrade industrial infrastructure. There are 42 Industrial Zones in the State at present. Metal Park, Engineering Park, Food Park, Plastic Park, and Aluminum Park are being established. There is a proposal to establish an Industrial Zone in every district. Six-thousand-hectare land bank is being planned. Investment proposals to the tune of Rs 6.59 lakh crore had been received, which is 14 percent of the investment proposals in the entire country. MOUs to the tune of Rs 55 thousand crore had been inked in the current fiscal.

They are related to the coal gasification, railways, steel, defense, engineering, food processing, solar energy, electronics, and information technology sectors. Chhattisgarh has progressed tremendously in the 'core' sectors like steel, cement, aluminum, and electricity generation. The focus now is on the non-core sectors like electronics, information technology, defense industry, railways, heavy engineering, 'platinum' industry, food processing, herbal processing, and services sector. Chhattisgarh has launched the 'Make in Chhattisgarh' campaign on the lines of Prime Minister Mr. Narendra Modi's 'Make in India' Mission. Our Industrial and

Innovation Policies have created a favorable environment for start-ups and industrial growth (Table 4).

The status report on industrial water shows the present requirement of industrial water, and its future scenario, and describes the best practices for water saving in the industrial sector. It also includes the identification of a set of problem solutions to address the key issue, giving the pros and cons of the solutions. The status report assesses the impact of climate change on the industrial sector& suggests accordingly how to mitigate its impact and what could be adaptation measures.

Table 4: Surface water distribution for industries by Water Resources Department

S.No.	Year of Agreement	Allotted Water (MCM)	Cumulative Demand (MCM)	Proposed Power Generation (MW)
1	1988	1.78	1.78	0
2	1993	4.98	6.76	0
3	1995	3.32	10.08	0
4	1997	23.355	33.435	80
5	2000	2.369	35.804	0
6	2002	79.88	115.684	1055
7	2004	44.72	160.404	450
8	2005	16.373	176.777	165.8
9	2006	69.08	245.857	38
10	2007	140.79	386.647	2770
11	2008	256.57	643.217	5709.2
12	2009	482.521	1125.74	13392.8
13	2010	317.791	1443.53	10436
14	2011	243.714	1687.24	8761.25
15	2012	100.77	1788.01	3858.5
16	2013	80.16	1868.17	2641
17	2014	2.4	1870.57	65
18	2016	67.895	1938.47	2648.5
19	2017	108.903	2047.37	2980
20	2018	74.586	2121.96	3052.6
21	2019	24.586	2146.54	1354
22	2020	31.237	2177.78	1396
23	2021	4.946	2182.73	636
24	2022	8.848	2191.57	171
25	2023	21.767	2213.34	62
	Total	**2213.34**	**28619.5**	**61722.7**

(Source: CGWRD)

They are related to the coal gasification, railways, steel, defence, engineering, food processing, solar energy, electronics, and information technology sectors. Chhattisgarh has progressed tremendously in the 'core' sectors like steel, cement, aluminium, and electricity generation. The focus now is on non-core sectors like electronics,information technology, the defence industry, railways, heavy engineering, the 'Platinum' industry, food processing, herbal processing,and the services sector. Chhattisgarh has launched the "Make in Chhattisgarh' campaign on the lines of Prime Minister Narendra Modi's 'Make in India' Mission. Our industrial and innovation policies have created a favourable environment for start-ups and industrial growth. The status report on industrial water shows the present requirement for industrial water, its future scenario, and the best practices for water saving in the industrial sector. It's also including the identification of a set of problem solutions to address the key issue, giving the pros and cons of the solutions. The status report assesses the impact of climate change on the industrial sector and suggests accordingly how to mitigate its impact and what adaptation measures could be taken.

3.1 District-wise Industrial Water Demand of Mahanadi River Basin Chhattisgarh

The district-wise industrial water requirement data (Appendix I) reveals a dynamic shift in the water demand pattern across Chhattisgarh's industrial landscape over the years 1991, 2001, and 2011. Significant variations are observed not only among districts but also within individual blocks, reflecting the diverse pace of industrialization and infrastructural growth. Broadly, the findings indicate a substantial rise in industrial water consumption in several key industrial hubs, particularly in districts such as Korba, Raigarh, Durg, and Raipur, while other areas such as Surajpur and Kanker show minimal industrial expansion and corresponding water demand.

In the Durg–Bhilai industrial belt, the data highlights exceptionally high industrial water requirements in the Durg block, peaking at 346.63 MCM in 2001 before reducing to 7.19 MCM in 2011, suggesting industrial saturation or a shift toward water-efficient technologies (Appendix I). Similarly, the Patan and Dhamdha blocks show negligible demand, reflecting their limited industrial presence. This pattern underscores the dominance of steel and heavy industries in Durg, which historically contributed to its water-intensive profile but have since stabilized due to modernization and recycling practices.

The Korba district stands out as another major industrial center, with its Korba block showing an extraordinary rise from 0.006 MCM in 1991 to 204.88 MCM in 2011. The Katghora block also displayed significant demand, reaching 28.75 MCM in 2011, confirming Korba's role as a core coal-based and thermal power production hub (Appendix I). However, the surrounding blocks such as Pali and Poundi-Uproda maintained minimal requirements, indicating concentrated industrial activity around energy generation sites rather than evenly distributed industrialization.

Raigarh district demonstrates a similarly uneven distribution, where the Raigarh and Pussore blocks recorded the highest water demand at 130.48 MCM and 45.79 MCM respectively in 2011. This rise corresponds to the proliferation of thermal power and steel plants during the decade. In contrast, other blocks like Baramkela and Sarangarh showed modest figures, underscoring the spatial clustering of industries around mineral-rich and infra-structurally advanced zones (Appendix I). The trend suggests that water resource management in such districts must prioritize industrial corridors where water stress risks are higher.

Raipur, the state's administrative and economic hub, also witnessed notable fluctuations. The Tilda block reported an increase from 0.057 MCM in 2001 to 51.30 MCM in 2011, indicating significant industrial expansion. Similarly, Dharsiwa and Arang blocks maintained moderate but consistent demands linked to industrial estates and manufacturing clusters. Meanwhile, Abhanpur displayed a minor rise, suggesting emerging industrial activity (Appendix I). These figures collectively highlight the central region's gradual transformation into a diversified industrial zone with growing water dependency.

In contrast, districts like Balod, Mahasamund, and Bemetara recorded minimal industrial water demand, reflecting their predominantly agrarian economies with limited industrial bases. For instance, Balod's Gunderdehi and Gurur blocks showed incremental rises to 0.0218 MCM and 0.0662 MCM respectively in 2011, indicating small-scale local industries (Appendix I). Similarly, Mahasamund block reached 1.075 MCM in 2011, pointing toward modest industrial growth. Peripheral and forested districts such as Kanker, Surajpur, and Jashpur exhibited negligible water demand throughout the period, aligning with their low industrial footprint.

Overall, the assessment of industrial water demand across all districts and blocks reveals a strong concentration of water-intensive industries within the central and eastern parts of Chhattisgarh, particularly around Durg, Korba, Raipur, and Raigarh. These areas have witnessed fluctuating, yet substantial water demand driven by thermal power, mining, and metallurgical industries. In contrast, the northern and southern districts remain largely underdeveloped industrially, emphasizing a spatial disparity in industrial water utilization. The findings underscore the need for region-specific water resource management strategies that balance industrial development with sustainable water use and conservation (Appendix I).

3.2 Analysis of Cumulative Demand Growth and Saturation Trends

As shown in Figure 4, the cumulative demand trend exhibits a typical S-shaped growth pattern over the observed period. During the initial phase (up to approximately time step 8), the curve remains nearly flat, indicating minimal or negligible demand accumulation. This suggests that consumption or requirement levels were low during this early stage (Figure 4).Between time steps 9 and 15, the curve rises sharply, representing a period of rapid demand escalation. This steep segment indicates an accelerated accumulation rate, which could be associated with increased operational activity, seasonal factors, or a surge in market needs. Such a trend is consistent with logistic-type cumulative behaviors often reported in production and resource utilization studies (Figure 4).After time step 16, the curve begins to flatten, signifying a saturation phase where cumulative demand approaches its maximum level. The plateau near approximately 2,100–2,200 units implies that most potential demand has been fulfilled, and further increases are marginal. Overall, the curve demonstrates three distinct phases:

1. **Latent Phase (slow growth)** – limited demand accumulation.
2. **Accelerated Growth Phase (steep increase)** – rapid expansion of demand.
3. **Saturation Phase (plateau)** – stabilization of total demand.

This cumulative pattern reflects a balanced progression from **demand emergence to saturation**, aligning with typical system growth dynamics observed in industrial, supply chain, or energy consumption contexts (Figure 3).

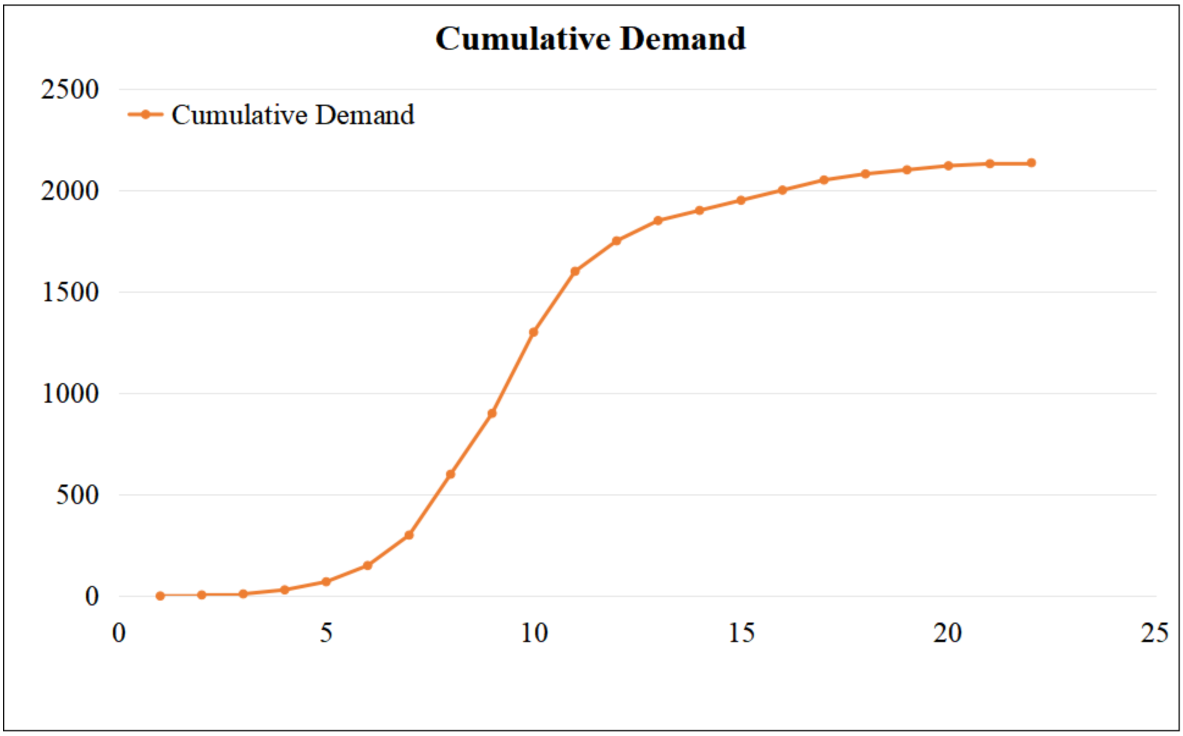


Figure 3: Cumulative Demand Curve Showing Phased Growth Pattern

3.3 Assessment of Water Supply Sources and Future Demand Projections

Table 4 presents the current and projected water supply scenario from both surface and groundwater sources. The data illustrate the relative contribution of these sources for the year 2023 and the additional demand anticipated for the near future.

In **2023**, the surface water supply is estimated at 28,619.5 million cubic meters (MCM), while groundwater availability accounts for 629.19 MCM, resulting in a total supply of 30,095.376 MCM. This clearly indicates that surface water forms the dominant component of the total water supply system, contributing over 95% of the available resources. Groundwater, on the other hand, represents a relatively small share, often serving as a supplementary or backup source in regions where surface storage or conveyance is limited.

The future demand, which is still pending approval at the government level, is projected to require an additional 1,243.263 MCM of surface water and 695.374 MCM of groundwater, leading to an expected incremental total of 1,938.637 MCM. These figures suggest a growing reliance on groundwater resources, whose share increases from roughly 2% in the current year to more than 35% of the projected additional demand. This shift highlights the need for integrated water resource management to ensure sustainability and to avoid over-extraction of groundwater reserves.

When both current and future figures are combined, the overall water availability from both sources is projected to reach approximately 5,034.013 MCM, comprising 3,709.449 MCM from surface water and 1,324.564 MCM from groundwater. This cumulative projection underscores the importance of strategic planning and balanced utilization between surface and groundwater to meet future demand efficiently and equitably. Therefore, the data indicate that while surface water remains the primary source, there is a noticeable increase in dependence on groundwater in the future scenario. Policymakers and planners must therefore emphasize water conservation, recharge enhancement, and optimized allocation to ensure sustainable resource management in the coming years.

Table 5: Industrial Water Scenario for Chhattisgarh (Demand Side)

S. No.	Year	Source of Supply (MCM)		Total
		Surface Water	Ground Water	
1	2023	28619.5	629.19	3095.376
2	Future Demand (Pending at the govt. level)	1243.263	695.374	1938.637
Total(1)+(2)		**3709.449**	**1324.564**	**5034.013**

3.4 Comparative Analysis of Supply, Demand, and Cumulative Demand Dynamics

Figure 4 illustrates the temporal variation of supply, demand, and cumulative demand over a defined period. The graph shows distinct behavioral patterns among the three parameters, revealing critical insights into the balance between supply availability and consumption trends.

The supply line remains almost constant throughout the observation period, indicating a steady and controlled provision of resources. This consistency may suggest regulated production, a fixed allocation policy, or stable infrastructure capacity. Despite fluctuations in demand, the supply level appears unaffected, implying that the system is designed to meet the expected consumption without short-term adjustments.

In contrast, the demand line exhibits noticeable fluctuations. Initially, demand is low but begins to rise sharply around the mid-period, reaching a distinct peak before gradually declining toward the later stages. This variation indicates seasonal or cyclic consumption behavior, which could be influenced by external factors such as climatic variations, operational intensity, or user requirements. The subsequent decline in demand may reflect saturation, reduced activity, or demand stabilization following the high-consumption phase.

The cumulative demand curve follows an S-shaped trend, starting slowly, increasing rapidly during the middle phase, and finally plateauing toward the end. This pattern is characteristic of logistic growth behavior, where initial accumulation is limited, followed by a phase of accelerated consumption and eventual stabilization once the maximum potential demand has been met. The curve surpasses the constant supply level around the middle of the timeline, signifying the point where cumulative consumption overtakes the available supply, a critical threshold for sustainable resource management.Overall, the figure reveals a temporal mismatch between supply and cumulative demand, emphasizing the need for dynamic supply management strategies to accommodate fluctuations in demand without compromising long-term sustainability. The data suggest that while the supply system is robust, planning for demand surges and replenishment cycles is essential for maintaining equilibrium between availability and consumption.

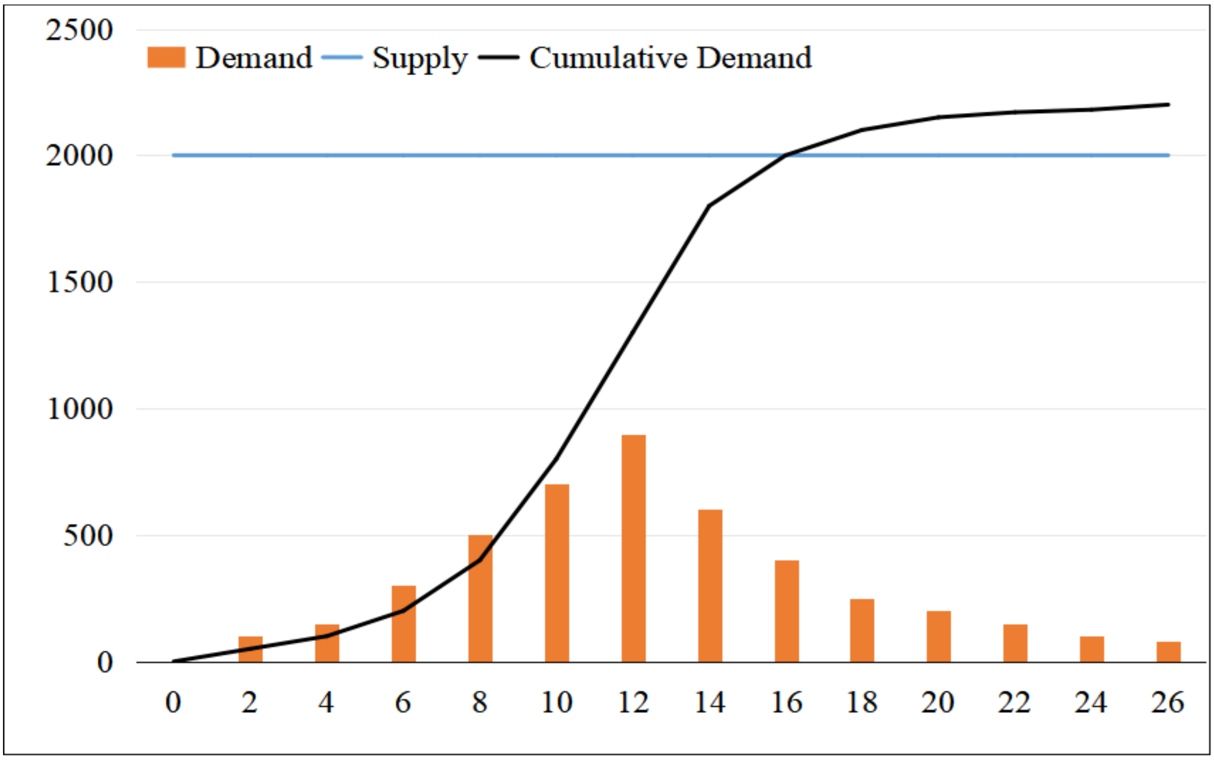


Figure 4: Trends of Supply, Demand, and Cumulative Demand Over Time

3.5 Estimated Industrial Water Demand for Core Sectors in the Mahanadi Basin

The industrial water demand assessment for the core sectors in the Mahanadi Basin (Table 5) indicates that the thermal power sector overwhelmingly dominates total water consumption, accounting for nearly 98% (24,360 MCM/year) of the total estimated demand. This is primarily due to the high cooling water requirements associated with thermal power generation, which relies heavily on surface water sources such as rivers and reservoirs.

The steel and iron sector is the second-largest consumer, with a total water demand of approximately 323.2 MCM/year, led by the Bhilai Steel Plant, one of India's largest integrated steel facilities. The aluminium sector, represented by BALCO (Bharat Aluminium Company), contributes a comparatively minor demand of 7.02 MCM/year, while the cement sector shows the lowest water footprint (5.874 MCM/year) due to its relatively low water intensity (0.3 cum/ton). Overall, the analysis reveals that industrial water use in the Mahanadi Basin is highly skewed toward the energy and metallurgy sectors, highlighting the critical role of efficient water management, recycling, and adoption of cooling water reuse technologies in mitigating stress on the basin's water resources.

Table 6: Estimated annual water demand (MCM) of core industrial sectors within the Mahanadi Basin

Sector / Industry	Production (Million Ton/Year)	Water Use Intensity (cum/ton)	Annual Water Demand (MCM)
(A) Steel & Iron			
Bhilai Steel Plant	9.74	20	194.8
Jindal Steel Plant	2.92	20	58.4
NMDC	3.5	20	70
Subtotal (A)	**16.16**	—	**323.2**
(B) Aluminum			
BALCO	0.351	20	7.02
Subtotal (B)	**0.351**	—	**7.02**
(C) Cement	19.58	0.3	5.874
Subtotal (C)	**19.58**	—	**5.874**
(D) Thermal Power	6960	3.5	24,360
Subtotal (D)	**6960**	—	**24,360**
Total Industrial Water Demand	—	—	**24,696.09**

(Source: Directorate of Economics and Statistics, Government of Chhattisgarh, 2015)

3.6 Industrial Policy 2014-2019

As shown in Table 6, both Chhattisgarh and Odisha aimed to drive industrial diversification and attract private investment during the 2014–2019 policy period. Chhattisgarh's approach primarily emphasized regional industrial development, promoting small and medium enterprises and fostering cluster-based growth to enhance local employment. The creation of a 10,000-hectare land bank and financial incentives for private industrial parks underscored its focus on infrastructure-led growth.

Table 7: Comparative Overview of Industrial Policies (2014–2019) for Chhattisgarh and Odisha.

Feature	Chhattisgarh Industrial Policy (2014–2019)	Odisha Industrial Policy Resolution (2015)
Policy Duration & Introduction	Formulated for the period 2014–2019 and implemented in early 2015 by the state government.	Introduced in 2015 to promote industrial expansion and investment up to 2019.
Core Objective	To attract new industries, boost investment, and enhance employment opportunities within the state.	To strengthen manufacturing output, diversify the industrial base, and position Odisha as an investment hub.
Targeted Investment & Employment	Focused on small- and medium-scale enterprises and local entrepreneurship development.	Aimed at attracting approximately ₹1.73 lakh crore in investment and generating around 300,000 jobs.
Priority Sectors	Textiles, pharmaceuticals, bicycles, electronics, and agro-based industries.	Food processing, petrochemicals, IT/ITeS, automobiles, tourism, textiles, and emerging sectors like electric vehicles and renewable energy.
Land & Infrastructure Provisions	Development of a 10,000-hectare land bank for industrial use and establishment of private industrial parks with government subsidies.	Provision of industrial parks, land at concessional rates, and infrastructure development through Industrial Development Corporations.
Major Incentives	Financial grants for cluster development (up to ₹50 lakh) and private industrial parks (up to ₹5 crore); relaxed norms for mega-project status.	Exemptions in stamp duty, VAT/SGST reimbursement, entry tax relief, and interest subsidies up to 5% for five years.
Focus on Ease of Doing Business	Simplified approval systems and incentives for locally established enterprises.	Streamlined investment approval through a single-window system and dedicated investor facilitation.

Industrial Approach	Emphasized inclusive industrialization with a focus on underdeveloped regions and cluster-based growth.	Promoted high-value manufacturing and "new-age" industries with a strong emphasis on export-oriented production.
Policy Outcome Expectation	Expected to strengthen small industries and create balanced regional growth.	Intended to raise manufacturing's share to about 15% of the state's GDP and enhance technological competitiveness.
Implementation Agencies	Department of Industries, Government of Chhattisgarh.	Department of Industries, Government of Odisha, and IPICOL (Industrial Promotion & Investment Corporation of Odisha Limited).

Conversely, Odisha's Industrial Policy Resolution (IPR-2015) adopted a more investment-intensive and sector-diverse model, targeting high-value manufacturing sectors such as automobiles, petrochemicals, IT/ITeS, and renewable energy. The policy's financial incentives, including stamp duty exemptions, SGST reimbursements, and interest subsidies, were designed to attract large-scale investors while ensuring employment creation. Overall, while both states focused on industrial expansion and employment generation, Odisha's policy leaned toward capital-intensive industrialization, whereas Chhattisgarh emphasized inclusive regional development and grassroots entrepreneurship (Table 6). Both models contributed to enhancing the states' competitiveness and aligning with India's broader "Make in India" vision during the mid-2010s.

3.7 Best Management Practices (BMPs) for Industrial Water Users

BMPs for industrial water users are a combination of proven management, educational, and physical practices that a water user can use to achieve efficient and economical conservation of water. Water consumption by industries, whether supplied by others or self- supplied from surface or groundwater sources, can vary in the amount of use, rate of use, and opportunities for efficiency. For many industrial water users in Chhattisgarh State, water is an integral part of a product or a process. Another major use of water is for cooling, either by removing heat from processes or by providing a comfortable, safe environment through air conditioning. Some industries use water as a conveyance or for rinsing and cleaning products and containers. Numerous industrial facilities use water for landscape irrigation. The quality of water used by industries in different processes varies widely, from ultra-pure treated water to water that does not meet potable water standards.

Best management practices contained in the BMP Guide are voluntary efficiency measures that save a quantifiable amount of water, either directly or indirectly, and can be implemented within a specified time-frame. The BMPs are not exclusive of other meaningful conservation techniques that an entity might use in formulating a state-required water conservation plan. At the discretion of each user, BMPs may be implemented individually, in whole or in part, or combined with other BMPs or other water conservation techniques to form a comprehensive water conservation programme. The adoption of any BMP is entirely voluntary, although it is recognised that once adopted, certain BMPs may have some regulatory aspects to them (e.g., the implementation of a local city ordinance).

With respect to BMPs for industrial water users in Chhattisgarh state, kindly provide data and a status report on the following BMPs:

1) Industrial Waste Water Management
2) Industrial water recycling
3) Industrial water regulations'
4) Industrial Water Pricing and Elasticity of demand
5) Industrial Ecology
6) Electronic Waste (E-waste)
7) Industrial Water Audit
8) Industrial Submetering
9) Management and Employee programs
10) System Operation.

3.8 Brief Statistics of Industrial Development in Chhattisgarh

1. Establishment of Micro and Small Industries:

Number : 19655

Employment : 117938

Capital Investment : 3877.65 Cr.

2. Establishment of Medium and Major Industries (Mega and Ultra Mega)and Projects:

Number : 190

Employment : 42134

Capital Investment : 62749.75 Cr.

3. The number of established Industrial areas under the industrial directorate:

Total–26 (Rajnandgaon, Durg, Balod, Raigarh, Korba, Jangir-Champa, Surguja, Koria, Jagdalpur, Jashpurnagar, Surajpur, Kondagaon, Narayanpur)

4. The number of industrial areas under the Chhattisgarh State Industrial Development Corporation Limited (CSIDC):

Total–15 (Raipur, Durg, Bilaspur, Mahasamund, Kabirdham, Surguja, Janjgir-Champa, Dantewada)

5. Established Specific Industrial Park:

Metal Park : Rawabhata

Engineering Park : Bhilai

Under construction Food Park : Banjari–Bagod (Dhamtari)

6. Established Special Economic Zone (S.E.Z.):

Total 01 T.E.Z.: Mahrumkhurd, Dist. Rajnandgaon

7. Production Unit: Total 02

Furniture Work & Agricultural Tool Factory– Bhilai under Department

8. Established Boilers in the State: Total 1240

9. The number of state registered Committees under the Chhattisgarh society Registration Act. 1973: Total 89228

10. Indian Participation Act. 1932 total Registered firm: Total 31496

11. Export from Chhattisgarh: 2014-2015 (7230Cr.)

a) Executed Existing mous in core Sector:

Number : 117

Proposed Capital Investment : 80,032.09 Cr.

Constructed Investment : 69,682.06Cr.

Production started in projects : 64

b) Under Global Investors Meet 2012 fields like food processing and Automotive. New and Renewable Energy, IT Sector, Pharmaceutical, Health care, Tourism, Skill development, forest produce:

Total mous : 174

Proposed capital Investment : 49.127 Cr.

Completed Capital Investment : 362.56 Cr.

Under Production and Construction project : 25

c) Other mous (Cement, Defense, Electronics, Fertilizers, Food, Infrastructure, Rail Corridor, Solar, Steel,etc.)

Total no. : 60

Proposed Capital Investment (In Crore) : 81578.80

Generated Capital Investment (In Crore): 549.67

d) Annual Production of Core Sector:

Aluminum	3.45 Lakh Tonne
Cement	19.58 MT

Steel		15.00 Million Tonne
Power	(NTPC)	5580 MW
	(CSEB)	2424 MW

12. Public Undertaking in State-:

a) Bhilai Steel Plant

b) SECL (Bilaspur)

c) NMDC (Kirndul, Bachheli)

d) NMDC (Nagarnar steel plant, Bastar)

e) NTPC (Sipat, Korba)

f) Ferro Scrap Corporation Limited, Bilaspur

Table 8: Area occupied by all major industries

Industrial Area Details		
S. No.	**Name of Industrial Park/ Place**	**Area (acres)**
Small Industrial Parks		
1.	Herbal Medicinal Park and Food Park, Village:-Banjari & Bagod, Dist.-Dhamtari	250
2.	Metal Park, Rawabhata, Dist.-Raipur	215
3.	Gems & Jewellery SEZ, New Raipur	70
4.	Engineering Park, Bhilai	300
5.	Apparel Park, Bhanpuri, Raipur	10
Large Industrial Parks		
1.	Industrial Zone, Dogori, Bilaspur	795.920
2.	Inustrial Zone, Tilda, Raipur	1730.230
3.	Industrial Zone, Lara, Raigarh	1465.847

Table 9: Development Projects- SEZ's and Industrial Clusters

• As of July 2016, the state had two formally-approved SEZs • The state has important industrial areas in Bhilai (home to iron and steel ancillary units)and Korba (Home to well-known companies in the power and aluminum sectors).		
Chhattisgarh – Operational SEZ (July, 2016)		
SEZ Name	**Location**	**Type**
Lanao Solar Pvt. Ltd	Village- Mehrumkhurd & Chawardhal, Chhattisgarh	Semi conductors
Formal approvals granted SEZ		
Naya Raiur Development Authority(NRDA)	Naya Raipur,Chhattisgarh	IT/ITeS
	Mohroomkala, Mahroomkurd and Chaveli Village,	Solar
Valid in- Principal approvals		
Chhattisgarh Infrastructure Ltd.	Raipur, Chhattisgarh	Gems & Jewellery
Notified SEZs		
Lanco Solar Private Limited	Chaveli Village, Rajnandgaon District.	Solar

Table 10: District-wise clusters in Chhattisgarh

S. No.	District	District Clusters
1.	Raipur	Re-rolling Mill
2.	Raipur	Rice Mill-Rajim
3.	Raipur	Rice Mill-Tilda Neora
4.	Balodabazar	Poha Mill
5.	Bolodabazar	Oal Mill
6.	Rajnandgaon	Rice Mill
7.	Rajnandgaon	Poha/ Murmura Fabrication/ General Engineering
8.	Rajnandgaon	Cluster Engineering
9.	Rajnandgaon	Cluster
10.	Mahasamund	Stone Cutting & Polishing
11.	Mahasamund	Rice Mill
12.	Dhamtari	Rice Mill
13.	Raigarh	MS - ingots- O.P.Jindal Industrial Park, Raigarh
14.	Raigarh	Bamboo(Taken up by NABARD)
15.	Raigarh	Tassar Reeling (Taken up by NABARD)
16.	Raigarh	Bell Metal (Taken up by KVIC)
17.	Durg	Wire Drawing

Table 11: List of Industrially Developing Areas for Promotion of Industrial Investment

S. No.	Name of District	Name of Development Block
1.	Raipur	Dharsiwa, Tilda, Abhanpur
2.	Balodabazar-Bhatapara	Balodabazar-Bharapara, Simga
3.	Bilaspur	Belha, Kota, Takhatpur
4.	Durg	Dhamdha,Patan,Durg
5.	Rajnandgaon	Rajnandgaon
6.	Mahasamund	Mahasamund
7.	Dhamtari	Dhamtari
8.	Janjgir-Champa	Akaltara, Champa (Bamhanideeh), Sakti and Baloda
9.	Raigarh	Raigarh, Pussor, Gharghoda, Tamnaar, Kharsiya
10.	Korba	Korba, Katghora

Table 12: Forest based Industry

1.	Silk Industry Tushar Silk Rally Silk Iri Silk Mulberry	Bastar Mahanadi Basin Sarguja Sarguja
2.	Fertilizer Industry	Bilaspur, Durg
3.	Bidi Industry	
4.	Paper Industry	Bilaspur, Champa, Gariyaband
5.	Kattha Industry	Ambikapur (Sarguja)
6.	Kosa Industry	Bastar, Sarguja, Bilaspur, Raigarh, Champa
7.	Lakh Industry	Dhamtari
8.	Paper tube Industry	Raigarh
9.	Plywood	Sarguja, Bastar
10.	Jute Industry	Raigarh
11.	Other Industry Matchstick Industry Bear Plant Kaaju Research Center Ciggeratte Industry	 Bilaspur(Shirakashi of Chhattisgarh) Dantewada BastarRaipur

Table 13: District-wise Classification of Industries

Balodabazar		**Korba**	
Lafarge Cement Pvt. Ltd.	Sonadhi	BALCO (1965	Korba
Ambuja Cement	Ravan	NTPC(1965)	Jamanipali
Grasim Cement Ltd.	Ravan	Hasdeo Thermal Power Plant	Korba
L & T Cement	Hirami	Hasdeo Hydel Plant, Bango Dam	Korba
Bastar		Shyama Prasad Mukherji Thermal Power Plant(East)	Korba
Hiranar Steel Plant (Under SAIL)	Hiranar	Lanco Amarkantak Power Project	Patadi (Korba)
NMDC Steel Plant	Nagarnnar	**Raigarh**	
Essar Steel Plant	Hiranaar	Moha Jute Mill (1935)	Raigarh
Jay Bajarang Cement	Jagdalpur	Jindal Steel & Power Plant	Kirorimal Nagar
Bilaspur		Jindal Power Ltd	Tamnar
Nova Steel & Steel Ltd.	Dagori	Navala Steels	Raigarh
Bharat Earthmoovers Ltd	Sirgitti	Sarasar Steels	Raigarh
Bilaspur Spinning Mills	Lalkhadan	Monnet Steel and Power Ltd	Bhupdevpur
Kanoi Paper Mills	Deka	Jindal Steel Area	Gerwani (Lakha)
Super Thermal	Sipat	**Raipur**	

Power Ltd			
SECL (1987)	Bilaspur	CCI Ltd.	Mandar
Dantewada		Century Cement Ltd.	Bekunth
Lakh Industry	Dantewada	Modi Cement Ltd.	Rawabhata
NMDC	Beladila	Railway Waigen Repair Workshop	Raipur
Durg		Simplex Casting Pvt. Ltd.	Raipur
Simplex Engineering	Bhilai	Raipur Milk Cooperative	Urala
Dharamji Morarji Chemicals	Kumhari (Chindbara)	Niiko Iron	Siltara
Bhilai Engineering Corporation	Bhilai	Jindal Steel and PowerPlant	Mandir Hasaud
Associated Cement Company	Jaamul	Monnet Steel and Energy Ltd.	Mandir Hasaud
(ACC is First Cement Plant of CG & Biggest Cement plant of Govt. Sector)		**Sarguja**	
Ferro Scrap Corporation Ltd	Durg	Sarguja Wood Product	Ambikapur
Kedia Distiliteries	Kumhari	(Biggest Woods Company of CG)	
Bhilai Refactories Plant	Bhilai	Ambika Steel Industries	Ambikapur
HSCL	Bhilai	**Surajpur**	
Janjgir-Champa			
Cement Corporation India Ltd.	Akaltara	Bhaithan Thermal Power Plant	Bhaithan
Lafarge		Premnagar	Premnagar
Cement Factory	Gopalnagar	Thermal Power Plant	
Parakash Steel Industries Ltd.	Champa	SECL (Second H.Q.)	Vishrampur
Madhya Bharat Paper Mills	Bigahani (Chamapa)		
Brook Bond Paper Mill	Champa		
Kosa Industries	Champa		
Madava Thermal Power Plant	Champa		
Jashpur			
Kosa Industries	Kunkuri		
Lakh Industries	Kunkuri		

Table 14: Industrial Sector Established by CSIDC

S. No.	Industrial Sector	Allocated Land (Total)	Est. Industries (Total)	Capital Investment (Cr.)	Employment (Total)
1.	Siltara (Raipur)	872.00	138	2144.80	5811
2.	Borai (Durg)	192.00	119	2118.10	3354
3.	Urala (Raipur)	270.00	331	563.63	13678
4.	Sirgitti (Bilaspur)	235.76	317	513.18	5059
5.	Rani Durgavati Industrial Sect.–Anjani (Pendra Road)	10.89	19	10.76	359
6.	Birkoni (Mahasamund)	49.00	52	36	385
7.	Harinchhapara (Kabirdham)	11.40	07	2.00	150
8.	Nayanpur – Girvarganj (Sarguja)	24.06	46	3.35	815
9.	Silpahari (Bilaspur)	157.56	10	200.18	840
10.	Tifara (Bilaspur)	39.48	120	13.77	875
11.	Ravanbhata (Raipur)	37.18	71	34.40	688
12.	Bhanpuri (Raipur	103.48	177	202.23	1698
13.	Amashivani (Raipur)	10.04	27	21.096	225
14.	Kapan (Janjgir – Champa)	55.98	-	-	-
15.	Teknar (Dantewara)	15.32	1	0.22	4
16.	Engineering Park (Bhilai)	55.98	-	-	-
	Total				

Table 15: Integrated Infrastructure Development Centre

S. No.	Name of IIDC	Area(Ha.)
1.	Birkoni, Dist :-Mahasamund	49
2.	Harinchhapra, Dist:-Kabirdham	21
3.	Nayanpur–Girvarganj, Dist:-	24

4.	Kapan, Dist:-JanjgirChampa	43
5.	Tifra Sector–D, Dist:-Bilaspur	57
6.	Teknar, Dist:-Dantewada	20
7.	Tendua, Dist:-Raipur	21
8.	Bartoli (Tilda), Dist :-Raipur	32.32

Table 16: Proposed IIDC by the State Government

New Integrated Infrastructure Development Center (IIDC)				
S. No.	**Project**	**Area (Hect.)**	**Project Cost**	**Updated Status**
1.	Tendua, Raipur	19.64	1220.00	Principally approved by GoI Infrastructure development in progress
2.	Bangaon, Jaspur	16.59	1276.00	Online proposed to GoI
3.	Selar, Bilaspur	38.44	2860.00	Online proposed to GoI
4.	Siyarpali/ Muhuapalli, Raigarh Dist.	15.78	1392.00	Online proposed to GoI
5.	Khamhriya, Mungeli	24.28	1868.00	Online proposed to GoI
6.	Muktaraja, Janjgir Champa	44.92	3049.00	Online proposed to GoI
7.	Lakhanpuri, Kanker	53.01	2987.00	Online proposed to GoI
8.	Maharumkala, Rajnandgaon	40.46	2374.00	Online proposed to GoI

3.9 Water Supply Investment

Means for the establishment of new industry/ Expansion of Existing industry/ diversification in existing industry/ Modernization of Rice Mills, the investment made in industrial premises for water supply necessary for industrial product, provided the water supply arrangements have been made after obtaining permission from the concerned administrative departments of the Government. Security deposit and the amount paid for old bills of the industrial units will not be considered in the amount of payment made under this head.

Table 17: Industrial Needs of Water (A)

S. No.	Industry	Unit of Production	Water Requirement (in kilo liters per Unit)
1.	Automobile	vehicle	40
2.	Distillery	Kiloliter Alcohol	122-170
3.	Fertilizer	Tone	80-200
4.	Leather	100kg (toned)	4
5.	Paper	Tone	200-400
6.	Special Quality Paper	Tone	400-1000
7.	Straw Board	Tone	75-100
8.	Petroleum Refinery	Tone (crude)	1-2
9.	Steel	Tone	200-500
10	Sugar	Tone (cane crushed)	1-2
11.	Textile	100 kg (goods)	8-14

(Source: Manual on Water Supply and Treatment Edition 1999)

Table 18: Industrial needs of Water (B)

S. No.	Type	Category	Requirement
1	Power	Thermal	3.5 MCM/MWH
2	Paper	Agro-based	200 Cum/ton of paper
		Waste-paper based	75 Cum/ton of paper
3	Steel	Steel	20 Cum/ton of steel
4	Non-ferrous	Copper	100 Cum/ton
		Zink	500 Cum/ton
5	Textile	Nylon	170 Cum/ton of fiber
		Cotton	200 Cum/ton of fiber
6	Agro-processing	Sugar	2 Cum/ton of sugar canes crushed
		Malty	8.5 Cum/ton of grain production
		Brewery	1 Cum/1000 litre of Bear
		Distillery	15 Cum/1000 liter of Alcohol
		Starch Glucose	15 Cum/1000 liter of maize
		Jute	1.5 Cum/ton of jute
		Tenaris	30 cum/ton of raw
		Dairy	4 cum/1000 litre of Milk
7	Fertilizer	Nitrogenous	15 cum/ton
		Phosphate base	2 cum/ton
8	Cement		0.3 cum/ton
9	Petrochemical		17 cum/ton
10	Automobile		5 cum/vehicle

(Source: WALMI)

3.10. Industrial water Requirement (Odisha)

Industrial water requirement in Odisha has increased significantly over the past two decades due to rapid industrialization, particularly in sectors such as thermal power, iron and steel, aluminium, and mining. The total industrial water allocation in the state is currently estimated to be around 944 million cubic metres (MCM), which is a substantial rise from about 200 MCM in the late 2000s, indicating a nearly four- to five-fold increase. Among all sectors, thermal power plants are the largest consumers, accounting for nearly 65–70% of total industrial water use, primarily for cooling purposes. The iron and steel industry is the second-largest consumer, followed by aluminium production and other industries such as cement, chemicals, and food processing. Projections suggest that industrial water demand in Odisha may increase to nearly 1.95 billion cubic metres (BCM) by 2051, reflecting continued expansion of industrial activities. The Mahanadi River Basin, which supports a large share of industrial development, has already exceeded earlier projections of water demand, highlighting the growing pressure on water resources. Although the industrial sector uses less water compared to agriculture, its demand is increasing rapidly and is concentrated in specific regions, leading to localized water stress. This rising demand has created challenges such as competition with irrigation and drinking water needs, groundwater depletion, and environmental concerns due to industrial effluents. To address these issues, the government has implemented measures such as regulating industrial water allocation, increasing tariffs, and promoting water conservation practices including recycling and zero liquid discharge systems.

3.11. District-wise Industrial Water Demand of Mahanadi River Basin (Odisha)

The district-wise industrial water demand pattern in the Mahanadi basin of Odisha reflects a highly uneven and spatially concentrated distribution of industrial activity, primarily driven by mineral availability, energy production, and infrastructural development. Basin-level assessments and industrial clustering clearly indicate that districts such as Angul, Jharsuguda, Sambalpur, Cuttack, and Jagatsinghpur dominate industrial water consumption. These districts collectively account for a major share of the total industrial water allocation of approximately 944 MCM in Odisha, with a significant portion sourced from the Mahanadi and its tributaries.

The Angul–Talcher industrial belt emerges as the most water-intensive region within the basin. Angul district, characterized by a high concentration of thermal power plants, coal mining, and aluminium industries, shows the highest industrial water demand in the state. Major industries such as NALCO and multiple thermal power stations rely heavily on water drawn from the Hirakud Dam reservoir system and upstream diversions. Studies indicate that thermal power plants alone account for nearly 65–70% of industrial water use in the basin, making Angul a critical hotspot of water stress and allocation priority (Water Resources Department, Odisha; Mahanadi Basin Report, 2025).

Jharsuguda district represents another major industrial hub, driven by large-scale aluminium smelting, power generation, and metal processing industries, including operations by Vedanta Limited. The district has witnessed rapid growth in industrial water demand since the late 2000s, supported by its proximity to coal reserves and availability of water from the Mahanadi system. Similarly, Sambalpur district, influenced by the presence of Hirakud reservoir and associated industrial units, exhibits moderate to high industrial water requirements, particularly for power and ancillary industries.

In the downstream region, Jagatsinghpur and Cuttack districts show significant industrial water demand due to port-based and petrochemical industries. The presence of Paradip Port has catalyzed industrial growth in Jagatsinghpur, including refineries, fertilizer plants, and chemical industries, all of which depend on assured water supply from the Mahanadi delta system. Cuttack district, being an administrative and industrial center, also records steady industrial water demand, though comparatively lower than upstream energy-intensive districts.

In contrast, districts such as Boudh, Subarnapur, and parts of Nayagarh exhibit relatively low industrial water demand due to limited industrialization and a predominantly agrarian economic structure. These regions have minimal large-scale industries and hence show negligible contribution to total industrial water consumption within the basin. This spatial disparity highlights the concentration of water-intensive industries in select districts, leading to localized pressure on water resources.

Overall, the district-wise assessment reveals that industrial water demand in the Mahanadi basin of Odisha is highly clustered in mineral-rich and infrastructure-developed regions, particularly Angul, Jharsuguda, and Jagatsinghpur.

Table 19: Estimated annual water demand (MCM) of core industrial sectors within the Mahanadi Basin

Sector / Industry	Production (Million Ton/Year)	Water Use Intensity (m³/ton)	Annual Water Demand (MCM)
(A) Steel & Iron (Jindal steel Angul & SMC Power Jharsuguda)			
Integrated steel	10-12	2.5-3.2	32-38
Sponge Iron Units	6-8	1.5-2.5	12-20
Subtotal (A)	**18**	**2.8**	**50-58**
(B) Aluminum (Vedanta Jharsuguda & NALCO Angul)			
Vedanta/NALCO	2.5	0.28-3.3	8-10
Refineries(Alumina)	4	4	15-20
Subtotal (B)	**6.5**	**6.5**	**25-30**
(C) Cement (ACC Bargarh & Ultratech Jharsuguda)			
Griding Unit	8-10	0.004-0.02	0.15-0.2
Integrted Unit	3-5	0.15-0.35	0.5-1.2
Subtotal (C)	**14**	**0.12**	**1-1.5**
(D) Thermal Power			
OPGC (Ib thermal)	1740 MW	2.5-3.5	76
CPPs (Bhushan, JSW)	4200 MW	2.2-3	311
NTPC Darlipali	1600 MW	2.5-3	53
Hindalco cluster	467.5MW	2.16-2.29	40
Vedanta Cluster	1215 MW	1-2	151
MCL	1600MW	0.35-0.43	215
Subtotal (D)	**10,822.5 MW**	**2.1**	**846**
		Total Industrial Water Demand	**940**
(Source: Environmental Impact Assessment reports of major industries (JSPL Angul, Vedanta Jharsuguda, NALCO Angul, OPGC Ib Valley), Central Electricity Authority water norms, and Odisha Department of Water Resources basin allocation data (2023–2025))			

3.12. Best Management practice by Industrial user (Odisha)

Industrial water users in Odisha, particularly within the Mahanadi river basin, are increasingly adopting Best Management Practices (BMPs) to ensure efficient and sustainable water use amid rising industrial demand. Key measures include the installation of effluent treatment plants and compliance with wastewater discharge norms regulated by the Odisha State Pollution Control Board and Central Pollution Control Board. Large industries in clusters such as Angul–Talcher and Paradip have implemented advanced water recycling systems, including zero liquid discharge and cooling water recirculation, significantly reducing freshwater dependency. Regulatory mechanisms, supported by digital platforms like GO-SWIFT, facilitate transparent water allocation and monitoring, while water pricing policies encourage conservation, although demand elasticity remains low due to process requirements. Additional practices such as industrial water audits, sub-metering, and employee awareness programs help improve operational efficiency and reduce losses. Emerging concepts like industrial ecology and treated wastewater reuse further strengthen resource optimization within industrial networks. Overall, while large-scale industries demonstrate strong adoption of BMPs, further efforts are needed to enhance implementation among small and medium enterprises for comprehensive basin-level water sustainability.

3.13. Brief Statistics of Industrial Development in Odisha

1.Establishment of Micro and Small Industries:

Number : 214087

Employment : 175221

Capital Investment : 10585.90 Cr.

Source: Economic survey of Odisha (2016-17)

2.Establishment of Medium and Large scale Industries :

Number : 252

Employment : 118329

Capital Investment : 9278694 Lakhs.

(Source: Odisha State Profile (2019-2020) (MSME DI Cuttack)

3.The number of industrial areas under the Odisha Industrial Infrastucture Development Corporation Total–108-116 (Source: IDCO annual report 2021-2022)

4.Established Specific Industrial Park:

Aluminium Park : Angul

Electronics Park : Bhubaneswar

Food Park : Khurda

Sea food Park : Deras

Downstream steel Park: Angul

(Source: Industrial Policy Resolution (IPR) 2015 & Invest Odisha Portal (2022))

Under construction Park:

Biotech Park at Andharua (Khordha)

Industrial Park at Kusanga-Bali (Cuttack)

5. Established Special Economic Zone (S.E.Z.):

Total -05: (Bhubaneswar (Infocity), Jajpur (Kalinganagar), Jagatsinghpur (Paradip), Sambalpur (Rengali) & Deras

(Source: Odisha Economic Survey (2022-2023))

6. Production Unit: Total 02

Furniture Work & Agricultural Tool Factory–

7. Established Boilers in the State: Total 2162

(Directorate of Factories & Boilers, Odisha Annual Report 2020–21)

8. Indian Participation Act. 1932 total Registered firm: Total 46283

(Odisha Economic Survey (2021-2022)

9. Export from Odisha: 2023-24 (89.8 thousand Cr.)

a. Executed Existing MoUs in core Sector:

Number : 30

Proposed Capital Investment : 8.96 Lakh Cr.

Constructed Investment : 5 Lakh Cr.

Production started in projects : 17

(Source: Industries department of Odisha and Odisha Economic survey (2022-2023))

b. Under Global Investors Meet 2012 fields like food processing and Automotive. New and Renewable Energy, IT Sector, Pharmaceutical, Health care, Tourism, Skill development, forest produce:

Total MOUs : 275

Proposed capital Investment : 49527 Cr.

Completed capital Investment : 53000Cr

(Source: Make in Odisha Conclave Report, 2012)

c. Other MOUs (Cement, Defense, Electronics, Fertilizers, Food, Infrastructure, Rail Corridor, Solar, Steel,etc.)

Total no. : 20

Proposed Capital Investment (In Crore) : 12.89 lakh

Generated Capital Investment (In Crore): 16.73 lakh

(Source: Invest Odisha Reports & Odisha Eonomic Survey (2022-2023))

d. Annual Production of Core Sector:

Aluminum		18.64 Million Tonne
Cement		40-45 Million Tonne
Steel		34 Million Tonne
Power	(NTPC)	4850 MW
	(OPGC)	1740 MW

10. Public Undertaking in State-:

a. Odisha Hydro Power Corporation(OHPC Bhubaneswar)

b. Odisha Coal Power Limited (OCPL Bhubaneswar)

c. Odisha Power Transmission Corporation Limited (OPTCL Bhubaneswar)

d. Grid Corporation of Odisha Limited (GRIDCO Bhubaneswar)

e. Odisha Renewable Energy Development Agency (OREDA Bhubaneswar)

f. Green Energy Development Corporation Of Odisha Limited (GEDCOL Bhubaneswar)

g. National Aluminium Limited Company (NALCO Angul)

h. National Thermal Power Corporation (NTPC Talcher)

Table 20: Area occupied by all major industries

Industrial Area Details		
S. No.	**Name of Industrial Park/ Place**	**Area (acres)**
Small Industrial Parks		
1.	Sea food park (Deras)	152
2.	Electronics sytem design & manufacturing park(Bhubaneswar)	215
3.	Plastic park (Paradip)	120
4.	Biotech park (Bhubaneswar)	65
5.	Aluminium park	223
Large Industrial Parks		

1.	Industrial complex (Kalinganagar, Jajpur)	13000
2.	Industrial park (Gopalpur)	2970
3.	Infovalley (Bhubaneswar)	613

(Source: Odisha Industrial Infrastructure Development Corporation (IDCO), Department of Industries, Government of Odisha, and relevant ministry reports (MeitY, MoFPI), 2023–2025).

Table 21: Development Projects- SEZ's and Industrial Clusters

- As of March 2026, the state had five formally-approved SEZs
- The state has important industrial areas in Jajpur (home to steel)and Sambalpur & Jharsguda (Aluminium & power)

Odisha – Operational SEZ (March, 2026)		
SEZ Name	**Location**	**Type**
1.Vedanta Limited 2. Tata steel 3. Infocity(I) 4. Saraf Agencies 5. Infovalley	Jharsuguda Gopalpur Bhubaneswar Chhatrapur Bhubaneswar	Aluminium & aluminum products Green Energy, steel & Chemicals IT/ITES Mineral based (Titanium & Beach Sand) IT/ITES
Formal approvals granted SEZ		
1. Genpact India Pvt limited 2. HINDALCO Industries limited	Bhubaneswar Sambalpur	IT/ITeS Aluminium
Valid in- Principal approvals-0		
Notified SEZs-5		
1.Vedanta Limited 2. Tata steel 3. Infocity(I) 4. Saraf Agencies 5. Infovalley	Jharsuguda Gopalpur Bhubaneswar Chhatrapur Bhubaneswar	Aluminium & aluminum products Green Energy, steel & Chemicals IT/ITES Mineral based (Titanium & Beach Sand) IT/ITES

(Source: Department of Industries, Government of Odisha (2025–2026).

Table 22: District-wise clusters in Odisha

S. No.	District	District Clusters
1.	Angul	Coal based power plant & mining (NALCO smelter plant, NTPC Kaniha & Talcher Thermal plants)
2.	Bargarh	Agro-based industries
3.	Bolangir	Agro-industries and small scale rice mill and forest based units
4.	Boudh	Gold exploration
5.	Cuttack	MSME cluster for engineering, food processing & paper mill
6.	Jaatsinghpur	Chemical & Petrochemicals (Paradip IOCL), Fertilizer (Paradip Phosphates IFFCO)
7.	Jajpur	Stainless steel (Jindal), Steel(Tata Steel, NINL) & Ferro alloys
8.	Jharsuguda	Aluminium smelting(Hindalco), power generation & steel units (Vedanta, Hirakud)
9.	Kendrapara	Ship building & seafood processing
10.	Khordha	Industrial corridors focusing on MSMEs & manufacturing
11.	Khordha	Biotech Park
12.	Nayagarh	Forest based industries and MSME clusters
13.	Puri	Rice mills
14.	Sambalpur	Aluminium factories and power
15.	Sonepur	Handloom and agro based industries

(Source: Department of Industries, Government of Odisha; IDCO; and Invest Odisha district industrial profiles (2023–2025)).

Table 23: List of Industrially Developing Areas for Promotion of Industrial Investment

S. No.	Name of District	Name of Development Block
1.	Angul	Angul, Talcher, Banarpal
2.	Cuttack	Tangi-Chowdwar & Baranga
3.	Ganjam	Gopalpur, Chhatrapur and Hinjilicut
4.	Jagatsinghpur	Paradip, Ersama and Kujang
5.	Jajpur	Sukinda and Kalinganagar
6.	Jharsuguda	Jharsuguda, Lakhanpur
7.	Khordha	Bhubaneswar, Jatni
8.	Sambalpur	Dhankuda and Rengali

(Source: Department of Industries, Government of Odisha; IDCO; (2023–2025)).

Table 24: Forest based Industry

1.	Silk Industry : Sambalpuri silk ikat, Bomkai silk, Tassar silk & Khandua silk	Sambalpur(Dhanakuda & Rengali), Sonepur (Binika & Ullunda), Boudh (Boudh & Harbhanga), Angul (Athamalik & Kishorenagar) and Cuttack (Tigiria, Athagarh & Baramba)
2.	Fertilizer Industry	Paradip (Kujang) and Angul (Talcher)
3.	Bidi Industry	Angul(Boinda & Chhendipada), Sambalpur & Kalahandi
4.	Paper Industry	Cuttack (Tangi-Choudwar) and Jharsuguda (Lakhanpur),
5.	Kattha Industry	Sambalpur (Rengali & Dhankuda), Jharsuguda (Lakhanpur), Angul (Athamalik & Kishorenagar), Boudh (Boudh & Harbhanga), Cuttack (Tangi-Choudwar)
6.	Lac Industry	Sundargarh(Kutra, Rajgangpur & Bonai), Jharsuguda (Lakhanpur), Sambalpur(Dhanakuda), Angul (Athamalik & Kishorenagar), Boudh (Boudh & Harbhanga), Cuttack (Tangi-Choudwar) and Nayagarh (Gania)
8.	Paper tube Industry	Cuttack (Tangi-Choudwar), Khordha (Bhubaneswar), Jharsuguda (Lakhanpur), Sambalpur(Dhanakuda), and Rayagada (Rayagada)
9.	Plywood	Khordha (Bhubaneswar & Jatni), Cuttack (Athagarh & Tangi-Choudwar), Boudh, Sonepur, Jharsuguda (Jharsuguda & Lakhanpur) and Sambalpur (Dhanakuda),
10.	Jute Industry	Cuttack (Tangi-Choudwar, Nischintakoili & Salepur), and Khordha (Bhubaneswar)
11.	Other Industry Matchstick Industry Beer Plant Kaaju Research Center Ciggerate Industry	Puri(Pipilli), Khordha (Bhubaneswar) and Cuttack (Tang-Choudwar)

(Source: Department of Industries, Government of Odisha; Directorate of Handlooms & Textiles; MSME Development Institute, Cuttack; and IDCO reports (2023–2025)).

Table 25: District-wise Classification of Industries

Angul		**Jagatsinghpur**	
NALCO Smelter	Angul	Oil refining (IOCL)	Paradip
Thermal power plant	Kaniha	IFFCO, PPL	Paradip
NTPC Talcher	Talcher	Seafood processing	Paradip
Cuttack		Pulp & paper mills	Choudwar
Ferro alloys	Choudwar	Agro-processing (Rice Mills)	Choud war
Khordha		Biotech Park	Andharua
IT/ITES	Bhubaneswar	Sea food park	Deras
IT/ITES	Jatni	MSME	Mancheswar
Nayagarh		Agro based industries	Nayagarh
Sonepur		Rice mill	Sonepur
Handloom weaving	Binika	Agrobased industries	Sonepur
Kendrapara			
Agro based industries	Kendrapara		
Sea food processing	Kendrapara		
Ship building unit	Kendrapara		
Jharsuguda			
Aluminium (Vedanta)	Jharsuguda		
Ib thermal plant	Jharsuguda		

(Source:Department of Industries, Government of Odisha; IDCO; Invest Odisha (2023–2025)).

Table 26: Industrial Sector Established by IDCO(Odisha)

S. No.	**Industrial Sector**	**Allocated Land (Total)**	**Est. Industries (Total)**	**Capital Investment (Cr.)**	**Employment (Total)**
1.	Angul (Talcher IE, Angul)	390	15935	27759.4	93505
2.	Jagatsinghpur (Paradip, Kujang, Tentulia)	120	11200	85000	65400
3.	Khordha (Infocity, Infovalley, Janla, Mancheswar & Sarua)	903.35	40585	110541	252160
4.	Sambalpur (Sambalpur IE, Rengali Rizgaon)	400	14100	38450.6	92300

	Jharsuguda	500	12500	55102.45	85600
6.	Bargarh		8900	4210.15	45200
7.	Cuttack (Choudwar, Jagatpur, Ramdaspur)	355.63	33430	82966.6	178751
8.	Dhenkanal (Gajamara, Mahisapat IE, Gundichapada IE)	1250	10500	42300	58900
9.	Boudh (Manamunda)	18	5800	1200	18000
10.	Sundargarh	125	16746	46066.6	102437
11.	Nayagarh	11.8	6400	1800	22000
12.	Puri	450	29500	3100	72000
13.	Sonepur	40	4800	850	16400
14.	Nuapada	20	4100	650	12500
15.	Kendrapara	120	13200	1450	38500
	Total	19650	252536	494845.5	1173016

(Source: Compiled from Department of Industries, Government of Odisha; IDCO; and Invest Odisha reports (2023–2025))

Table 27: Integrated Infrastructure Development Centre

S. No.	Name of IIDC	Area(Acre)
1.	IIDC Paradip , Jagatsinghpur	115
2.	IIDC, Rayagada	100
3.	IIDC Choudwar, Cuttack	500
4.	IIDC Janla, Khordha	300

(Source: Odisha Industrial Infrastructure Development Corporation (IDCO) and Department of Industries, Government of Odisha (2023–2025))

Table 28: Proposed IIDC by the State Government

New Integrated Infrastructure Development Center (IIDC)				
S. No.	**Project**	**Area (Acres)**	**Project Cost (Crore)**	**Updated Status**
1.	Kesinga, Kalahandi	62.72	1220.00	Operational
2.	Mahanadi Riverfront development, Cuttack	426	150	Master plan approved, Phase I execution
3.	ESDM Park	215	265	Operational
4.	Ramdaspur MSME park, Cuttack	55.6	450	Implementaion Phase
5.	Basantpur MSME Park, Sambalpur	50		
6.	Talamusan MSME Park, Angul	53.02		
7.	Chhatabar MSME Park,Khordha	53.35		

(Source: Department of Industries, Government of Odisha; IDCO; and Invest Odisha project updates (2023–2026)).

3.14. Water Supply Investment (Odisha)

Odisha has made substantial investments in water supply infrastructure to support its rapidly growing industrial sector, particularly in mineral-based and port-led industries. The state has allocated over ₹5,000 crore for developing dedicated water supply systems to industrial estates, including pipelines and bulk water transfer from major rivers such as the Mahanadi and its tributaries and distributaries. Special emphasis has been placed on industrial hubs like Kalinganagar, Angul–Talcher, and Paradip, where additional investments of over ₹500 crore have been made in in-stream storage structures to ensure reliable year-round water availability. Furthermore, large-scale projects such as inland waterway development (₹12,000+ crore) indirectly enhance industrial water management by improving river regulation and connectivity. Odisha has also modernized its water governance through digital platforms like GO-SWIFT for efficient allocation and monitoring of industrial water use. In addition to state investments, industries are adopting water-efficient technologies such as recycling and zero liquid discharge systems to reduce freshwater dependency. These combined efforts reflect a strategic shift towards sustainable and secure water supply systems to support long-term industrial growth in the state.

4. Industry Profile as per CPCB Pollution Category Analysis for MRB Part (Chhattisgarh State)

The Central Pollution Control Board (CPCB) classifies industries into four pollution potential categories Red, Orange, Green, and White based on their Pollution Index (PI) scores. Red category industries have the highest pollution potential (PI ≥ 60), while Orange (PI 41-59), Green (PI 21-40), and White (PI < 21) categories represent progressively lower pollution loads. The present section analyses the distribution of large-scale industries within the Chhattisgarh part of the Mahanadi River Basin (MRB) across these categories, districts, and sub-basins.

4.1. Overview of Industries by CPCB Category

A total of 361 large-scale industries are located within the Chhattisgarh part of the Mahanadi River Basin. These industries have been classified according to CPCB pollution category norms as summarized in Table 29 below:

Table 29: Distribution of Large-Scale Industries by CPCB Pollution Category

CPCB Pollution Category	No. of Industries	Percentage (%)
Red	308	85.3%
Orange	40	11.1%
Green	10	2.8%
White	3	0.8%
Total	**361**	**100%**

Red category industries dominate the industrial landscape within the basin, accounting for 308 units (85.3% of the total). These industries include thermal power plants, steel and sponge iron plants, cement factories, coal mines, aluminium smelters, and chemical units. Orange category industries constitute 40 units (11.1%), primarily comprising coal washeries, rolling mills, and ancillary manufacturing units. Green and White category industries are relatively few, with 10 units (2.8%) and 3 units (0.8%) respectively, representing lower-pollution-potential operations such as renewable energy installations, seed processing, and small engineering units.

4.2. District-wise Distribution of Industries by CPCB Category

The distribution of industries across the 17 districts falling within the CG part of the MRB is presented in Table 30. Raipur district has the highest concentration of industries with 110 units, followed by Korba (54), Durg (47), Raigarh (44), and Bilaspur (28). These five districts together account for approximately 78.7% of all industries in the basin.

Table 30: District-wise Distribution of Large-Scale Industries by CPCB Pollution Category

District	Red	Orange	Green	White	Total
Raipur	95	13	2	0	110
Korba	41	11	2	0	54
Durg	39	3	5	0	47
Raigarh	36	8	0	0	44
Bilaspur	24	2	0	2	28
Baloda Bazar	17	0	0	0	17
Janjgir-Champa	14	2	0	0	16
Rajnandgaon	13	0	1	1	15
Manendragarh Chirmiri Bharatpur	7	0	0	0	7
Koriya	5	0	0	0	5
Sakti	4	1	0	0	5
Bemetara	3	0	0	0	3
Kabeerdham	3	0	0	0	3
Balod	3	0	0	0	3
Mungeli	2	0	0	0	2
Surguja	1	0	0	0	1
Mahasamund	1	0	0	0	1
Total	**308**	**40**	**10**	**3**	**361**

Red category industries are concentrated predominantly in Raipur (95 units), Korba (41 units), and Durg (39 units). Korba district, being the major coal and power hub of Chhattisgarh, hosts a large number of thermal power stations, coal mines, and aluminium plants under the Red category. Raipur, with its extensive sponge iron cluster in Siltara and Urla industrial areas, records the highest count of Red category industries. Durg district has significant steel and cement industries including the Bhilai Steel Plant one of India's largest integrated steel plants.

4.3. Sub-basin-wise Distribution of Industries by CPCB Category

Table 31 presents the distribution of industries across the major sub-basins of the Mahanadi River Basin within Chhattisgarh. The Seonath sub-basin records the highest concentration with 241 industries, followed by the Hasdeo sub-basin (67 units), Upper Mahanadi Main (33 units), Mand (17 units), and Ib (1 unit).

Table 31: Sub-basin-wise Distribution of Large-Scale Industries by CPCB Pollution Category

Sub-Basin	Red	Orange	Green	White	Total
Seonath	206	32	3	0	241
Hasdeo	58	7	2	0	67
Upper Mahanadi Main	30	3	0	0	33
Mand	13	4	0	0	17
Ib (CG portion)	1	0	0	0	1
Total	**308**	**46**	**5**	**0**	**359**

The Seonath sub-basin, which drains the industrially intensive districts of Raipur, Durg, Rajnandgaon, Bilaspur, and Baloda Bazar, has by far the greatest industrial load with 206 Red category and 32 Orange category units. The Hasdeo sub-basin, draining the Korba and Koriya districts, hosts 58 Red and 7 Orange category industries largely comprising coal-based thermal power plants, coal mines (SECL), and BALCO aluminium plants. The Upper Mahanadi Main sub-basin, traversing Raigarh and Sakti districts, accounts for 30 Red and 3 Orange category industries, dominated by steel and power units in Raigarh's Punjipathra industrial cluster. The Mand sub-basin hosts 13 Red and 4 Orange category industries predominantly in Raigarh and Sakti districts, while the Ib sub-basin records only one Red category industry.

4.4. Key Observations

The following key observations emerge from the CPCB pollution category analysis of industries in the Chhattisgarh part of the MRB:

1. Red category industries constitute an overwhelming majority (85.3%) of total industries, reflecting the basin's character as a heavy industrial zone dominated by iron & steel, thermal power, coal mining, cement, and aluminium production.
2. The Seonath sub-basin bears the maximum industrial pollution load, accounting for 66.8% of all industries and 66.9% of Red category industries in the basin. This sub-basin is therefore a critical focus area for environmental monitoring and management.
3. Raipur, Korba, Durg, and Raigarh collectively account for over 70% of the total industries, and are home to the basin's most significant point-source polluters.
4. The Hasdeo sub-basin, despite having fewer industries than Seonath, hosts some of India's largest coal and thermal power complexes (NTPC Korba, BALCO, SECL mines), representing high environmental risk to the Hasdeo River and its tributaries.
5. Green and White category industries are minimal within the basin, indicating limited presence of low-impact industries such as renewable energy and agro-processing compared to heavy industrial operations.
6. Several industries in the dataset have been noted as permanently or temporarily closed, which may require verification and removal from the active pollution load assessment.

5. Summary & Recommendations:

5.1. Summary

5.1.1. Basin Coverage & Industrial Distribution

- The Mahanadi basin spans Chhattisgarh (~51%) and Odisha (~49%), with upstream industrial dominance in Chhattisgarh and downstream industrial–port linkage in Odisha.
- Industrial clusters are concentrated in:
  - Chhattisgarh: Korba, Raigarh, Raipur–Durg belt
  - Odisha: Jharsuguda, Sambalpur, Angul, Talcher

5.1.2 Industrial Water Demand (Sector-wise – Key Figures)

- Total industrial demand is heavily skewed toward thermal power (~24,360 MCM/year), contributing ~98% of total industrial water demand.
- Other sectors:
  - Steel & Iron: second-largest but significantly lower than power
  - Aluminium & mining: moderate contribution

Interpretation: Basin water demand is structurally dependent on thermal power, making it highly sensitive to energy-sector expansion.

5.1.3. Growth in Industrial Water Allocation

- Industrial water allocation increased from ~400 MCM (2007) to ~1,284 MCM.
- Growth is non-linear, with sharp increases post-2010 corresponding to:
  - Expansion of coal-based thermal plants
  - Rapid industrial licensing in both states

Interpretation: Allocation growth outpaces basin regulation and monitoring capacity.

5.1.4. Water Supply vs Demand Imbalance

- Graphs indicate:
  - Relatively stable water availability
  - Increasing and fluctuating demand trends

Critical Insight:

Even without absolute scarcity today, temporal and spatial mismatches (seasonal + cluster-based demand spikes) create localized stress zones.

5.1.5 Industrial Categorization & Pollution Load

- ~85% industries fall under Red category (high pollution potential).
- Concentration of such industries along:
  - Hasdeo sub-basin (Korba region)
  - Ib–Brahmani linkage zone (Odisha industrial belt)

Interpretation: Pollution load is cluster-driven, not evenly distributed.

5.1.6 Data Gaps & Monitoring Issues

- Identified data-deficient zones and inconsistent reporting.
- Lack of:
  - Real-time withdrawal monitoring
  - Sector-wise verified consumption datasets

Implication: Limits accuracy of planning and enforcement.

5.2. Recommendations

5.2.1. Chhattisgarh

5.2.1.1 Thermal Power Sector (Based on ~98% Demand Share; ~24,360 MCM/year)

- Since thermal power dominates **~98% demand**, even **10% efficiency improvement → ~2,400 MCM/year savings**.

Recommendations:

- Mandate **closed-cycle cooling systems** in all existing plants above threshold capacity.
- For new plants, enforce **dry/hybrid cooling**, especially in **Hasdeo & Ib sub-basins** where clustering is high.
- Introduce **plant-wise water consumption caps** derived from basin allocation (~1,284 MCM trend).

5.2.1.2 Industrial Water Allocation (400 → 1,284 MCM Growth Trend)

- Allocation increased **>3x since 2007**, without proportional augmentation in monitoring systems.

Recommendations:

- Freeze **new freshwater allocations** in over-allocated sub-basins (Korba, Jharsuguda).
- Link future allocation approvals to:
  - **minimum 50% wastewater reuse requirement**

- proof of **zero incremental freshwater withdrawal**

5.2.1.3 Demand–Supply Mismatch (Stable Supply vs Rising Demand Graph)

- Graphs show **demand variability exceeding supply growth**, indicating seasonal stress.

Recommendations:

- Introduce **seasonal allocation policy**:
  - Cap industrial withdrawals during **lean flow months (Jan–May)**
- Develop **in-basin balancing reservoirs** in high-demand nodes identified in graphs.
- Enforce **real-time abstraction monitoring** for industries withdrawing above threshold limits.

5.2.1.4 Red Category Dominance (~85%)

- High concentration implies **pollution load intensity is cluster-driven**.

Recommendations:

- In clusters with >70% Red industries:
  - Make **CETPs mandatory (not optional)**
- Enforce **cluster-level discharge caps** instead of individual compliance only.
- Introduce **pollution load trading mechanisms** within industrial clusters.

5.2.1.5 Spatial Clustering (Korba, Raigarh, Jharsuguda, Angul)

- Figures indicate **localized high-demand nodes**, not uniform basin usage.

Recommendations:

- Declare these zones as "**Industrial Water Stress Zones**".
- Restrict:
  - New thermal plants
  - High water-consuming industries
- Promote **inter-industry water exchange networks** within clusters.

5.2.1.6 Data Gaps (Figure Showing Data Deficient Areas)

- Missing or inconsistent data affects basin-level decisions.

Recommendations:

- Install **automated flow meters** at all major industrial intake points.
- Develop **centralized basin data platform** integrating:
  - State departments (CG & Odisha)

- CPCB/SPCB datasets

- Make **monthly reporting mandatory and publicly accessible**.

5.2.1.7 Sectoral Imbalance (Thermal vs Others)

- Extreme skew toward thermal sector increases systemic risk.

Recommendations:

- Diversify industrial policy:
    - Limit **water-intensive sector expansion** in basin
- Promote **low-water industries** in future industrial corridors.

5.2.1.8 Efficiency Benchmarking (Cross-sector Insight from Tables)

- Wide variation in water use efficiency across similar industries.

Recommendations:

- Define **benchmark water consumption norms (m^3/unit production)**:
    - Steel plants
    - Aluminium units
- Penalize industries exceeding benchmarks by **graded water tariffs**.

5.2.1.9 Concluding Insight

The industrial profile clearly shows that the **Mahanadi basin's water stress is not due to absolute scarcity**, but due to:

- **Extreme sectoral skew (thermal power dominance)**
- **Cluster-based demand concentration**
- **Rapid allocation growth without matching governance systems**

Therefore, **targeted interventions (sector-specific + cluster-specific)** will yield significantly higher impact than generic basin-wide policies.

5.2.2. Odisha

- Implement a comprehensive basin-scale planning framework for the Mahanadi River integrating industrial, agricultural, and domestic water demands.
- Set mandatory water-use benchmarks for high-consumption sectors (thermal power, steel, aluminium).
- Promote transition from once-through cooling to closed-loop and dry cooling systems in power plants.
- Enforce Zero Liquid Discharge (ZLD) in large industries.
- Promote reuse of treated wastewater for cooling systems, ash handling and non-potable uses.
- Develop cluster-level Common Effluent Treatment Plants (CETPs) in areas like Angul, Jharsuguda, and Paradip.
- Integrate constructed wetlands (CWs) for tertiary treatment.
- Expand platforms like GO-SWIFT for real-time monitoring of industrial water withdrawal and discharge.
- Install smart meters and IoT-based flow monitoring in major industries.
- Encourage industrial symbiosis, where wastewater from one industry is reused by another.
- Develop water-sharing networks within industrial parks (e.g., Kalinganagar, Angul).
- Enhance in-stream storage, reservoirs, and pipeline networks to address seasonal variability.
- Incorporate climate projections into industrial water allocation planning.
- Introduce graded water pricing to discourage excessive use.
- Provide incentives (subsidies/tax benefits) for industries adopting water-efficient technologies.
- Provide technical and financial support for MSMEs to adopt water-saving technologies.
- Develop simplified BMP guidelines tailored for small industries.
- Strengthen enforcement of effluent standards by Odisha State Pollution Control Board.
- Regular monitoring of river health to prevent degradation of the Mahanadi basin ecosystem.

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Appendix -I (District-wise Industrial Water Requirement: Chhattisgarh region of Mahanadi River Basin)

District	Name of the Block	Industrial Water Requirement (MCM)		
		1991	2001	2011
Balod	Balod	0.000276	0.019355	0.059055
	Dondi	7.180000	0.000000	0.000330
	Dondi Luhara	0.000000	0.000000	0.029043
	Gunderdehi	0.000000	0.002640	0.021830
	Gurur	0.009900	0.022143	0.066228
Baloda Bazar	Baloda Bazar	6.580000	0.147620	0.518595
	Bhatapara	0.007887	0.328905	0.281589
	Bilaigarh	0.000000	0.003300	0.023430
	Kasdol	0.001320	0.002475	0.005940
	Palari	1.308780	0.000990	0.061645
	Simga	1.789920	0.009603	1.024980
Bemetara	Bemetara	0.000000	0.000000	0.003600
	Berla	0.000000	0.011900	0.017200
	Nawagarh	0.000000	0.000000	0.002700
	Saja	0.000000	0.000000	0.004200
Bilaspur	Bilha	0.416248	1.022974	5.048100
	Kota	0.002653	0.000000	0.003670
	Masturi	0.030800	93.000000	0.585199
	Takhatpur	0.001500	0.000000	0.001262
Dhamtari	Dhamtari	0.094900	0.047450	0.022630
	Kurud	0.025550	0.043800	0.116300
	Magarlod	0.000000	0.007300	0.007300
	Nagri	0.007300	0.000000	0.023360
Durg	Dhamdha	0.044550	0.000026	0.000669
	Durg	130.809990	346.631848	7.196102
	Patan	0.000000	0.000049	0.000035
Gariabandh	(Gariyaband)	0.000000	0.007920	0.003
	Chhura	0.000000	0.000000	0.007
	Deobhog	0.000000	0.000000	0.005280
	Mainpur	0.000000	0.000000	0.003960
	Rajim	0.033000	0.006600	0.104280
Gaurela-Pendra-Marwahi	Marwahi	0.000000	0.000000	0.000
	Pendra	0.000000	0.000000	0.000
	Pendra Road Gorella	0.000000	0.001462	0.022560
Janjgir - Champa	Akaltara	0.000000	2.100000	0.601148
	Baloda	2.160000	10.225000	35.658050
	Champa	0.000000	0.000000	0.000000
	Dabhra	0.000000	21.460000	17.157
	Jaijaipur	0.000000	0.000000	0.000000

	Malkharoda	0.000000	0.000000	0.000135
	Nawagarh	0.000000	0.000000	0.001197
	Pamgarh	0.000000	0.000000	74.674976
	Sakti	0.000000	0.000000	0.0001353
Jashpur	Bagicha	0.000000	0.000000	0.000750
	Duldula	0.000000	0.000000	0.000
	Farsabahar	0.000000	0.000000	0.001200
	Jashpur	0.000000	0.000000	0.000
	Kansabel	0.000000	0.001800	0.001500
	Kunkuri	0.000000	0.000000	1.167150
	Manora	0.000000	0.000000	0.000
	Pathalgaon	0.000000	0.004350	0.034410
Kawrdha	Bodla	0.000000	0.110820	0.004320
	Kawardha	0.000000	0.000000	0.027344
	Pandariya	0.000000	0.000000	0.903580
	Sahaspur Lohara	0.000000	0.000000	0.000000
Kdagaon	Bade Rajpur	0.000000	0.000000	0.000000
	Keskal	0.000000	0.000000	0.000000
	Makdi	0.000000	0.000000	0.000000
Korba	Kartala	0.000000	0.000000	0.001320
	Katghora	116.001825	0.000000	28.750
	Korba	0.006220	37.600099	204.884
	Pali	0.000000	0.000330	0.078730
	Poundi-Uproda	0.000000	0.000000	0.000000
Koriya	Baikunthpur	0.000000	0.000000	0.0016200
	Khadganva	0.000000	0.000000	0.004050
	Manendragarh	0.000000	0.000000	0.000
	Sonhat	0.000000	0.000000	0.000
Mahasamund	Bagbahra	0.000990	0.021285	0.012540
	Basna	0.000000	0.014850	0.007260
	Mahasamund	0.000990	0.067650	1.075355
	Pithora	0.000660	0.004125	0.012210
	Saraipali	0.001980	0.004785	0.005940
Mungeli	Lormi	0.000000	0.000000	0.008180
	Mungeli	0.000000	0.001080	0.010965
	Pathariya	0.000000	0.001620	0.184342
Raigarh	Baramkela	0.000000	0.004320	0.023340
	Gharghoda	0.000000	0.031680	0.043800
	Kharsia	0.000000	0.000000	12.793560
	Lailunga	0.000000	0.000000	0.022620
	Pussore	0.000000	0.691900	45.790260
	Raigarh	6.421000	231.329000	130.484830
	Sarangarh	0.000000	0.000000	0.010455
	Tamnar	0.000000	60.799932	6.983190
	Udaipur (Dharamjaigarh)	0.000000	3.668250	0.182180

Raipur	Abhanpur	0.241910	0.000000	0.050082
	Arang	23.078690	0.000000	0.109940
	Dharsiwa	0.014090	29.718300	0.410560
	Tilda	87.759301	0.057300	51.296240
Rajnandgaon	Ambagarh	0.001500	0.000000	0.000000
	Chhuikhadan	0.000000	0.000000	0.002100
	Chhuriya	0.000000	0.000300	0.005000
	Dongargaon	0.015300	0.025900	0.005709
	Dongargarh	0.003400	0.005580	0.002868
	Khairagarh	0.000000	0.000000	0.083990
	Manpur	0.000000	0.000000	0.000000
	Mohla	0.000000	0.000000	0.000000
	Rajnandgaon	0.160254	0.520740	0.130399
Surajpur	Oudgi	0.000000	0.000000	0.000000
	Premnagar	0.000000	0.000000	0.000000
	Ramanujnagar	0.000000	0.000000	0.000000
	Surajpur	0.000000	0.000000	0.000000
	Ambikapur	0.000000	0.000000	0.000
	Batouli	0.000000	0.000000	0.00108
	Lakhanpur	0.000000	0.000000	0.000
	Lundra	0.000000	0.000000	0.000
	Mainpat	0.000000	0.000000	0.000
	Sitapur	0.000000	0.000000	0.000
	Udaypur	0.000000	0.000000	0.000
Uttar Bastar Kanker	Antagarh	0.000000	0.000000	0.000
	Bhanupratappur	0.000000	0.000000	0.000
	Charama	0.000000	0.008886	0.0013860
	Durgkondal	0.000000	0.000000	0.000
	Kanker	0.000000	0.008008	0.0108780
	Narharpur	0.000000	0.002184	0.0008250
Total Mahanadi Basin		**384.212684**	**839.808434**	**628.985**

Appendix -II (Industry Profile as per CPCB Pollution Category Analysis for MRB Part Chhattisgarh State: **Red Large**)

Industry Name	Lattitude	**Longitude**
M/S Nova Iron And Steel Lim., Post- Dagauri, Th.- Bilha, Dist.- Bilaspur	21.88695924	82.05126844
M/S Seepat Super Thermal Power Project 1x660 Megawaat NTPC Seepat, Dist.- Bilaspur	22.1379113	82.29067637
M/S B.E.C. Fertilizer, Sirgitti Industrial Area, Dist.- Bilaspur	22.04202974	82.1529178
M/S Vandana vidyut Pra. Lim., Sirgitti Industrial Area,Dist.- Bilaspur	22.03768535	82.14528697
M/S Welcome Distilary Pra. Lim., Cherkabandha , Kota Bilaspur	22.27392923	82.06837057
M/S Narmada Drinks Pra. Lim. Sirgitti Industrial Area, Dist.- Bilaspur	22.04201361	82.14398464
M/S Mangal Sponge Iron Pra. Lim. Post.-Bilha,Dist.- Bilaspur	21.96715678	82.07120641
M/S Geetanjali Ispaat and Power Pra. Lim., Vill.- Hardikala, Industrial Area Silpahri, Dist.- Bilaspur	22.01653101	82.17971531
M/S Airon Steel and Power Pra. Lim., Vill.- Hardikala , Industrial Area Silpahri, Dist.- Bilaspur	22.01835294	82.18327351
M/S Kalindi Ispaat Pra. Lim. Vil.- Belpan ,Th.- Masturi, Dist.- Bilaspur	21.78931593	82.2359879
M/S Sudha Bio Power Lim. Vill.- Mohtarai, Dist.-Bilaspur	22.2083169	82.14172967
M/S Fill Ispaat Pra. Lim. Vill.-Dighora, Th.- Takhatpur, Dist.- Bilaspur	22.00362799	82.02162682
M/S Satya Power and Ispaat Pra. Lim. Vill. –Gatauri,Dist.- Bilaspur	22.18615467	82.12191088
M/S Fill Minrals Benification Vill+ Post- Beltara,Dist.- Bilaspur	22.2885561	82.27157301
M/S Maheshwari Coal Benification and Infrastructure Pra. Lim.,Industrial Area Silpahri Dist.- Bilaspur	22.04112685	82.13562611
M/S Chattisgarh Power and Coal Benification, Industrial Area Sirgitti,Dist.- Bilaspur	22.04792437	82.13257884
M/S Hind Energy and Coal Benification India Pra. Lim.Vill.- Hindadih, Th.- Masturi,Dist.- Bilapur	22.14886566	82.36699063
M/S Apolo Hospital Seepat Road Bilaspur	22.09756899	82.16421625
M/S Vandana Global Lim. Sirgitti Industrial Area, Bilaspur	22.08076631	82.1407433
M/S Rashi Steel nad Power Lim. Vill.-Paraghat, Th.- Masturi, Dist.- Bilaspur	22.03038646	82.31549487
M/S Jindal Steel and Power Lim. Godadih, Th.- Masturi, Dist.- Bilaspur	21.25313341	81.77576839

M/S Wilson Roofing Pra.Lim. Silpahri Industrial Area Dist.- Bilaspur	22.08172073	82.14048581
M/S Jayaswaal Neeko ind Lim. Vill. –DagauriTh.- Bilha, Dist.- Bilaspur	21.89373634	82.06665863
M/S Nova Steel and Iron Lim. Vill.-Dagauri Dist.- Bilaspur	21.88698411	82.05128989
M/S Hind Energy and Coal Benification(India) Pra. Lim. Vill.- Gataura, Th.-Masturi,Dist.- Bilaspur	22.07045853	82.25339025
M/S Radha Madhav Industries Pra.Lim. Vill.- Rambod,Th.- Patharia, Dist.-Mungeli(Industry is closed)	21.94626222	81.98416693
M/S Real Power Pra. Lim. Vill.- Rambod, Th.- Patharia, Dist.-Mungeli	---	---
M/S Bhatia Vine Murchant Pra.Lim. ,Vill.- Dhooma, Th.- Mungeli, Dist.-Mungeli	21.87188624	81.97474254
M/S Madhya Bharat Paper Lim., Vill.- Birgahni, Chanpa Dist.- Chanpa	22.01469776	82.64177074
M/S Lehri Power and Steel Lim., Vill.- Madva, Dist.- Janjgir-chanpa(Indusry is closed)	22.08858901	82.65649974
M/S K.V.K.Bio Energy Pra. Lim.Vill.- Amartaal, Dist.- Janjgir-chanpa	22.0062325	82.61263516
M/S Sai Leelagar Power Pra. Lim.(Arasmeta captive Power Plant Company Pra.Lim.) Vill.- Gopalnagar , Dist.- Janjgir-chanpa	21.96365583	82.35452624
M/S Chattisgarh Steel and Power Lim.Vill.- Amjhar, Dist.- Janjgir-chanpa	22.08861883	82.65640318
M/S Prakash Industries Lim. Vill.- Hathnevra,Chanpa Dist.-Janjgir-chanpa	22.0110313	82.66823933
M/S Lafarge India Lim.(Arasmeta Cement Plant) Vill.- Gopalnagar, Dist.-Janjgir-chanpa	21.96652543	82.35199185
M/S R.K.M. Powergen Pra.Lim. ,Vill.- Uchhapinda, Th.-Dabhra, Dist.-Janjgir-chanpa	21.89173546	83.12004789
M/S Ethena Chattisgarh Power Pra.Lim.Vill.- Sindhitarai, Benipali, Th.-Dabhra Dist.- Janjgir-champa	21.90621527	83.12896071
M/S Shyam Ware Housing and Power Pra.Lim. Vill.- Banari, Naila , Dist.-Janjgir-chanpa	22.01024704	82.53345866
M/S C.G. Rajya Vidhyut Utpadan Company , Vill.- Madva, Dist.- Janjgir-chanpa	21.95986054	82.48786447
M/S D.B.Power Lim. Vill.- Dabhra, Dist.-Janjgir-chanpa	21.90478871	83.18649478
M/S K.S.K. Mahanadi (Wardha) Power Company Pra.Lim.,Vill+post-Akaltara, Dist.-Janjgir-chanpa	21.96062524	82.41011055
M/S Lafarge India Pra. Lim.(D.G. Set) Vill.- Gopalnagar,Dist.- Janjgir-chanpa	22.03268317	82.65089813
M/S Lafarge India Lim. Arasmeta Lime Stone Mining Vill.- Gopalnagar,	21.96649558	82.3519704

Dist.- Janjgir-chanpa		
M/S Shanti D.G. Ispaat and Power Pra. Lim., Vill.- Mohda, Th.- Chanpa, Dist.- Janjgir-chanpa	22.03143436	82.65184668
M/S Bhilai Steel Plant, Bhilai Dist.- Durg	21.20050603	81.38972097
M/S ACC Lim. Jamul Cement Works,Jamul Dist.- Durg(Cement Plant, Power Division, Coal Washri)	21.24131278	81.38644848
M/S ACC Lim., Jamul Dist.- Durg(Jamul Mines)	21.24169416	81.38639681
M/S ACC Lim., Jamul Cement Works,Jamul, Dist.- Durg(Patharia Mines Lease -1)	21.25033289	81.39177204
M/S ACC Lim., Jamul Cement Work, Jamul Dist.- Durg(Patharia Mines Lease-2)	21.32061788	81.29855466
M/S NTPC Power Co.Pra. Lim.(A Joint Venture of National Thermal Power Corporation Li. And Steel Athority of India Li.), (2x250=500 MW) Vill.- Puraina, Dist.- Durg	21.19179785	81.28466059
M/S NTPC SAIL Power Co. Pra. Li. (A Joint Venture of National Thermal Power Corporation Li. And Steel Athority of India Li.), (1x74=74 MW) Bhilai Steel Plant Dist.-Durg	21.19638819	81.34871801
M/S Bhilai J.P. Cement Lim. Bhilai Steel Plant,Bhilai, Dist.- Durg	21.18432736	81.36144567
M/S Charbhuja Gold Cement Pra. Lim. Vill.- Gondpendri, Patan, Dist.- Durg	21.09794775	81.43330629
M/S Topworth Steels and Power Pra. Lim. Industrial Developement Centre Borai, Dist.- Durg	21.18795332	81.21319561
M/S Jai Balaji industries Lim. , Industrial Developement Centre Borai, Dist.- Durg	21.19545114	81.2098717
M/S Ecofren Power and Project Pra. Lim., Vill.- Chandkhuri,Dist.- Durg	21.12982678	81.25472697
M/S Bhilai Ispaat Pra. Lim. Vill.- Godhi, Dist.- Durg	21.19789004	81.38362417
M/S Raipur Power and Steel Lim.,75,76 Industrial Developement Centre Borai, Dist.-Durg(Sponge Iron, Fero Division, Power Division)	21.19916253	81.21111445
M/S CG Distillary Lim.,Vill.- Khapari-kumhari Dist.- Durg	21.27465873	81.52727805
M/S Vishnu Chemicals Lim. (Key Stone India Lim., Bhilai), Plot no. 18-26 Ind. Area Bhilai Dist.- Durg	---	---
M/S Nandini Lime Stone Mines, Nandini Dist.- Durg	21.37227924	81.40800109
M/S Bhilai Refectories Lim. (Bhilai Refectories Plant),Maroda,Post- Civic Centre,Bhilai Dist.-Durg	21.15891707	81.35363464

M/S Bhilai Eng. Cor. Lim.,Heavy Industrial Area, Hathkhoj,Bhilai,Dist.- Durg	21.22860397	81.39716376
M/S B.K. Eng.Cor., 45/47,Industrial Estate,Bhilai,Durg	21.23459036	81.37776541
M/S VosloB.K. Casting Lim.,Unit-1,27-28 Halka, Ind. Area,Bhilai,Dist.-Durg	21.21914321	81.35060888
M/S Simplex Casting Lim.,05 Ind. Estate,Bhilai, Dist-Durg	21.20937645	81.3570023
M/S Niroj Ispaat Pra. Lim.,14-A Heavy Ind. Area Hathkhoj,Bhilai,Dist.- Durg(Sponge Iron, Induction Furnace,Power Plant)	21.23617054	81.41267019
M/S Pilania Industries(India)Pra. Lim.,43, Heavy Ind. Area, Hathkhoj,Bhilai Dist.- Durg	21.23775418	81.40348201
M/S J.K. Lakshmi Cement Lim. (Cement Plant), Vill.- Malpurikhurd and Khasadih, Dist.- Durg	21.37228604	81.44877037
M/S J.K. Lakshmi Cement Lim.(Lime Stone Mine), Vill.- Nandini – khundni,Semaria, Ghikuria,Post- Ahiwara,Dist. Durg	21.63280604	81.36506106
M/S Bhilai Steel Company Pra. Lim., Industrial Developement Centre Borai,Dist.-Durg	21.1910231	81.36774832
M/S Vishva Vishal Eng.,4/5 Ind. Area Bhilai,Dist.- Durg,(Unit-2),2-F, Heavy Ind. Area,Hathkhoj,Bhilai,Dist.- Durg,(Unit-3), Plot no.- 02/L, Heavy Ind. Area Hathkhoj, Bhillai, Dist.-Durg	21.22388907	81.37919676
M/S B.E.C. food, Vill.- Kuthrel, Dist.- Durg	21.06433867	81.27658855
M/S Shri Seeta Refinary Vill.-Arasnara, Dist.- Durg	21.30209403	81.3276394
M/S Skatmen Elco Bev Fillers Pra. Lim. Vill.- Khapari,448/2,Th.- Dhamada, Dist.- Durg	21.19221366	81.28429307
M/S J.D. Ispaat Pra.Lim. Vill.- Borai Ind. Area Dist.- Durg	21.19841955	81.20363691
M/S Sona Bevrages Pra.Lim., Ind. Growth Centre , Borai, Dist.- Durg	21.19476902	81.20644377
M/S Precurser India Pra. Lim., Near Oxigen Plant-2, Bhilai Steel Plant,Bhilai, Dist.- Durg	21.17873324	81.39372065
M/S Aparna Carbons Pra. Lim. Vill.- Jevra, Dhamda Road, Dist.- Durg	21.28744367	81.30430248
M/S Madesara Lime Stone (K.B.Laal Shriwastav and Sons),Vill.- Madesara, Th.-Dhamda, Dist.- Durg	21.46184317	81.33533111
M/S Prakashchand Sahu Lime Stone Mine,Vill.-Sahgaon and Patharia, Th.- Dhamda, Dist.- Durg	21.53651768	81.35517933
M/S Paarth Cancast Lim. (Old Name-Brahaspati Iron and Steel Com.),Ind. Developement Centre Borai, Dist.-Durg	21.20219491	81.21239457
M/S Shivalic Eng. Ind. Pra. Lim., Plot no.-8, Heavy Ind. Area,	21.23176479	81.40132844

Hathkhoj,Bhilai, Dist.- Durg		
M/S Crust Steel and Power Pra. Lim.,Vill.- Joratarai, Dist.- Rajnandgaon	21.19122825	81.19894498
M/S Recon Steel and Power Pra.Lim. Vill.- Joratarai, Dist.- Rajnandgaon	21.18031014	81.20044467
M/S Sharda Energy and Minrals Lim.(Dongarbor Iron Ore Mines)Vill.-Dongarbor ,Post-Khadgaon,Forest Range,Compartment no.-537(Part) Rajnandgaon	21.36722573	81.67741385
M/S Rajaram maize Products Pra. Lim. Vill.-Bhothipaar,Arjunda Road,Rajnandgaon(Stach Division,Power Division, Biogas Based Power Plant	21.10063893	81.04318314
M/S Khetan Chemicals and Fertilizers,Vill.- Farhad,Dist.-Rajnandgaon	21.14155393	81.14557744
M/S Godawari Power and Ispaat Lim.(Boria- Tibbu Iron Ore Mines)Vill.-Boria Tibbu, Th.- Mohla, Dist.- Rajnandgaon	21.28204838	81.65074063
M/S Rajnandgaon Paper Mills Pra. Lim. Vill.- Sankra, Somni, Dist.- Durg	21.044865	80.86868406
M/S Orient Ispaat Pra. Lim. Vill.- Tedesara, Dist.- Rajnandgaon	21.09457403	81.03137744
M/S Sangam Forjing Pra. Lim.,28 Ind. Estate, Vill.- Tedesara, Dist.-Rajnandgaon	21.10414824	81.01717176
M/S Indian Solvant, Ind. Solvant Extraction Plant, Vill- Indamara, Dist.-Rajnandgaon,(Extraction Plant Refining Unit,Srimpfid Manufacturing Unit)	21.10627016	80.93917008
M/S Abis Export (India Pra. Lim. Vill.- Amlidih), Dist.- Rajnandgaon	21.01026206	80.88265284
M/S Kamal Solvant Extraction Pra. Lim., Vill.- Somni, Dist.- Durg	21.10207349	81.03373227
M/S Panchsheel Solvant Pra.Lim., Baldevbaag, Dist.- Rajnandgaon	21.10635023	80.93915935
M/S Mahaveer Minerals Boxite Mines, Daldali, Dist.- Kabirdham (Permanantaly Closed)	21.82264974	81.13345548
M/S Bharat Aluminium Co.Lim.Vill.- Mundadadar Kesmarda, Rabda and Semsata, Post-Daldali,Th.- Bodla, Kaverdha,Dist.- Kabirdham	22.56427463	81.16545777
M/S Bhoramdev Sahkari Sugar Fectory Vill.- Ramhepur, Dist.- Kabirdhaam	22.09732393	81.25443777
M/S CG Rajya Vidhyut Utpadak Com. (Suger Factory)Vill.- Ramhepur, Budhwara, Dist.- Kabirdhaam	22.08680442	81.25628313
M/S CG Rajya Ind. Developement Cor. Mines, (CMDC) Bodai Daldali, Th.- Bodla, Kabirdhaam	21.16493967	81.77012708
M/S Dalli Mechenise Mines, Dallirajhara, Dist.- Balod	20.57675077	81.04012676
M/S Rajhara Mechenise Mines,Rajhara,Dist.- Balod	---	---
M/A Mahamaaya Mines, Mahamaaya, Dist.- Balod (Permanantaly Closed)	20.48551179	80.98838141

M/S Godavari Power and Ispaat, (Crushing Unit), Vill.- Gidhali, Balod	20.7119644	81.08665466
M/S Danteshwari Maiya Sahkaari Sugar Factory, Vill.- Karkabhaat, Dist.- Balod	20.67964923	81.32581053
M/S Lohia paper and Board Pra. Lim., Vill.- Nevnaara,Berla,Dist.- Bemetara	21.44195972	81.55293031
M/S Bishraampur Open Cast Mine ,SECL Bishraampur Area Dist.- Surajpur (Temprorly Closed)	23.20603095	82.98498399
M/S Kumda 7/8 Encline,SECL, Bishraampur Area Dist.- Surajpur	23.18675313	82.96717904
M/S Balraampur 10/12 Encline SECL Bishraampur Area Dist.- Surajpur	23.18643754	82.96803735
M/S Gayatri Underground Mine,SECL, Bishraampur Area Dist.- Surajpur	23.11265366	82.90555284
M/S Rehar Underground Mine, SECL Bishraampur Area, Dist.- Surajpur	23.18956357	82.97936018
M/S Amera Open Cast, SECL, Bishraampur Area Dist.- Sarguja	23.18698982	82.96726487
M/S Ketki Underground Coal Mines,SECL Bishraampur Area, Dist.-Surajpur	23.1145887	82.88664621
M/S Amgaon Open Cast Mine, SECL, Bishraampur Area, Dist.-Surajpur	23.29695233	82.84424664
M/S Shivani Underground Mine,SECL Bhatgaon Area, Dist.- Surajpur	23.35342554	83.07292269
M/S Kalyani Underground Mine,SECL Bhatgaon Area Dist.- Surajpur (Temporarly Closed)	23.20548098	82.98504575
M/S Navapara UndergrondMine, SECL Bhatgaon Area Dist.- Surajpur	23.3945782	82.96989952
M/S Mahaan Open Cast Mine,SECL Bhatgaon Area Dist.- Surajpur	23.36475606	82.9880811
M/S Bhatgaon Collary,SECL Bhatgaon Area Dist.-Surajpur	23.36002842	82.99975407
M/S Mahaan-2 Open Cast Mine, SECL Bhatgaon Area Dist.- Surajpur	23.84019599	83.16812469
M/S Dugga Open Cast Mine,SECL Bhatgaon Area, Dist.-Surajpur	23.35831491	83.00026296
M/S Mahamaaya Underground Mine,SECL Bhatgaon Area, Dist.- Surajpur	23.36662487	83.00447108
M/S Bharat Aluminium Com. Lim., Manpaat boxite Mine, Dist.- Sarguja	22.41743481	82.73959754
M/S Hindalco Ind. Lim., Samri Boxite Mine, Post- Kusmi, Dist.-Balraampur –Ra.Ganj	23.28736085	83.90696012
M/S Hindalco Ind. Lim., Kudag Boxite Mine,Post- Kusmi, Dist.-Balraampur-Ra.Ganj	23.28696666	83.90833341
M/S Hindalco Ind. Lim., Tatijhariya Boxite Mine Post- Kusmi, Dist.-Balraampur-Ra.Ganj	24.23656523	85.63798261
M/S CG Mineral Developement Corporation Lim. Barima Boxite Mine no.1 menpat, Sarguja	21.16497969	81.76998761
M/S CG Mineral Developement Corporation Lim. Barima Boxite Mine no.3	22.84613077	83.41502074

Menpat Sarguja		
M/S Arora Infrastructure Developement Co.(Based on Rice Husk -10 MW Power Generation Unit) Ind. Area Nayanpur,Girvarganj, Dist.- Surajpur	23.20949789	82.92444861
M/S Maa Mahamaya Sahkari Sugar Factory Vill.- Ketka, Th.- Pratappur, Dist.-Surajpur	23.34786953	83.19396478
M/S S.J. Minerals Resources, Vill.- Indravatipur, Th.- Ramanujganj, Dist.- Balrampur –Ra.Ganj	23.80783304	83.69802839
M/S Aro Energy (India Pra. Lim.)Tatapaani Ramkola,CBM Block-3 Th.- Vadrafnagar, Dist.- Balraampur-Ra. Ganj	23.86626826	83.17392642
M/S Charcha RO Underground Coal Mine Project,SECL Baikunthpur Area, Dist.-Koria	23.2626527	82.55892183
M/S Katkona Kaalri , SECL Baikunthpur Area,Dist.- Koria	23.3580313	82.67874302
M/S Pandavpaara Underground Mine, SECL Baikunthpur Area Dist.- Koria	23.26318608	82.55772825
M/S Jhilmili Underground Mine SECL Baikunthpur Area Dist.- Koria	23.35493557	82.73005215
M/S B. Seem kaalri, SECL Hasdev Area, Dist.- Koria	22.02159227	82.65337403
M/S West Jhagrakhand Kaalri, SECL, Hasdev Area , Dist.- Koria	23.1978838	82.15944104
M/S Palkimaara Undreground Mine, SECL, Hasdev Area, Dist.- Koria	23.17755449	82.19698301
M/S Haldibadi Underground Mine, SECL, Dist.- Koria	23.1958309	82.35055397
M/S North Chirmiri Kaalri, SECL Chirmiri Area,Dist.- Koria	23.2165319	82.34588606
M/S West Chirmiri Kaalri, SECL, Chirmiri Area, Dist..- Koria	23.19086182	82.38076665
M/S NCPH Kaalri, SECL, Chirmiri Area, Dist.- Koria	23.21654176	82.34590752
M/S Chirmiri Underground Mine, SECL,Chirmiri Area, Dist.-Koria	23.21657134	82.34592897
M/S Chirmiri Open Cast Mine, SECL, Chirmiri Area, Dist.- Koria	23.17971426	82.33831044
M/S Kurasia Underground Mine, SECL, Chirmiri Area, Dist.-Koria	23.18539808	82.33664483
M/S Kurasia Open Cost Mine,SECL, Chirmiri Area, Dist.- Koria	23.18539808	82.33664483
M/S Bharat Aluminium Company Lim. (Smelter Plant) Balco Nagar Korba	22.39835073	82.74002527
M/S Bharat Aluminium Company Lim. (New Smelter Plant Phase-1),Balco Nagar, Korba	22.39366084	82.74702394
M/S Bharat Aluminium Company Lim. Balco Nagar, Korba	22.39844993	82.73996089
M/S Balco Captive Power Plant, Jamnipali, Korba	22.39433413	82.67823202
M/S Bharat Aluminium Company Lim., (1200 MW Power Plant), Balco Ngar, Korba	22.39837057	82.740036

Korba Thermal Power Station, M/S CG Rajya Vidhyut Utpadan Company Lim., Korba (East Korba)	22.41447246	82.68929372
Hasdev Thermal Power Station, M/S CG Rajya Vidhyut Utpadan Company Lim., Korba (West Korba)	22.41447246	82.68912206
M/S CG State Power Generation Company Lim. Korba(west) Vill.- Darri, Th.- Katghora, Dist.- Korba Vistaar Pariyojna Stage-III	22.50662946	82.54515238
Dr. Shyama Prasad Mukhrji Thermal Power Plant, M/S CG Rajya Vidhyut Utpadan Company Lim. Korba (East) Budhwari, Korba	22.36751297	82.7167019
Korba Super Thermal Power Station, M/S NTPC Company Lim. Jamnipali, Korba	22.38614419	82.68341311
M/S Adani Korba Power Li.(Formally M/S Lainko Amarkantak Power Li)., Vill.- Patadhi, Th.- Kartala, Dist.-Korba	22.24556913	82.72491773
M/S Maruti Clean Coal and Power Li. Vill.- Bandhakhar, Th.- Pali, Dist.- Korba	22.34374345	82.42780213
M/S ACB India Power Li. Kasaipali (270 MW Power Plant) Chakabuda, Dist.- Korba	22.39176112	82.55602845
M/S Vandana Vidhyut Lim. Vill.- Churi, Th.- Katghora, Dist.- Korba , (2x135 MW in first stage)	22.48741852	82.60112857
M/S ACB India Lim. (30 MW Power Plant) Chakabuda , Dist.- Korba	22.39173136	82.55599627
M/S S,V, Power Pra. Lim. (60 MW Power Plant), Vill.- Rainki,Th.- Pali, Dist.- Korba	22.29740339	82.5253481
M/S Spectrum Coal and Power Lim. Vill.- Ratija, Th.- Katghora, Dist.- Korba	22.386276	82.68350476
M/S Vandana Energy and Steel Pra. Lim. Vill.- Churikhurd, Dist.- Korba (Permanantly Closed)	22.51492502	82.59739997
M/S ACB India Lim. (New 30 MW Power Plant) Vill.- Chakabuda, Dist.- Korba	22.40988602	82.55862827
M/S Swastik Power and Minerals Resources Pra. Lim. Vill.- Kanberi, Th.- Katghora Dist.- Korba	22.30079853	82.69120845
M/S Hasdev Bango Hydel Power Station, CSEB, Machadoli, Dist.- Korba (Temporarily Closed)	22.61008029	82.603821
M/S Himadri and Chemicals Ind. Vill.- Jhagraha, Dist.- Korba	22.35626071	82.77193954
M/S Central (E and M) Workshop, SECL, Korba Area, Dist.- Korba	22.34538956	82.7175768
M/S Indo Sponge Power and Steel Pra. Lim. Vill.- Jhagraha, Dist.- Korba	22.36808965	82.76857062
M/S Gevra Open Cast Coal Mines, SECL Gevra Area Dist.- Korba	22.34629624	82.56574591

M/S Deepka Vistaar Pariyojna, SECL Deepka Area , Dist.- Korba	22.35420547	82.54513633
M/S Kusumunda Open Cost Coal Mines, SECL, Kusumunda Area , Dist.- Korba	22.33063596	82.67367677
M/S Manikpur Open Cost Coal Mines, SECL Korba Area Dist.- Korba	22.31895418	82.73585107
M/S Saraipali Open Cost Coal Mines, SECL, Korba Area Dist.- Korba	22.35289946	82.31335964
M/S Bharat Aluminium Company Lim. Chotiyan Koyla Khadan Vill.- Chotia Dist.- Korba	22.39843009	82.74000381
M/S Bagdeva Underground Coal Mines , SECL, Korba Area, Dist.- Korba	22.45445022	82.51764867
M/S Rajgamar Underground Coal Mines, SECL Korba Area Dist.- Korba	22.39058002	82.82442135
M/S Shinghali Underground Coal Mines SECL, Korba Area Dist.- Korba	22.34660004	82.72041216
M/S Balgi Underground Coal Mines, SECL, Korba Area Dist.- Korba	22.37770823	82.6496989
M/S Baanki Undreground Coal Mines, SECL, Korba Area Dist.- Korba	22.34333205	82.54665158
M/S Surakachar Underground Coal Mines SECL, Korba Area Dist.- Korba	22.40773089	82.61992089
M/S Raniatari Underground Coal Mines, SECL, Chirmiri Area Dist.- Korba	22.88210633	82.31863867
M/S Vijay West Underground Coal Mines , SECL Chirmiri Area Th.- Podi Uproda, Vill.- Kendai, Dist.- Korba (Permanently Closed)	22.88193411	82.31313421
M/S Hasdev Bango Hydel Power Station, CG Rajya Vidhyut Company Lim. Vill.- Machadol, Dist.- Korba	22.61584616	82.5984115
M/S Jindal Steel and Power Lim., Vill.- Patrapali, Dist.- Raigarh	21.99754808	83.48672621
M/S Nalva Steel and Power Lim. Vill.- Taraimal, Dist.- Raigarh	22.02231393	83.38029368
M/S M.S.P. Steels and Power Lim. ,Vill.- Jamgaon ,Dist..- Raigarh	21.87652615	83.55490927
M/S Seleno Steels Lim., Vill.- Taraimal Dist.- Raigarh	22.03344219	83.36595035
M/S Shri Shyam Ispaat (India) Pra. Lim. Vill.- Taraimal Dist.- Raigarh	22.0281333	83.37121124
M/S Maa Shakambari Steels Pra. Lim. Vill.- Sambalpuri, Dist.- Raigarh	21.95137199	83.47116228
M/S Riagarh Ispaat and Power Pra. Lim. Vill.-Delari, Dist.- Raigarh	22.01001828	83.3296895
M/S Scania Steel and Powers Lim. Vill. –Punjipathra, Dist.- Raigarh	22.07188041	83.34869568
M/S Shivshakti Steels Pra. Lim.Vill.- Chakradharpur, Dist.- Raigarh	22.32036407	83.55094525
M/S B.S. Sponge Pra.Lim. Vill.-Taraimal, Dist.- Raigarh (Temporarily Closed)	21.90324351	83.39526503
M/S Raigarh Iron Ind.Lim. Vill.- Punjipathra, Dist.- Raigarh	22.06361163	83.3529892
M/S Maa Kali Alaince Pra. Lim. Vill.- Pali Dist.- Raigarh	21.99799868	83.3447973

M/S Maa Mangala Ispaat Lim. Vill.- Natvarpur Dist.- Raigarh	21.94276755	83.49958507
M/S Sky Alaince and Power Lim. Vill.- Temtema, Dist.- Raigarh	21.97017777	83.1978552
M/S N.R. Ispaat and Power Lim. Vill.-Gourmudi, Dist.- Raigarh	22.00958307	83.33347608
M/S Singhal Energy Lim. Vill.- Taraimal, Dist.- Raigarh	21.87061642	83.40022518
M/S Salasar Sponge and Power Lim. Vill.- Gervani, Dist.- Raigarh	22.33008232	83.22257304
M/S Anjani Steels Pra.Lim. Vill.- Ujjawalpur Dist.- Raigarh	22.01961829	83.37981416
M/S Navdurga Fuel Pra. Lim. Vill.- Saraipali Dist.- Raigarh	22.02703156	83.30617546
M/S Monet Ispaat and Energy Lim. Vill.- Naharpali, Dist.-Raigarh	21.99017676	83.22956737
M/S Singhal Interprises Pra. Lim. Vill- Taraimal Dist.- Raigarh	22.03486089	83.36641997
M/S Korba West Power Company Lim. Vill.- Big Store, Small Store , Dist.- Raigarh	22.2487644	82.72908721
M/S Jindal Power Lim. Vill.- Tamnaar Dist.-Raigarh	22.0637355	83.47912688
M/S Rukhmani Power and Steel Li. Vill.- Kunkuni, Dist.- Raigarh	21.88791307	83.12061285
M/S R.R. Energy Lim. Vill.- Gadhumaria, Dist.-Raigarh	21.85061112	83.41350591
M/S Mahavir Energy and Coal Benification Lim. Vill.- Bhengari, Dist.- Raigarh	22.13690683	83.23832511
Dongamuha Captive Power Plant, M/S Jindal Steel and Power Li. Vill.-. Dongamuha, Raigarh (Permanently Closed)	22.14238162	83.53632414
M/S M.S.P. Sponge Iron Li. Vill.- Manuapali, Dist.- Raigarh	21.88586416	83.55696733
M/S SECL Li. Gare IV/1 Coal Mine,Tamnaar,Dist.- Raigarh	22.09896844	83.4343576
M/S SECL Li. Gare IV/2- 3 Coal Mine,Tamnaar, Dist.- Raipur	22.28349629	83.50357776
M/S SECL Li. Barod Open Cost Coal Mine, Barod Dist.- Raigarh	22.12057157	83.14562766
M/S SECL Li. Chal Open Cost Coal Mine, Chal Dist.- Raigarh	22.11417968	83.14080521
M/S SECL Li. Jampali Open Cost Coal Mine, Jampali Dist.- Raigarh	22.29439621	83.2942512
M/S SECL Li. Dharam Underground Coal Mine, Chal, Dist.-Raigarh	22.13904735	83.1316948
M/S Hindalco Industries Li. Gare Pelma IV/4 Coal Mine Banjhikhol, Tamnaar, Dist.- Raigarh	22.13732762	83.51302384
M/S Hindalco Induetries Li. Gare Pelma IV/5 Coal Mine, Milupara, Tamnaar, Dist.- Raigarh	22.13803299	83.51320866
M/S Monet Ispaat And Energy Li. Gare Pelma IV/7 Coal Mine, Karwahi, Tamnaar, Dist.- Raigarh	22.09711947	83.43474384

M/S Jindal Steel And Power Li. (Cement Plant), Vill.- Gejamuda, Raigarh	21.92952063	83.38604622
M/S NMDC Li. Iron Ore Mines, Deposite No. 14,11 C Kirandool, Dist.- Dantewada	18.9006194	81.3470437
M/S NMDC Li. Iron Ore Mines, Deposite No. 11 B, Kirandool, Dist.- Dantewada	18.68067681	81.22566613
M/S NMDC Li. Iron Ore Mines, Deposite No. 5, Bacheli, Dist.- Dantewada	18.69379959	81.23637989
M/S NMDC Li. Ore Mines, Deposite No. 10, 11 A Bacheli, Dist.- Dantewada	18.69905569	81.22022863
M/S Essar Steel India Li. Ore Benification Plant, Kirandool, Dist.- Dantewada	18.63389487	81.25585443
M/S Essar Steel India Li. Construction Divitaring 03 Vaccume Back Filter, Kirandool, Dist.- Dantewada (Temperorly Closed)	18.62928518	81.27041275
M/S DRDO, S.F. Complex, Girola, Dist.- Bastar	19.31945242	82.16627404
M/S Navbharat Fuse Company Li. (Steel Division) Vill.- Raikot, Dist.- Bastar	19.012463	81.87978706
M/S Godawari Power And Ispaat Li. Iron Ore Mine, Aari Dongari, Dist.- Kanker	21.25141987	81.64675084
M/S Jayaswal Nicco Industries Li.Open Cost Ore Project, Metabodali,Dist.- Kanker	21.15312298	81.21426523
M/S Jayaswal Nicco Industries Li. Iron Ore Project, Layan Dongari, Barbaspur, Dist.-Kanker	21.1529829	81.21407211
M/S Jayaswal Nicco Industries Li. Iron Ore Project,Chote Dongar, Dist.- Narayanpur	19.45375966	81.28960481
M/S Bajrang Power And Ispaat Li. Iron Ore Mine, Hahaladdi Hill, Th.- Bhanupratapur, Dist.- Dist.- Kanker	21.31242712	81.5915215
M/S Jayaswal Nicco And Industries Li., Ind. Area Siltara, Phase-1, Raipur	21.36482506	81.66228109
M/S Sarda Energy And Minerals Li., Ind. Area Siltara, Phase- 1, Raipur	21.36494496	81.66219526
M/S Sarda Energy And Minerals Li., Mandhar, Raipur	21.34549607	81.68706951
M/S Godawari Power And Ispaat Li., Ind. Area Siltara, Phase- 1, Raipur	21.25139987	81.64678303
M/S Vandana Global Li., Ind. Area Siltara, Phase- 2 , Raipur	21.36494074	81.65503215
M/S S.K.S. Power And Ispaat Li., Ind. Area Siltara, Raipur	21.38978676	81.64567373
M/S Mahendra Sponge And Power Pra. Li., Ind. Area Siltara,Phase-2 Raipur	21.38988666	81.64565227
M/S N.R. Sponge Pra. Li., Vill.- Bahesar, Siltara, Raipur	21.3767679	81.62980431
M/S Shri Nakoda Ispaat Li., Ind. Area Siltara, Phase-2 Raipur	21.36103768	81.65295882

M/S Baldev Alaince Pri. Li. Ind. Area Siltara, Phase-2 Raipur	21.36753512	81.66094626
M/S S.K. Saravagi And Co. Pri. Li. Ind. Area Siltara, Phase-2 Raipur	21.27273104	81.59101192
M/S Gagan Resources Pri. Li., Murethi, Siltara, Raipur	21.37027866	81.65015671
M/S Rashmi Sponge Iron Pri Li., Siltara, Raipur	21.38354879	81.65775972
M/S Indian Steel And Power Pri. Li. Vill.- Charoda, Siltara, Raipur(Permanently Closed)	21.38571549	81.68241685
M/S Arti Sponge And Power Li., Siltara, Raipur	21.3778942	81.63863487
M/S Gopal Sponge And Power Pra. Li., Siltara, Raipur	21.37663656	81.64492484
M/S Mahamaya Sponge Iron Pra. Li. Phase-1 Ind. Area Siltara, Raipur	21.35902442	81.68731491
M/S Shri P.D. Industries Pri. Li., Siltara, Raipur	21.38021728	81.65678371
M/S Agarwal Sponge Pri. Li., Siltara Growth Centre, Phase-2 Raipur	21.38010852	81.65030011
Shri Harekrishna Sponge Iron Pri. Li., Siltara, Phase-2, Raipur	21.37417074	81.66118889
M/S G.R. Sponge And Power Li., Siltara Phase-2 Raipur	21.37630918	81.65329344
M/S Sunil Sponge Pri. Li. Siltara, Phase-2, Raipur	21.38375196	81.64884783
M/S Ghankul Steel Pri. Li. ,Vill.- Sondra, Siltara, Raipur	21.36700675	81.64954559
M/S Devi Iron And Power Pri. Li., Vill.- Tada, Siltara, Raipur	21.38625755	81.68974751
M/S Abhijeet Infrastructure Li., Giraud, Siltara, Raipur(New Name- M/S Jayaswal Nicco Industries Li.)	21.35521167	81.67202358
M/S Waswani Industries Li., Sondra, Siltara, Raipur	21.37053229	81.64500885
M/S Euro Pratik Ispaat Pri. Li.,Vill.- Siltara	21.38171646	81.68448983
M/S Bhagwati Power And Steel Pri. Li.,Siltara, Raipur	21.3785699	81.65991444
M/S A.P.I. Ispaat And Powertake , Siltara,Raipur	21.38027552	81.64579144
M/S Trimula Sponge Iron Pri. Li. Siltara,Raipur	21.3956712	81.65628943
M/S Corporate Ispaat And Allaince Li.,Siltara, Raipur(New Name-M/S Jayaswal Nicco Industries Li.)	21.44730263	81.65481792
M/S Srhi Bajrang Power And Ispaat Li.,Borjhara, Urla, Raipur	21.31238008	81.59150287
M/S Gravity Taxim Pri. Li., Vill.- Achholi, Raipur	21.32745137	81.61661953
M/S Shivalaya Ispaat And Power Pri. Li., Vill.- Kara, Guma Urla, Raipur	21.32596955	81.57959697
M/S Srhi Sita Ispaat And Power Pri. Li., Vill.- Borjhara, Guma Urla-Road, Raipur	21.32089209	81.57979852

M/S Satyarth Steel Pri. Li., Borjhara, Raipur	21.31008708	81.58172288
M/S Real Ispaat Pri. Li., Borjhara, Urla, Raipur	21.32112188	81.57799507
M/S Shilphy Steel Pri. Li., Borjhara, Urla, Raipur	21.2931793	81.59538284
M/S Drolia Electrosteels Pri. Li.,Siltara, Raipur	21.38666291	81.65747945
Mahendra Sponge And Power Pri. Li., Unit-2(Old Name- Arsha Iron And Steel Pri. Li.), Sarora, Tilda, Raipur	21.57066346	81.74404009
M/S Hightech Power And Steel Li., Parsada, Sarora, Raipur(Temparely Closed)	21.57248911	81.75577226
M/S Khetan Sponge And Infrastructure Pri. Li., Vill.- Sarora, Tilda, Raipur(Production is stoped in This Unit)	21.48245554	81.75171
M/S Monet Ispaat And Energy Li., Chandkhuri, Mandirhasod, Raipur (JSW Ispaat Special Produts Li.)	21.24324018	81.77294176
M/S Nutan Ispaat And Power Pri. Li., Jaroda,Tarra, Raipur	21.34434927	81.78126407
M/S Alok Ferro Alloys Li., Ind. Area, Urla, Raipur	21.31588313	81.61438765
M/S Hira Feroallaince Li., Unit-2, Ind. Area, Urla, Raipur	21.31564417	81.61533971
M/S Hira Power And Steel Li., Unit2,(Old Name- M/S Jain Carbide And Chemicals Li.), Ind. Area Urla, Raipur (Permanently Closed)	21.31148226	81.61639664
M/S Jagdamba Power And Alloys Li., Muraithi, Siltara Phase-2, Raipur(Production is Stoped in This Unit)	21.38711667	81.66205577
M/S Maa Usha Urja Li., Vill.- Giraud, Dist.- Raipur	21.36024299	81.64799993
M/S Srhi Bajrang Power And Ispaat Li., (TMT Division), Urla, Raipur	21.29922987	81.6129664
M/S Agarwal Vidhyut , Biladi, Nevra, Raipur	21.24430519	81.66932518
M/S Centuri Cement , Baikunth, Raipur	21.49866503	81.78357284
M/S Gajanand Graiders, Vill.- Khaulidabri, Th.- Tilda, Dist.- Raipur	21.28893319	81.62204491
M/S Central Cement Industries, Vill.- Sarora, Th.- Tilda, Dist.-Raipur	21.56717788	81.74010281
M/S Hira Cement, Plot No. 572, Ind. Area Urla, Dist.- Raipur	21.31516013	81.61521738
M/S Gangotri Cement Li., Vill+ Post- Kharora, Dist.- Raipur	21.41781321	81.93970394
M/S Hnauman Agro Industries Li., Vill.- Paragaon, Navapara- Rajim, Dist.- Raipur	21.24754367	81.63508031
M/S Nandan Steel And Power Li., Sondra, Siltara, Raipur	21.3718873	81.63698154
M/S Kedar Agarwal , Vill.- Patharakundi, Th.- Tilda, Dist.- Raipur (Permanently Closed)	21.25903508	81.64621942

M/S R.R. Ispaat Li., Urla, Raipur	21.32459099	81.61626086
M/S Jai Mata Di Paper Mills, Pri. Li., Vill.- Tarpongi, Th.- Tilda, Dist.- Raipur(Permanently Closed)	21.4934051	81.67637548
M/S Srhi Bajarang Power And Ispaat Lim., Vill.-Tandava And Kurund, Th.- Tilda, Dist.- Raipur	21.49599956	81.7615403
M/S Kalptaru Power Transmission Lim., Vill.- Khorpa, Th.- Abhanpur, Dist.- Raipur	21.05498039	81.65340638
M/S G.M.R., C. G. Energy Lim., Vill.- Raikheda, Block- Tilda, Dist.- Raipur	21.46008899	81.85063527
M/S S.E. Railway Wagon Repair Shop, Urkura, Raipur	21.28951895	81.66002071
M/S Usha Fuels, Vill.- Dhanoli, Raipur	21.34607709	81.66568138
M/S Simplex Costing Lim., Urla, Raipur	21.23955551	81.34843796
M/S Raipur Rotocost Lim., Urla, Raipur	21.30996021	81.61441648
M/S Jindal Steel And Power Lim., Mandir Hasod, Raipur	21.25896096	81.56750901
M/S Saurabh Rolling Mill Pra. Lim., Kanhera, Achauli , Raipur	21.31525404	81.61194598
M/S Prime Ispaat, Bana, Raipur	21.31873191	81.56055835
M/S Vandana Ispaat Lim., Plot No. 6-8, Sector – B, Ind. Area Urla, Raipur	21.29841171	81.60995785
M/S Mahamaya Steel Industries Lim., Vill.- Sarora, Ind. Area, Urla Dist.- Raipur	21.29962257	81.60930518
M/S Indus Smellters Lim. (Steel Division), Ind. Area Urla, Raipur (Permanently Closed)	21.24644797	81.62205764
M/S Alankar Alloys Pra. Lim, Borjhara, Raipur	21.3063765	81.5769295
M/S G.P. Ispaat Pra Li. (Unit-2), Ind. Area Urla, Raipur(Production is stoped in This Unit)	21.31226355	81.62117072
M/S Ispaat India Plot No. 4 and 9 ,Ind. Area Siltara, Phase- 2 Raipur	21.36298652	81.65959904
M/S Hira Steels Li. Ranvabhata Raipur M/S Rameshwer Ispaat Pra. Lim., Urla, Raipur	21.3196312 21.32173175	81.64846154 81.602715
M/S Shri Bajrang Power And Ispat Lim. (Old Name- M/S Shri Bajrang Metalics And Power Lim.), Vill.- Gondwara, Urla Ind. Complex, Raipur	21.29356461	81.61878524
M/S Sarda Dairy And Food Products Pra. Lim., Vill.- Kharora, Th.- Tilda, Dist.- Raipur	21.26697802	81.65158638
M/S Jorawar Engineering And Foundary Forj Pra. Lim., Plot No. -1, C.A.I.D.C. Growth Centre Phase-2, Ind. Area Siltara, Raipur	21.29077603	81.60897764

M/S Kalindi Power And Steel Lim., Tumgaon, Dist.- Mahasamund	21.20775702	82.138575
M/S Jindal Electricity Generation Pra. Lim., Vill.- Bihajhar, Dist.- Mahasamund (Temporarly Closed)	21.28815787	81.53473759
M/S Neeraj Power Pra. Lim., Harinbhatta, Simga, Dist.- Balodabajar-Bhatapara	21.65110886	81.74517723
M/S Ultratech Cement Lim., Hirmi Cement Works,Post – Hirmi, Dist.- Balodabajar-Bhatapara	21.54382733	81.9471744
M/S Rawan Cement Works (Unit of Ultratech Cement Lim. Division), Rawan, Dist.- Balodabajar- Bhatapara	21.57779507	82.0202729
M/S Ambuja Cement Estern Lim. Rawan,Dist.-Balodabajar- Bhatapara	21.67875865	82.09463514
M/S Lafarge India Pra. Lim., Sonadih, Cement Plant, Raseda,Dist.- Balodabajar-Bhatapara	21.72428879	82.21692354
M/S Shri Shyam Sponge And Power Pra. Lim., Vill.- Bachera, Dist.- Balodabajar- Bhatapara	21.67312805	81.769309
M/S South Asian Agro Ind. Lim., Khajuri, Balodabajar, Raipur (Temperarly closed)	21.3365311	81.63074018
M/S Emami Cement Lim., Vill.- Risada, Dist.- Balodabajar-Bhatapara	21.64137694	82.11275551
M/S Shri Cement Lim., Vill.- Khaparadih, Th.- Simga, Dist.- Balodabajar-Bhatapara	21.60807187	82.03632778
M/S Arth Steel And AllaincePra. Lim.,Vill.- Duldula, Th.- Simga, Dist.- Balodabajar-Bhatapara	21.67052566	81.74013593
M/S Aditya Cement, Vill.- Suhela, Th.- Simga, Dist.- Balodabajar-Bhatapara (Permanently Closed)	21.74617456	81.53194488
M/S Neeraj Power Pra. Lim., Hirmi Cement Works, Post- Hirmi, Dist.- Balodabajar- Bhatapara	21.64983716	81.74537567
M/S Ultratech Cement Lim.Hirmi Cement Works, Post- Hirmi, Dist.- Balodabajar- Bhatapara	21.54392712	81.94707784
M/S Ravan Cement Works (Unit of Ultratech Cement Lim. Division) Ravan Dist.- Balodabajar- Bhatapara	21.57778509	82.02033727
M/S Ambuja Cement Estern LI., Rawan Balodabajar, Bhatapara	21.67913207	82.09458585
M/S Lafarge India Pri. Li. Sonadih, Cement Plant Raseda, Bhatapara	21.72404158	82.21685097
M/S Shri Shyam Sponge And Power Pra. Lim., Vill.- Bachera, Dist.- Ballodabajar- Bhatapara (Temperorly Closed)	21.24550755	81.65694654
M/S South Asian Agro Industries Lim., Khajuri, Balodabajar, Raipur	21.74826943	82.17525603

M/S Emami Cement Lim., Vill.- Risda, Dist.- Balodabajar-Bhatapara	21.64144675	82.11269114
M/S Shri Cement Lim.,Vill.- Khapradih, Th.- Simga, Dist.- Balodabajar-Bhatapara	21.60491671	82.05072972
M/S Bitkuli Lime Stone Mine (M/S Panchmukhi Interprises), Vill.- Bitkuli, Th.- Simga, Dist.- Balodabajar-Bhatapara	21.52224898	81.80679642
M/S Shri Bajrang Power and Ispaat Li. (Old Name- M/S Shri Bajrang Metalics and Power Li.), Vill.- Gondwara, Urla Industrial Complex Raipur	21.29284749	81.61856724
M/S Sarda Dairy and Food Products, Pri. Li., Vill.- Kharora, Th.- Tilda, Dist.- Raipur	21.42667725	81.91682017
M/S Jorawar Engineering and Foundary Forge Pri Li. Plot No.- 1 CSIDC Growth Centre Phase-2 Ind. Area Siltara, Raipur	21.29078602	81.60896691
M/S Matia Lime Stone Mine (Shri Gangaram Sharma) By- Shri Yogesh Pritwani, Vill.- Matia Raipur	21.33103758	81.7551476

Appendix -III (Industry Profile as per CPCB Pollution Category Analysis for MRB Part Chhattisgarh State: **Orange Large**)

Industry Name (Orange- Large)	**Lattitude**	**Longitude**
M/S Inspire Industries Pri. Li. Belmundi, Sakarra, Takhatpur , Bilaspur	22.05871737	82.06022417
M/S Mahavir Washry And Pri. Lim., Bhelai, Baloda Road, Janjgir- Chanpa	22.15938683	82.49645624
M/S Clean Coal Interprises Pri. Li., Baloda, Janjgir-Chanpa	22.1571064	82.48886614
M/S S. K. Samanta and Com. Pri. Li. Silpahri Ind. Area, Bilaspur	22.08567848	82.1388514
M/S SuryaTreaser Iceland Pri. Li., Opposite Surya Vihar, Junvani, Bhilai, Durg	21.2188577	81.32258982
M/S Tankeshwari Metal Powder Products Pri. Li., Aheri, Dhamdha, Durg	21.31832219	81.35555544
M/S Bharat Aluminium Com. Li. (n ew Cold Rolling Mill) Balco Nagar Korba	22.39844001	82.73990725
M/S Bharat Aluminium Com. Li. (Hi -tech Rolling Mill) Balco Nagar Korba	22.3984896	82.74006818
M/S A. C. B. India Li. Chakabuda Coal Washry, Chakabuda ,Korba	22.3917512	82.55604991
M/S ACB India Li. Binjary Coal Washry, Binjary, Katghora, Korba	22.36025935	82.54314725
M/S ACB India Li.Dipka Coal Washry, Dipka, Korba	22.3528676	82.54521167
M/S ACB India Li. Gevra Coal Washry, Gevra , Korba	22.36016647	82.54374105
M/S KJSL , Coal and Power Li., Dhatura, Korba	22.25979258	82.53380832
M/S Swastik Power and Minerals Resources Pri. Li., Kanberi , Korba	22.29806698	82.70557728
M/S Spectrum Coal and Power Li., Ratija, Korba	22.34009799	82.49284564
M/S S.V. Power Pri. LI. Coalwashry , Rainki, Pali, Korba	22.29731405	82.52535883
M/S Maruti Clean Coal Pri. Li. Ratija, Korba	22.34596901	82.42807203
M/S Jindal Steel and Power Li., Dongamoha (600 TPH)	22.14314828	83.54031985
M/S Jindal power Li., (Coal washry), Libra, Raigarh	21.92291279	83.36061254
M/S Rajan Coal Washry Li. ,Vill.- Chote Dumarpali, Dist.- Raigarh	22.00407169	83.16259331
M/S Phill Coal Benification Pri. Li., Tenda Navapara, Gahrghoda, Raigarh	22.16116833	83.2622726
M/S Tirumala Balaji Alloys Pri. Li., Jindal Ind. Area, Pujipathra, Raigarh	22.06191945	83.34446299

M/S V.A. Power and Steel Pri. Li. Jindal Ind. Area, Punjipathra, Raigarh	22.05606154	83.34183179
M/S R.S. Ispaat Li., Jindal Ind. Area, Pujipathra, Raigarh	22.05570768	83.33847593
M/S Jindal Steel and Power Li. Punjipathra, Raigarh	22.05776496	83.33465829
M/S NMDC Li. Central Workshop Bacheli , Dantewada	18.71377978	81.25516362
M/S Essar Steel India Li. Water Pumping Station, Sukma	18.3885945	81.69652428
M/S Indian Oil Cor. (LPG Plant) ,Siltara, Raipur	21.35962097	81.68810135
M/S Sarthak Ispaat Pri. Li., Urla, Sarora, Near Ind. Area Urla, Raipur	21.28893848	81.61251215
M/S MarutiFerous Pri. Li. (Rolling Mill Division), Sondra, Dharsinva , Raipur	21.37041569	81.64280129
M/S Goyal Energy and Steels Pri. Li. Tatibandh Ring Road No. -2 Raipur	21.26656114	81.56453967
M/S Prakash Ind. Li., Ind. Area, Ring Road No.-2 Gogaon, Raipur	21.27562893	81.60424154
M/S R.K. Structure Pri. Li. Sondongari Raipur	21.24985987	81.63037362
M/S Raipur Bottling Com. , Bahnakadi, Mandir Hasod , Raipur	21.28267234	81.79060544
M/S Shiv Snacks Pri. Li., collar, Abhanpur, Raipur	21.08920422	81.66126917
M/S Continental Dislari Siltara RAIPUR (Permanantly Closed)	21.39638417	81.70215264
M/S CG Ispaat Pri. Li., Bahesar, Raipur	21.23666434	81.65847019
M/S Ador Welding Li., Ind. Area Bhanpuri, Raipur	21.30932315	81.63600271
M/S Hindustan Petrolium Corp. Pri. Li. Mandir Hasod Raipur	21.24205652	81.64917956
M/S Bhilai Eng. Cor. Li. Urla Raipur	21.2283866	81.39719443

M/S Indian Oil Cor. Li., Mandir Hasod, Aarang, Raipur	21.22569217	81.620921
M/S D.B. Energy and Foods Pri. Li., Belsonda, Mahasamund	21.90478871	83.18649478

Appendix -IV (Industry Profile as per CPCB Pollution Category Analysis for MRB Part Chhattisgarh State: **Green Large**)

Industry Name (Green-Large)	**Lattitude**	**Longitude**
M/S Azure Power India Power Li. Vill.- Rajpur, Th.- Dhamdha, Dist.- Durg	21.52312016	81.27304215
M/S Shalimaar Pellet Feeds Li., Plot Zone- B/2, Borai Ind. Area, Dist.- Durg	21.19327753	81.2080469
M/S Timken India Li., Near Kumhari Toll Plaza, GE Road Kumhari, Dist.- Durg (Permanently Closed)	21.25292815	81.53438218
M/S V.N.R. Seeds Pri. Li. Vill.- Devurjhal,RNMAhiwara, Dist.- Durg	21.38058257	81.39179034
M/S Simplex Engineering and Foundary Works, 65 Ind. Estate,Bhilai Dist.- Durg	21.23013899	81.38240345
M/S Simplex Engineering and Foundary Works, Unit- 3 Vill.- Tedesara,Dist.- Rajnandgaon	21.11036899	81.031387
M/S Hasdev Bango Hydel Power Station,CG SECL Vill.- Machadol, Dist.- Korba	22.61308323	82.60081152
M/S Salivahan Green Energy Hydel Power Station ,Vill.- Chevghara, Th.- Podi Uproda, Dist.- Korba	22.57514873	82.40142494
M/S Rojar Power Technologies Pri. Li. , Ind. Area Raipur	21.31604789	81.62222798
M/S Shri Balmukund Polypack Pri. Li. Ind. Area Urla , ExtentionTendua, Dist.- Raipur	21.25788869	81.63667858

Appendix -V (Industry Profile as per CPCB Pollution Category Analysis for MRB Part Chhattisgarh State: **White Large**)

Industry Name(White- Large)	**Lattitude**	**Longitude**
M/S J.K.Sons Engineering Pri. Li. Vill.- Chilhati, Post.- Mopka, Dist.- Bilaspur	22.09785039	82.22498181
M/S Bilaspur Mining (India) Pri. Li. Vill.- Panghi, Th.- Masturi, Dist.- Bilaspur	22.10636856	82.24250733
M/S Lainko Solar Pri. Li. Vill.- Mahrumakla, Dist.- Rajnandgaon (Closed)	21.23141966	81.06155088

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