Brihanmumbai Municipal Corporation

Water Conservation | Tree Plantation | Renewable Energy | Waste Management | Recycling | Sustainable Development

ENVIRONMENT STATUS REPORT 2025-26

Miyawaki Garden, Bhakti Park, Wadala

ENVIRONMENT STATUS REPORT 2025-2026

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मनोगत

सन 2025-26 या वर्षाचा बृहन्मुंबई 'पर्यावरण स्थितीदर्शक अहवाल' महानगरपालिकेस सादर करताना मला अत्यंत आनंद होत आहे.

अद्ययावत सुधारित मुंबई महानगरपालिका अधिनियम, 1888 मधील कलम 61 अब नुसार पर्यावरण संरक्षण, परिसर संवर्धन तसेच शहरातील वनांचे संवर्धन करणे हे बृहन्मुंबई महानगरपालिकेचे वैधानिक कर्तव्य आहे. त्यानुसार महानगरपालिकेच्या पर्यावरण व वातावरणीय बदल विभागामार्फत बृहन्मुंबई 'पर्यावरण स्थितीदर्शक अहवाल' दरवर्षी तयार करण्यात येतो. सदर अहवालामध्ये बृहन्मुंबईतील पर्यावरणाचा दिनांक 1 एप्रिल 2025 ते 31 मार्च 2026 या कालावधीतील चिकित्सक दृष्टीने सविस्तर आढावा घेण्यात आला आहे. तसेच शहराच्या पर्यावरण संवर्धनासाठी शासन, अशासकीय संस्था आणि महानगरपालिकेमार्फत राबविण्यात येणाऱ्या पर्यावरणपूरक योजना व उपक्रमांचाही परामर्श घेण्यात आला आहे.

बृहन्मुंबई पर्यावरण स्थितीदर्शक अहवाल हा मुंबईच्या पर्यावरणावर अनुकूल अथवा प्रतिकूल परिणाम करणाऱ्या घटकांशी संबंधित वस्तुनिष्ठ माहिती व सांख्यिकीय आकडेवारीवर आधारित आहे. ही माहिती व आकडेवारी बृहन्मुंबई महानगरपालिकेच्या विविध विभागांकडून तसेच राज्य शासन, केंद्र शासन आणि विविध सार्वजनिक व औद्योगिक संस्थांकडून संकलित करण्यात आली आहे.

मुंबई महानगरातील वायुप्रदूषण नियंत्रणासाठी महाराष्ट्र प्रदूषण नियंत्रण मंडळाच्या सहकार्याने बृहन्मुंबई महानगरपालिकेने 'मुंबई वायु प्रदूषण नियंत्रण कृती आराखडा-2019' तयार करून विविध उपाययोजना राबविल्या आहेत. तथापि, अपेक्षित उद्दिष्टे पूर्णपणे साध्य करण्यासाठी अजूनही सातत्यपूर्ण व अधिक प्रभावी प्रयत्नांची आवश्यकता आहे.

हवामान बदल हा आजच्या काळातील सर्वात गंभीर जागतिक आव्हानांपैकी एक आहे. वैज्ञानिक अहवाल, आकडेवारी किंवा प्रसारमाध्यमांमधील बातम्यांपुरती त्याची जाणीव मर्यादित नसून, जगातील जवळपास सर्वच देश त्याचे प्रत्यक्ष परिणाम अनुभवत आहेत. वातावरणातील बदलामुळे अवकाळी पाऊस, अतिवृष्टी, अवर्षण, उष्णतेच्या लाटा, समुद्रपातळीतील वाढ तसेच नागरी प्रदूषण अशा विविध समस्यांना सामोरे जावे लागत आहे.

या पार्श्वभूमीवर हवामान बदलाच्या परिणामांना तोंड देण्यासाठी बृहन्मुंबई महानगरपालिकेने C40 Cities आणि World Resources Institute India (WRI India) यांच्या तांत्रिक व ज्ञानाधारित सहकार्याने 'मुंबई वातावरण कृती आराखडा-2022' तयार केला आहे. या आराखड्याद्वारे सन 2050 पर्यंत हरितगृह वायूंचे निव्वळ उत्सर्जन 'नेट-झिरो' पातळीवर आणण्याचे उद्दिष्ट निश्चित करण्यात आले आहे. तसेच हवामान बदलास अधिक सक्षमपणे सामोरे जाणारे, लवचिक आणि शाश्वत शहर म्हणून मुंबई विकसित करण्याची दीर्घकालीन वचनबद्धता अधोरेखित करण्यात आली आहे. या उद्दिष्टांच्या पूर्ततेसाठी महानगरपालिकेमार्फत विविध विकासकामांसोबतच नियोजनबद्ध व पर्यावरणपूरक उपक्रम सातत्याने राबविण्यात येत आहेत.

मुंबई महानगरात साधारणतः ऑक्टोबर ते फेब्रुवारी या हिवाळी कालावधीत नैसर्गिकरीत्या वायुप्रदूषणात वाढ होत असते. या पार्श्वभूमीवर वाढत्या प्रदूषणावर नियंत्रण ठेवण्यासाठी महानगरपालिकेने 'मुंबई वायु प्रदूषण शमन योजना-2023' तयार केली आहे. या योजनेअंतर्गत प्रदूषणाचे स्रोत ओळखणे, स्रोतनिहाय वर्गीकरण करणे, प्रकल्पांचे श्रेणीकरण, प्रभावी अंमलबजावणी व देखरेख यंत्रणा विकसित करणे, नियमांचे उल्लंघन करणाऱ्यांवर दंडात्मक कारवाई करणे, नियमित पुनरावलोकन करणे आणि सुधारात्मक उपाययोजना राबविणे या बाबींची विभागस्तरावर काटेकोर अंमलबजावणी करण्यात येत आहे. तसेच महानगरपालिकेच्या हद्दीतील विविध नियोजन प्राधिकरणे व इतर शासकीय विभागांच्या समन्वयातून वायुप्रदूषण नियंत्रणासाठी प्रभावी प्रयत्न करण्यात येत आहेत.

मला येथे विशेष नमूद करावेसे वाटते की, मुंबईतील वायुप्रदूषण आणि पर्यावरण समतोल राखण्यासाठी तातडीच्या उपाययोजना म्हणून बृहन्मुंबई महानगरपालिकेने दिनांक 25 ऑक्टोबर 2023 रोजी 27 मुद्यांची मार्गदर्शक तत्त्वे आणि दिनांक 15 ऑक्टोबर 2024 रोजी सुधारित 28 मुद्यांची मार्गदर्शक तत्त्वे जारी केली आहेत. ही मार्गदर्शक तत्त्वे सर्व संबंधित यंत्रणांसाठी बंधनकारक असून त्यांची काटेकोर अंमलबजावणी सुनिश्चित करण्यात येत आहे. नियमांचे उल्लंघन करणाऱ्यांविरुध्द कठोर दंडात्मक कारवाई करण्याचे निर्देशही देण्यात आले आहेत. महाराष्ट्र शासन, केंद्र शासन तसेच विविध संस्थांनी समन्वयाने कार्य केल्यास मुंबईतील वायुप्रदूषणावर अधिक प्रभावी नियंत्रण मिळविणे शक्य होईल, असा मला विश्वास आहे.

हवामान बदल हा केवळ पर्यावरणाचा विषय नसून सामाजिक न्याय, सार्वजनिक आरोग्य आणि मानवी हक्कांशी निगडित विषय आहे. त्यामुळे या लढ्यात केवळ शासनाची धोरणे किंवा उद्योगांची जबाबदारी पुरेशी नाही; प्रत्येक नागरिकांचा सहभाग तितकाच महत्त्वाचा आहे. मुंबईकर म्हणून हवामानविषयक जागरूकता, ऊर्जा बचत, सार्वजनिक वाहतुकीचा वापर, वृक्षारोपण, वर्षाजल संधारण, पाणी बचत, ओला व सुका कचरा वेगळा करणे, एकदाच वापरल्या जाणाऱ्या प्लास्टिक व थर्माकोलचा वापर टाळणे आणि शाश्वत जीवनशैलीचा स्वीकार करणे अशा छोट्या-छोट्या कृतींद्वारे आपण मोठा सकारात्मक बदल घडवून आणू शकतो, याची मला खात्री आहे.

बृहन्मुंबई महानगरपालिकेच्या विविध विभागांनी सन 2025-26 मध्ये अनेक महत्त्वाकांक्षी प्रकल्प हाती घेतले आहेत. त्यापैकी अनेक प्रकल्प पूर्ण झाले असून काही प्रगतीपथावर आहेत. घनकचरा व्यवस्थापन, उद्याने व प्राणीसंग्रहालय, पर्जन्य जलवाहिन्या, मलनिःसारण, पाणी पुरवठा, रस्ते व वाहतूक, बेस्ट उपक्रम, शिक्षण, पर्यावरण व वातावरणीय बदल, सार्वजनिक आरोग्य, आपत्कालीन व्यवस्थापन तसेच मुंबई किनारी रस्ता प्रकल्प या विभागातील विविध पर्यावरणपूरक उपक्रम राबविण्यात येत आहेत. या प्रकल्पांची यशस्वी अंमलबजावणी झाल्यानंतर महानगरातील पर्यावरणीय समतोल राखण्यास आणि नागरिकांच्या जीवनमानात सुधारणा घडविण्यास निश्चितच मदत होईल.

शेवटी, हवामान बदलाचे आव्हान केवळ शासनाच्या कायद्यांनी किंवा धोरणांनी पूर्णपणे दूर होणार नाही. त्यासाठी प्रत्येक नागरिकाने पर्यावरण संरक्षणाची आपली जबाबदारी ओळखून स्वच्छ, हरित, शाश्वत आणि प्रदूषणमुक्त मुंबई घडविण्यासाठी जाणीवपूर्वक योगदान देणे आवश्यक आहे. आपल्या सर्वांच्या सामूहिक प्रयत्नांतूनच भावी पिढ्यांसाठी अधिक सुरक्षित, निरोगी आणि पर्यावरणस्नेही मुंबई निर्माण करू शकू, असा मला दृढ विश्वास आहे.

धन्यवाद!

अश्विनी भिडे
महानगरपालिका आयुक्त
बृहन्मुंबई महानगरपालिका

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मनोगत

अद्ययावत सुधारित मुंबई महानगरपालिका अधिनियम, 1888 मधील कलम 63ब च्या तरतुदीनुसार बृहन्मुंबईचा 'पर्यावरण स्थितीदर्शक अहवाल' तयार करून दरवर्षी 31 जुलैपूर्वी महानगरपालिकेस सादर करणे अनिवार्य आहे. सन 2025-26 या वर्षाचा बृहन्मुंबई 'पर्यावरण स्थितीदर्शक अहवाल' मा. महानगरपालिका आयुक्त यांच्या मार्फत महानगरपालिकेस सादर करताना मला अत्यंत आनंद होत आहे.

मानवी संस्कृतीचा विकास आणि अस्तित्व हे पूर्णपणे निसर्गावर अवलंबून आहे. तथापि, गेल्या काही दशकांमध्ये वाढते औद्योगिकीकरण, शहरीकरण आणि लोकसंख्यावाढ यांमुळे नैसर्गिक संसाधनांवर प्रचंड ताण निर्माण झाला आहे. त्यामुळे पर्यावरण संरक्षण ही आजची अत्यंत महत्त्वाची गरज बनली आहे. त्या अनुषंगाने केंद्र शासनाने नैसर्गिक साधनसंपत्ती तसेच पर्यावरणातील विविध घटकांचे संरक्षण व संवर्धन करण्यासाठी जल (प्रदूषण प्रतिबंध व नियंत्रण) अधिनियम, 1974, वायु (प्रदूषण प्रतिबंध व नियंत्रण) अधिनियम, 1981 आणि पर्यावरण (संरक्षण) अधिनियम, 1986 असे विविध अधिनियम लागू केले असून, त्याअंतर्गत आवश्यक नियमावलीदेखील तयार करण्यात आली आहे. या अधिनियमांची प्रभावी अंमलबजावणी करून शहरातील वायुप्रदूषण कमी करण्याच्या उद्देशाने राज्य शासनाच्या पर्यावरण व वातावरणीय बदल विभाग तसेच महाराष्ट्र प्रदूषण नियंत्रण मंडळाच्या सहकार्याने बृहन्मुंबई महानगरपालिका सातत्याने प्रयत्नशील आहे.

मुंबई महानगरास वाढते शहरीकरण, अपुरे कचरा व्यवस्थापन, वायुप्रदूषण आणि हवामान बदलाचे परिणाम यांसारख्या विविध पर्यावरणीय आव्हानांचा सामना करावा लागत आहे. विशेषतः वायुप्रदूषण, जलप्रदूषण, ध्वनीप्रदूषण आणि कचऱ्याशी संबंधित आरोग्यविषयक समस्या या शहरी परिसंस्थेस गंभीर धोका निर्माण करीत आहेत. महानगरातील पर्यावरणीय समतोल राखण्याची जबाबदारी पार पाडणारी प्रमुख प्रशासकीय संस्था म्हणून बृहन्मुंबई महानगरपालिकेने पर्यावरण विभागाचे विस्तारीकरण व बळकटीकरण करून शाश्वत पर्यावरण निर्मितीशी संबंधित विशिष्ट भूमिका व जबाबदाऱ्या नव्याने स्थापन करण्यात आलेल्या पर्यावरण व वातावरणीय बदल विभागाकडे सोपविल्या आहेत.

सन 2019-20 मध्ये CSIR-NEERI या संस्थेमार्फत "Air Quality Monitoring, Emission Inventory and Source Apportionment Studies for Mumbai" हा अभ्यास करण्यात आला. या अभ्यासातून मुंबईतील वायुप्रदूषण वाढण्यामागे वाहनांमधून होणारे उत्सर्जन, बांधकामस्थळांवरील धूळ, रस्त्यांवरील धुळीचे पुनर्प्रक्षेपण, औद्योगिक उत्सर्जन, कचरा जाळणे तसेच कारखाने व वाहनांतून होणारा धूर ही प्रमुख कारणे असल्याचे स्पष्ट झाले आहे. या पार्श्वभूमीवर महानगरातील वायुप्रदूषण नियंत्रणासाठी बृहन्मुंबई महानगरपालिकेमार्फ़त तात्काळ व दिर्घकालीन धोरणे आणि उपाययोजना काटेकोरपणे राबविण्यात येत आहेत.

दीर्घकालीन धोरणे व परिणामकारक उपाययोजना राबविण्यासाठी बृहन्मुंबई महानगरपालिका राष्ट्रीय स्तरावरील विविध संस्थांच्या सहकार्याने अनेक महत्त्वपूर्ण प्रकल्प कार्यान्वित करीत आहे. Indian Institute of Technology (IIT), Kanpur यांच्या सहकार्याने 'हायपरलोकल वायु गुणवत्ता निरीक्षण' प्रकल्पांतर्गत मुंबई महानगरात अत्याधुनिक सेन्सरचे जाळे उभारण्यात आले आहे. या उपक्रमामुळे स्थानिक स्तरावरील वायुप्रदूषणाची अचूक माहिती उपलब्ध होऊन तात्काळ उपाययोजना करणे प्रशासनास शक्य होणार आहे.

तसेच Indian Institute of Tropical Meteorology (IITM), Pune यांच्या सहकार्याने प्रगत वायु गुणवत्ता पूर्वानुमान प्रणाली विकसित करण्यात येत आहे. या प्रणालीद्वारे पुढील 72 तासांपर्यंतचा वायु गुणवत्ता अंदाज, संभाव्य उत्सर्जन स्रोतांची ओळख तसेच आरोग्यविषयक सूचना वेळेवर उपलब्ध होणार असून, त्याआधारे प्रतिबंधात्मक उपाययोजना अधिक प्रभावीपणे राबविता येतील.

याशिवाय Automotive Research Association of India (ARAI) यांच्या सहकार्याने मुंबई व मुंबई महानगर प्रदेशासाठी Emission Inventory तयार करण्यात येत आहे. यामुळे अचूक निर्णयप्रक्रिया, प्रभावी प्रदूषण नियंत्रण उपाययोजना आणि वैज्ञानिक नियोजनास मोठी मदत होईल. सार्वजनिक आरोग्य संरक्षण तसेच प्रभावी वायु गुणवत्ता व्यवस्थापनाच्या दृष्टीने हा उपक्रम अत्यंत महत्त्वपूर्ण ठरणार आहे.

केंद्रीय प्रदूषण नियंत्रण मंडळाच्या मार्गदर्शक सूचनांनुसार शहरातील वायु सर्वेक्षणाचे कार्य नियमितपणे करण्यात येत असून, बृहन्मुंबई महानगरपालिका क्षेत्रात सध्या एकूण 28 सतत वातावरणीय वायु गुणवत्ता सर्वेक्षण केंद्रे (CAAQMS) कार्यरत आहेत. या केंद्रांवरील वायु गुणवत्ता निर्देशांक (AQI) केंद्रीय प्रदूषण नियंत्रण मंडळाच्या संकेतस्थळावर दररोज प्रसिद्ध केला जातो.

मागील दोन वर्षांच्या आकडेवारीवरून असे निदर्शनास येते की, वायु गुणवत्ता निर्देशांकानुसार 'चांगल्या' व 'समाधानकारक' श्रेणीतील दिवसांची संख्या सन 2023 मध्ये 185 दिवस, सन 2024 मध्ये 216 दिवस, तर सन 2025 मध्ये 218 दिवसांपर्यंत वाढली आहे. तसेच हिवाळी कालावधीतील वायु गुणवत्ता निर्देशांकामध्ये सन 2023 च्या तुलनेत सन 2024 मध्ये 22 टक्के आणि सन 2025 मध्ये 26 टक्के सुधारणा झाली आहे. यावरून महानगरातील वायुप्रदूषणाच्या पातळीत निश्चितच सुधारणा होत असल्याचे अभिमानाने नमूद करावेसे वाटते.

मुंबई व मुंबई महानगर प्रदेशातील वाढत्या वायुप्रदूषणाच्या पार्श्वभूमीवर तसेच जनहित याचिका (SMPIL क्र.03/ 2023) अनुषंगाने प्रदूषण नियंत्रण उपाययोजनांची प्रभावी अंमलबजावणी सुनिश्चित करण्यासाठी मा. उच्च न्यायालयाच्या निर्देशानुसार High Power Committee (HPC) ची स्थापना करण्यात आली आहे. या समितीशी समन्वय साधण्याची जबाबदारी बृहन्मुंबई महानगरपालिकेच्या पर्यावरण व वातावरणीय बदल विभागाकडे आहे. समितीमार्फत मुंबई व मुंबई महानगर प्रदेशातील वायुप्रदूषण नियंत्रणासाठी तात्काळ, मध्यमकालीन आणि दीर्घकालीन उपाययोजना निश्चित करून त्यांची प्रभावी व काटेकोर अंमलबजावणी संबंधित विभागांच्या माध्यमातून करण्यात येत आहे.

उच्चस्तरीय समितीच्या (HPC) मार्गदर्शनाखाली आणि समितीने सुचविलेल्या उपाययोजनांच्या प्रभावी अंमलबजावणीद्वारे भविष्यात महानगरातील वायुप्रदूषणावर अधिक प्रभावी नियंत्रण मिळविण्यात निश्चितच यश प्राप्त होईल, असा मला ठाम विश्वास आहे.

मुंबईतील पर्यावरण , संरक्षण व संवर्धनासाठी बृहन्मुंबई महानगरपालिका कटिबद्ध आहे. हरित,सुंदर व स्वच्छ मुंबईचे स्वप्न साकार होण्यासाठी सुजाण मुंबईकरांचा सक्रिय सहभाग लाभेल, अशी मला खात्री आहे.

धन्यवाद!

डॉ. अविनाश ढाकणे
अतिरिक्त महानगरपालिका आयुक्त
(पूर्व उपनगरे)

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आभार / अभिस्विकृती

बृहन्मुंबई महानगरपालिका पर्यावरण स्थितीदर्शक अहवाल' तयार करण्यासाठी व विविध पर्यावरण पूरक उपक्रम राबविण्यासाठी वेळोवेळी केलेल्या मार्गदर्शनाबद्दल मा. महानगरपालिका आयुक्त तसेच मा. अतिरिक्त महानगरपालिका आयुक्त (पूर्व उपनगरे) यांचे मी मनःपूर्वक आभार मानतो.

त्याचप्रमाणे मुंबई विद्युत पुरवठा व परिवहन, महाराष्ट्र राज्य परिवहन खाते, राष्ट्रीय केमिकल्स ॲण्ड फर्टिलाइजर्स लिमिटेड, भारत पेट्रोलिअम कॉर्पोरेशन लि., हिंदुस्थान पेट्रोलिअम कॉर्पोरेशन लि., टाटा पॉवर, मुंबई पोर्ट ट्रस्ट, अदानी इलेक्ट्रिसिटी मुंबई लिमिटेड, कांदळवन कक्ष आणि बृहन्मुंबई महानगरपालिकेचे विविध विभाग या सर्वांकडून माहिती उपलब्ध झाली. त्याबद्दल त्यांचा मी मनस्वीः आभारी आहे.

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महानगरपालिका उप आयुक्त
(पर्यावरण व वातावरणीय बदल)

ACRONYMS

ALM	Advanced Locality Management
AMR	Automatic Meter Reading
AQI	Air Quality Index
ATC	Area Trafiic Control
BEST	Brihanmumbai Electric Supply & Transport
BMC	Brihanmumbai Municipal Corporation
BOD	Bio-chemical Oxygen Demand
BRIMSTOWAD	Brihanmumbai Strom Water Drain
CAAQMS	Continuous Ambient Air Quality Monitoring Station
CDRF	City Disaster Rapid Force
CNG	Compressed Natural Gas
CPCB	Central Pollution Control Board
CRZ	Coastal Regulatory Zone
DO	Dissolved Oxygen
dB	Decibels (Unit of sound measurement)
DCB	Development Control Regulation
EIA	Environment Impact Assessment
EMP	Environment Mitigation Programme
ETP	Environment Treatment Plant
FSI	Floor Space Index
FC	Fecal Coliform
GVM	Gross Vehicle Weight
IEC	Information Communication and Education
IPS	Influent Pumping Station
Km	Kilometer
LCPD	Liters per capita per day
MCAP	Mumbai Climate Action Plan
MMRDA	Mumbai Metropolitan Regional Development Authority
MOH	Medical Officer, Health
MPCB	Maharashtra Pollution Control Board
MSEB	Maharashtra State Electricity Board
MHADA	Maharashtra Housing And Area Development Authority
MLD	Million Liters Per Day
Mm	Millimeter
MEIP	Metropoliton Environment Improvement Programme
MSDP	Mumbai Sewage Disposal Project

MTPD	Metric Tonnes Per Day
MVA	Mega Volt Ampere
MSRDC	Maharashtra State Road Development Corporation
MUIP	Mumbai Urban Infrastructure Project
MUTP	Mumbai Urban Transport Project
NEERI	National Environment Engineering Research Institute
NGO	Non-Governmental Organization
PAH	Polynuclear Aromatic Hydrocarbon
PUC	Pollution Under Control
PSI	Pollution Standard Index
RTO	Regional Transport Office
RSP	Respirable Suspended Particulate
SSP:	Slum Sanitation Programme
SPM	Suspended Particulate Matter
STP	Sewage Treatment Plant
SW I	Seawater Criteria I
SW II	Seawater Criteria II
SWD	Storm Water Drain
TEC	Tata Electric Company
TC	Total Coliform
TSP	Total Suspended Particulates
URBAIR	Urban Air Project Quality Management
WC	Waste Carrier
WSSD	Water Supply & Sewerage disposal.
WWTF	Waste Water Treatment Facility

1 INTRODUCTION

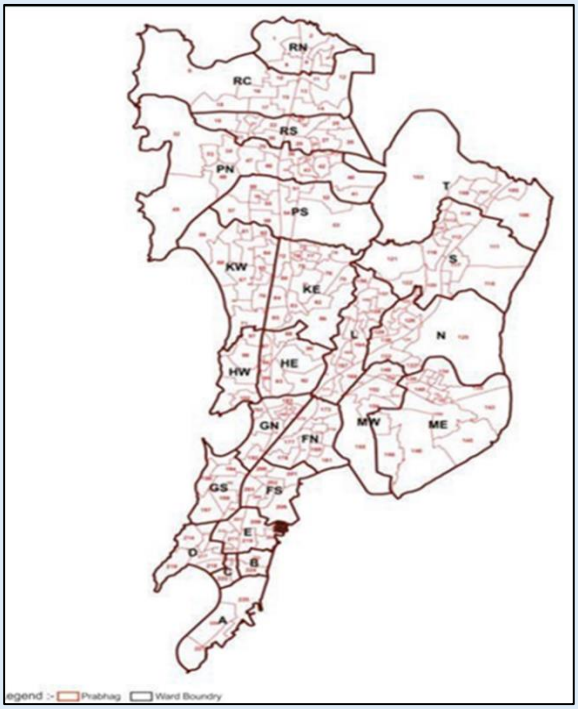
As a local self-government body, the primary duty of the Brihanmumbai Municipal Corporation (BMC) is to ensure the comprehensive development of the Mumbai metropolis. While discharging this duty, it is equally important to protect the environment by addressing the environmental issues arising within the city. Undertaking diverse development activities in the city necessitates the implementation of numerous new projects and the provision of various infrastructural facilities to the citizens. Since these activities directly or indirectly impact the environment, it is essential to prepare an 'Environmental Status Report' and submit it to the Municipal Corporation to reflect this overall situation.

The 74th amendment of the constitution of India in 1992 defines the role and duties of Municipalities & Municipal Corporations. The 12th schedule to the amended constitution states the scope of the work of the corporations. The scope includes environment protection, promotion of ecology and urban forestry. As a sequel to this, the Maharashtra state government issued an ordinance amend municipal act 1888, making “Environment Protection, Promotion of Ecology and Urban Forestry” as an obligatory duty vide section 61(ab) in the year 1994. The Environment Status Report (ESR) of the city of Mumbai for the period from April 2025 to March 2026 is prepared by Air Quality Monitoring and Research Laboratory of Environment section in Solid Waste Management department to fulfill the obligation under the clause ‘63B’ of Mumbai Municipal Corporation (MMC) Act 1888. This report is based on the factual and statical data generated using parameters affecting the environment by different departments of Brihanmumbai Municipal Corporation and various departments of state/central government and industries.

2 DESCRIPTION OF THE AREA

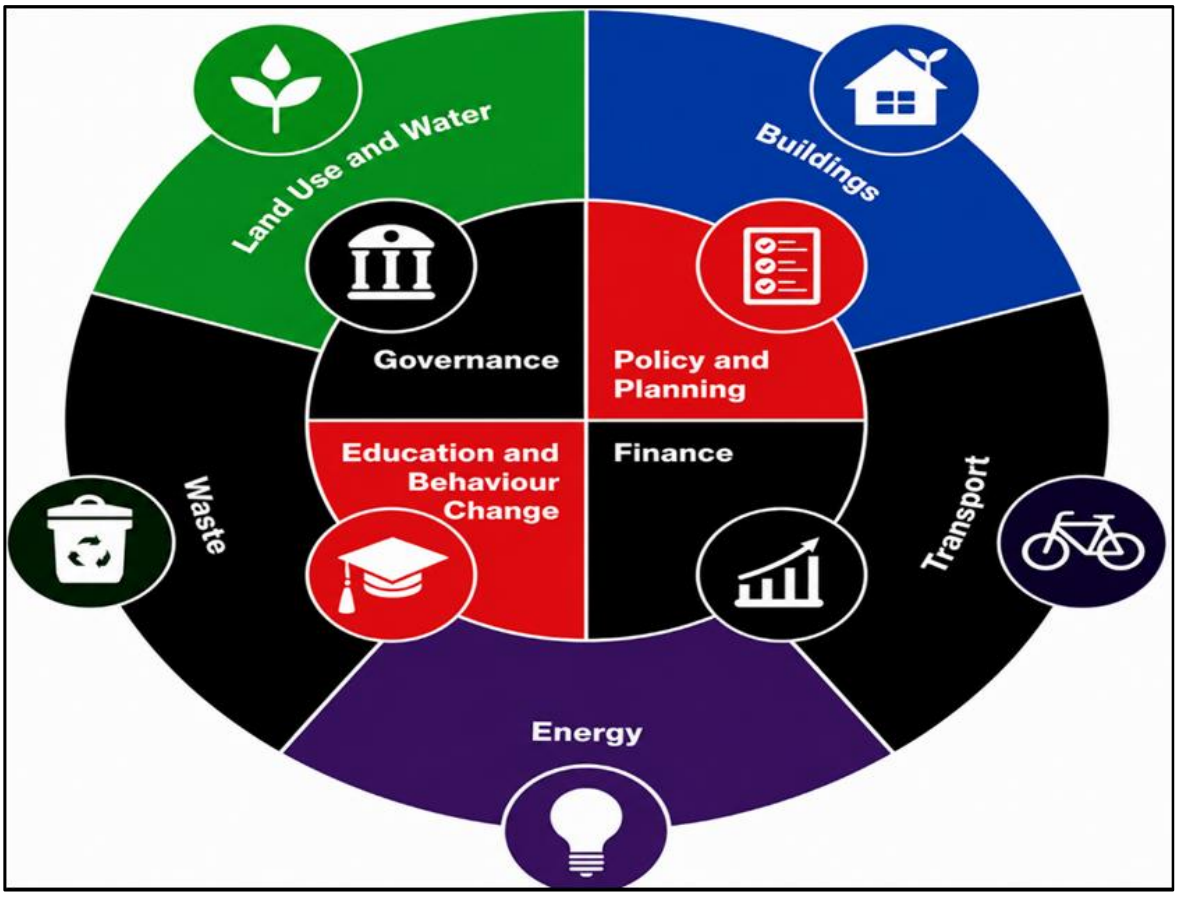
Mumbai is located on the western sea coast of India from 18°53′ North to 19°16′ North Latitude and from 72°′ East to 72°59′ East Longitude. It was originally a cluster of seven islands. Later on these islands were joined to form present Mumbai. The total land of Greater Mumbai identified in Earlier Draft Development Plan 2034 (EDDP) was 458.28 sq. km. The Municipal Corporation of Greater Mumbai (Brihanmumbai Municipal Corporation), however, was the Planning Authority of area that was more modest, since about 8.76% of the cited area fell under the jurisdiction of Special Planning Authorities (SPA).Currently five such SPA exist in Greater Mumbai- MMRDA, SRA, MIDC, MbPT & Mhada. The Revised Draft Development Plan (RDDP) therefore prepared a development plan for 434.55 sq.km. leaving area with SA at 41.69 sq.km. The area of MbPT and Mhada SPA were included during the preparation of RDDP, as the said SPA's were declared on 23.04.2018 & 23.05.2018 by the GoM after the publication of RDDP.

Map No. 2.1: Mumbai Electoral ward boundary 2018



3 CLIMATE OF MUMBAI

The city of Mumbai has Tropical Savanna climate. Generally South-West monsoon arrives in the city in the month of June and retreats in the month of September. As per data recorded by Regional Meteorological Centre, in the year 2025, Mumbai received a total rainfall measuring 2991.8 mm at Colaba & 3604.7 mm at Santacruz. The maximum rainfall of 1183.8 mm was recorded during August 2025 at Santacruz and it was 32.8% of total rainfall received. The maximum rainfall of 686.0 mm was recorded during August 2025 at Colaba and it was 22.9% of total rainfall received. So it is observed that there was less rainfall as compared to previous year. (In the year 2024 total rainfall received 3196.7 mm at Santacruz and 2772.4 mm at Colaba). In the month of April-2025 the maximum temperature of 33.8℃, and in the month of January 2026 minimum temperature of 20.5℃ was recorded at Colaba. In the month of April 2025 the maximum temperature of 34.4℃ and in the month of December 2025 minimum temperature of 17.6℃ was recorded at Santacruz. At Colaba the maximum Wind Speed of 9.9 Km/hr and minimum 1.8 Km/hr was recorded. At Santacruz the maximum Wind Speed of 8.2 Km/hr and minimum 1.8 Km/hr was recorded. The Relative Humidity was recorded maximum 91% and minimum 60% at Colaba. The Relative Humidity was recorded maximum 90% and minimum 48% was recorded at Santacruz.



Monthly meteorological data like temperature, rainfall and wind speed for Mumbai is shown in Table No. 3.1.

Table No. 3.1 : Meteorological Data Of Mumbai 2025-2026

Month	Average Temp 0°C				Rainfall in mm		Relative Humidity in %				Wind Speed Km/Hr	
	Colaba		Santacruz		Colaba	Santa cruz	Colaba		Santacruz		Colaba	Santa cruz
	Max	Min	Max	Min			Time 08:30	Time 17:30	Time 08:30	Time 17:30		
April 2025	33.8	26.0	34.4	25.1	0	0	84	70	76	62	2.6	3.6
May 2025	32.6	25.7	33.4	25.3	503.2	378.4	86	76	78	70	2.9	3.4
June 2025	31.1	25.6	32.0	26.3	592	512.7	87	82	84	79	8.8	8.2
July 2025	29.9	25.4	30.3	26.1	381	797.3	88	86	85	82	9.9	7.6
August 2025	29.1	25.1	29.9	25.3	686	1183.8	91	85	89	83	5.0	4.1
September 2025	29.0	24.6	29.5	24.5	604	619.2	91	84	90	83	2.0	3.5
October 2025	32.6	25.0	33.5	24.2	164.7	73.1	86	76	79	68	2.1	3.5
November 2025	32.2	23.1	32.5	20.5	51.6	33.5	80	63	72	55	1.9	1.9
December 2025	32.6	21.2	32.9	17.6	0	0	78	62	66	48	2.1	2.1
January 2026	29.8	20.5	30.9	18.5	9.3	6.7	84	66	87	62	1.9	2.9
February 2026	31.8	22.2	33.1	20.4	0	0	82	62	78	50	1.8	3.0
March 2026	33.3	24.1	34.3	22.7	0	0	77	60	73	51	1.8	1.8

Source: Regional Meteorological Centre, Colaba.

4 POPULATION OF MUMBAI

Mumbai is one of the important cities of the world, is also recognized as the most densely populated city. Inverse proportion of area and population causes serious impact on its environment.

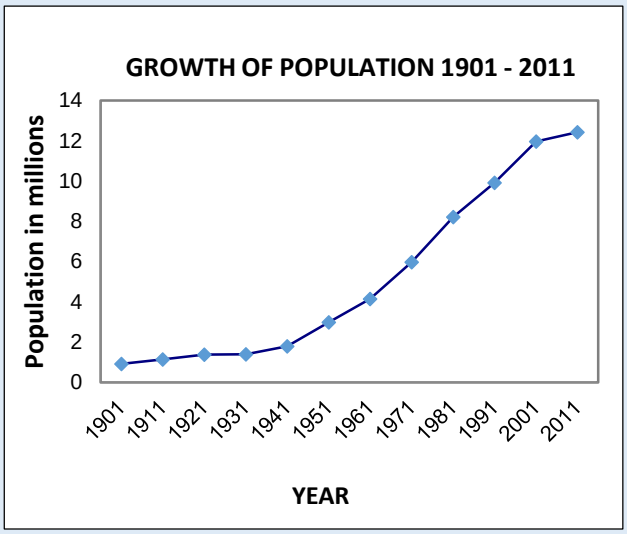
As per data received from Health Department of BrihanMumbai Municipal Corporation the estimated population of Mumbai is 13.15 million (year 2026). The population density of 27,219 person per sq.km (excluding no development area). Administrative Ward-wise population indicates that 'P/North' ward has maximum population of 9,95,174 persons where as 'B' ward has minimum population of 1,34,566 persons.

Table No. 4.1 : Growth of Population and rate of Increase during year 1901-2011

Year	Population in Million	% Growth
1901	0.93	-
1911	1.15	23.7
1921	1.38	20.0
1931	1.4	11.5
1941	1.8	28.6
1951	2.99	66.1
1961	4.15	38.8
1971	5.97	43.8
1981	8.22	38.0
1991	9.92	21.1
2001	11.97	20.6
2011	12.64	3.8

Source: Census Department of India

Chart 4.1 : GROWTH OF POPULATION



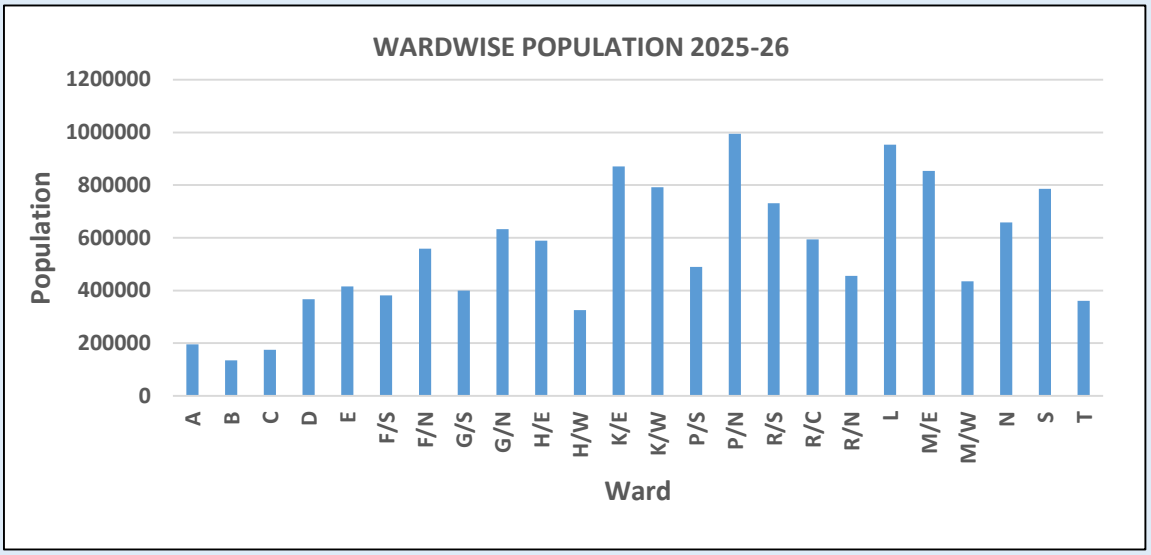
As per the mid-year election list of population in the year 2026, the ward wise area and population given by Public Health Department shown in table no.4.2

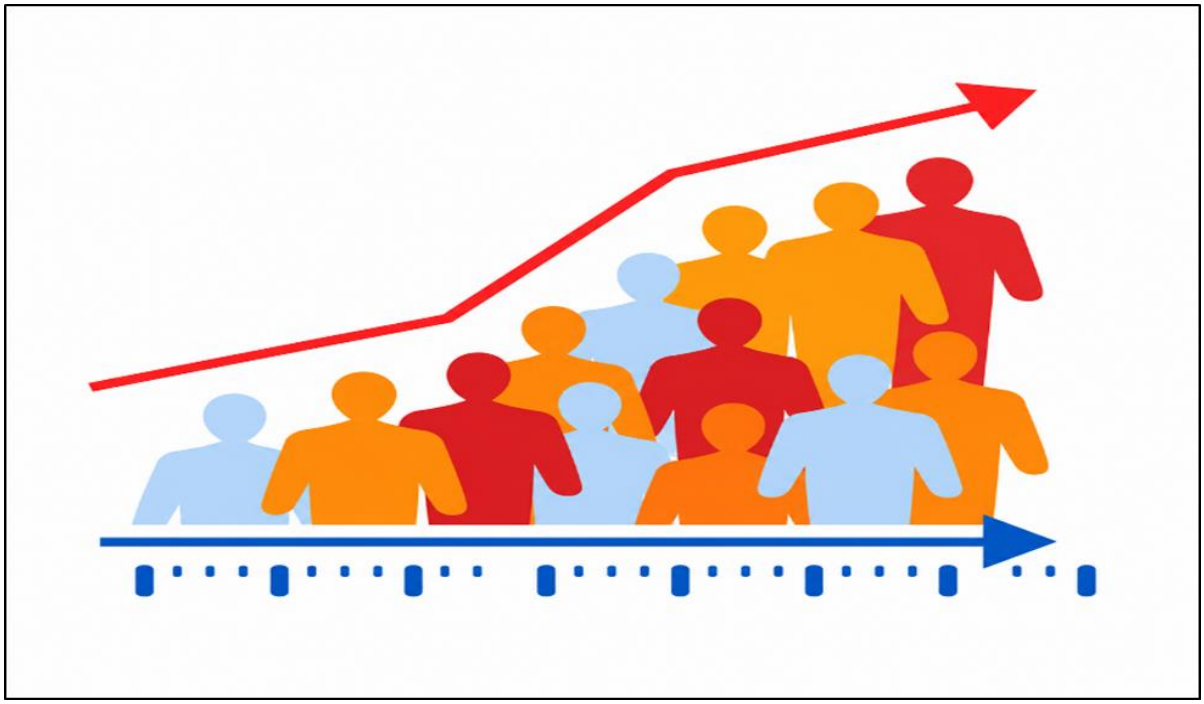
Table No. 4.2 : Ward wise Area & Population (2025-2026)							
Administrative Ward	Area in Sq.km	Population		Administrative Ward	Area in Sq.km	Population	
		2025	2026			2025	2026
A	11.20	194900	195589	P/S	25.19	488273	490001
B	2.65	134091	134566	P/N	46.70	991665	995174
C	1.91	175039	175659	R/S	18.31	728162	730739
D	8.30	365399	366693	R/C	47.95	592198	594295
E	7.27	414299	415766	R/N	14.17	454416	456025
F/S	9.87	380259	381605	**Western Ward**	**232.55**	**5822339**	**5842945**
F/N	12.85	557301	559273	L	15.62	950431	953795
G/S	9.74	397932	399341	M/E	38.19	850877	853888
G/N	8.31	631046	633279	M/W	17.62	433900	435436
City Ward	**72.1**	**3250266**	**3261771**	N	29.68	656132	658455
H/E	12.40	587012	589090	S	32.55	783524	786297
H/W	18.65	324016	325162	T	44.91	359708	360981
K/E	24.00	867906	870977	**Eastern Ward**	**178.57**	**4034572**	**4048852**
K/W	25.18	788691	791482	**Brihanmumbai Corporation**	**483.22**	**13107177**	**13153567**

Source: Health Depts. of Brihanmumbai Municipal Corporation

In the year 2026, if consider the area and population of Brihanmumbai, the area of Mumbai city is 72.1 sq. km Area of western suburb is 232.55 sq. km. and the area of the eastern suburb is 178.57 sq. km And the estimated population of the said division is 3261771, 5842945, 4048852 respectively.

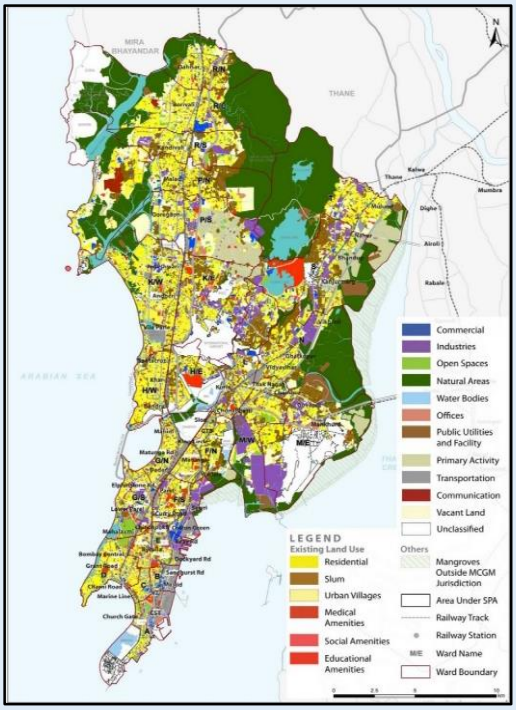
Graph No. 4.2: Ward wise Area & Population





5 LAND USE

Map No. 5.1: Action plan



The Brihanmumbai Municipal Corporation was the first Municipal Corporation to adopt the concept of a development plan. The first development plan was formulated in 1964 and was sanctioned in 1967. This development plan was revised as per the provisions of Maharashtra Regional and Town Planning Act, 1966. The Sanctioned Revised Development Plan 1991 came into force in 1991-94. This plan was valid up to 2014. Brihanmumbai Municipal Corporation revised the Sanctioned Revised Development Plan 1991 during the period 2014-2018. The Development Plan for 2014-2034 was submitted to State Government under provision of section 30(1) of said Act on 02.08.2017 for sanction.

The State Government in accordance with the sub section (1) of section 31 of the Maharashtra Regional and Town Planning Act, 1966 have accorded sanction to the Draft Development Plan of Greater Mumbai with modification show in schedule-A appended to the notification No.T.P.B.-4317/629/CR-118/2017/DP/UD-11 dt.08May-2018 excluding substantial modifications as shown in schedule-B appended thereto. As per the notification dt.21.09.2018 the sanctioned D. P. 2034 is in effect from dt.01.09.2018. As per notification dt.21.09.2018 the sanctioned excluded part of Development Control and Promotion Regulation 2034 is in effect from dt.13.11.2018. The State Government has sanctioned some of the EPs vide notification dt.22.01.2019, dt.25.01.2019, dt.31.01.2019, dt.17.9.2019, dt.23.11.2019, dt.05.11.2020, dt.12.03.2021, dt.12.04.2021, dt.04.05.2021, dt.28.05.2021, dt.04.10.2021, dt.11.03.2022, dt.31.05.2022, dt.19.07.2022, dt.27.07.2022, dt.12.09.2022 & dt.24.03.2023. dt.12.05.2023 and on dt.28.12.2023 The balance Excluded Parts will be sanctioned by State Government in the due course.

Planning Area

The ELU 2012 located the emergence of an additional area of 14.96 Sq.km, probably due to siltation of Thane creek. This area which comprises of Mangroves in within the Brihanmumbai Municipal Corporation limits and is shown as Natural Area in Development Plan 2034.

The Coastal Road approved by GoM will add an additional area of 1.80 sq.km through reclamation of the sea. The alignment of this Road is marked on the Proposed Land Use (PLU). Any changes in the alignment of Coastal Road that would get necessitated during implementation would automatically become part of the DP-2034. Further, an area of 1.20 sq.km is proposed as green reclamation.

The addition of these land makes Brihanmumbai Municipal Corporation's total land area 476.24 sq.km. Brihanmumbai Municipal Corporation is Planning Authority for about 434.55 sq. m (91.24%) excluding the area coming under various Special Planning Authority (SPA).

Following SPAs exist in Grater Mumbai

1. Mumbai Metropolitan Regional Development Authority (MMRDA).
2. Slum Rehabilitation Authority (SRA)–for approval of Slum Rehabilitation projects.
3. Maharashtra Industrial Development Corporation (MIDC).
4. Mumbai Port Trust (MbPT)
5. Maharashtra Housing Area Development Authority (MHADA) - for approval of MHADA projects

Coastal Regulation Zone

The Ministry of Environment, Forest & Climate Change (MoEF&CC), New Delhi, vide G.S.R. 37(E) dated 18.01.2019 has published the CRZ Notification, 2019 in supersession of earlier CRZ Notification, 2011 and has approved the CZMPs of Mumbai City, Mumbai Suburban, under provisions of the CRZ Notification, 2019. The said approved CZMPs are published and available on website of the MCZMA i.e. https://mczma.gov.in.

The objectives of the new CRZ Notification includes

(1) Ensure livelihood security to the fisher communities,

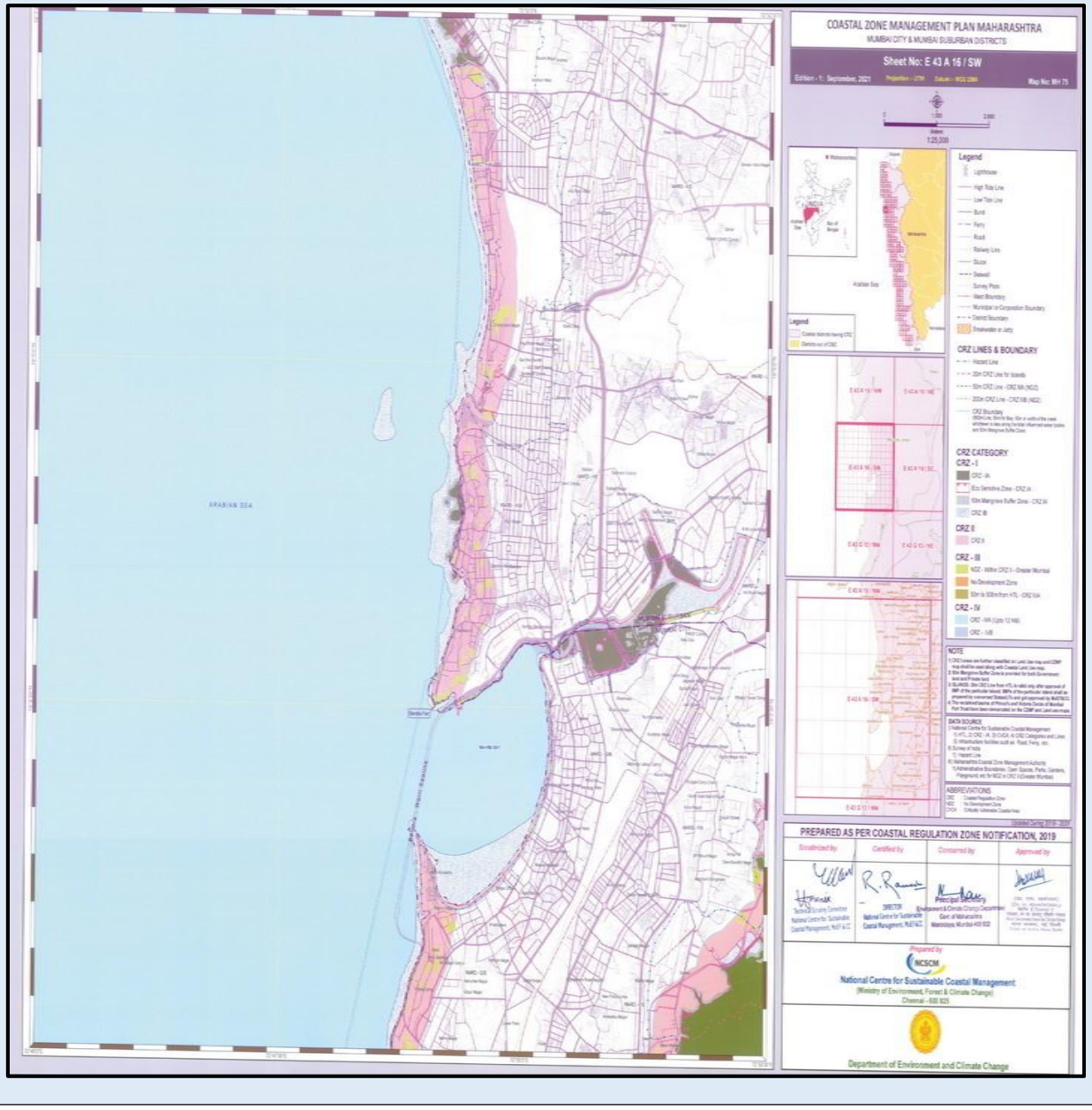
(2) Protect the Coastal environment,

(3) Promote sustainable development.

Brihanmumbai Municipal Corporation (BMC) has developed a new online module aimed at facilitating the process of seeking Coastal Regulation Zone (CRZ) remarks. This initiative is in alignment with the Sanctioned Development Plan 2034 and the SRDP 1991.

Also BMC has successfully developed switch tabs in the Table of Contents (TOC) functionalities, allowing users to view the CZMP 2019 map in conjunction with the DP 2034.

Map No. 5.2: Costal Regulation Zone area of Mumbai (Draft)



6 MANGROVES IN MUMBAI

Constitution of Mangrove Cell

Mangrove Cell of the Mangrove Cell in 2012, initiated a series of measures for conservation of mangroves in Maharashtra. The Cell is headed by the Additional Principal Chief Conservator of Forests (APCCF). A Deputy Conservator of Forests (DCF) has been appointed to boost Mangrove Conservation in Maharashtra.

In 2013, the State government ramped up efforts and elevated the status of mangrove forests on Government land from 'Protected Forest' to 'Reserved Forest'. The Mangrove Cell also facilitated the establishment of Mumbai Mangrove Conservation Unit in 2014 to specifically cheek and prevent the destruction of mangroves in Mumbai and surrounding regions.

There was also an urgent need to promote research, education, eco-tourism ete. To secure the biodiversity of our coastal and marine environment and to bring tangible benefits to the coastal communities. For the mission, creating an institution with the necessary skill set and the operational flexibility to address this complex task was under the consideration of the state government, that led to the establishment of a "Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra" (Mangrove Foundation, in short), The Foundation was registered in the year 2015 under the Societies Registration Act, 1860. Government of Maharashtra Revenue and Forest Department Government Decision No. S- 10/2024/Pr.No.127/F-3, dated 02 August 2024, has restructured the Mangrove Division North Konkan Division under the Mangrove Cell.

Function of mangrove cell

Mangrove Cell functioned extensively for mangrove conservation by taking block by block approach from raising mangroves on nurseries and organizing regular large - scale plantations on degraded mangrove areas to conducting Clean Mangroves Campaigns and awareness programmes.

The Mangrove Cell also forged strong partnerships with many leading national institutions and agencies, facilitating the introduction of state-of the-art technologies and best practices in sustainable livelihoods to the Maharashtra shores. National Institute of Oceanography (NIO), Central Marine Fisheries Research Institute (CMFRI), Central Institute of Fisheries technology (CIFT), Central Institute of Brackish Water Aquaculture (CIBA), Marine Product Export Development Authority (MPEDA), Wildlife Institute of India (WII), Salim Ali Canter for Ornithology and Natural History (SACON) and Bombay Natural History Society (BNHS) are just a few names in that long and illustrious list of partners. Mangrove Cell also works with several NGOS, Citizen's Groups, educational institutions and private research organizations.

Based on the 'International Climate Initiative' Agreement between Government of India and the Federal Republic of Germany, a bilateral project towards improving conservation of marine biodiversity called "Sustainable Management of Coastal and Marine Protected Areas"

(SM-CMPA) was launched in Maharashtra with the help of the German development agency called GIZ. The project led to the notification of the Thane Creek Flamingo Sanctuary in 2015. Spread over on area of about 16.90 square kilometres with 896 Ha of Mangrove cover, it is home to over 200 species of birds, many of which are migratory like the splendidly-coloured flamingo which arrive in thousands in October- November. A 'Coastal and of Marine Biodiversity Centre' was set up at Airoli, Navi Mumbai, in 2017 as a part of the GIZ Project. This interpretation and orientation centre for mangroves and marine biodiversity serves as a gateway to the Thane Creek Flamingo Sanctuary for tourists and environmentalists

Activities of Mangrove Cell - Maharashtra Forest Department

1. Mangrove Protection.
2. Mangrove Conservation and Livelihood Generation Scheme
3. Mangrove Afforestation
4. Clean - up Campaign
5. Awareness generation
6. Coastal and Marine Biodiversity Central and mangrove Parks in Mumbai

1. Mangrove Protection

Pursuant to the final order dated September 17, 2018, passed by the Hon'ble High Court in Public Interest Litigation (PIL) No. 87/2006 (filed on October 6, 2005), mangroves situated on government land have been accorded the status of 'Reserved Forests' under the Indian Forest Act, 1927, while mangroves on private land have been accorded the status of 'Forests' under the Forest (Conservation) Act, 1980. A total area of 14,783.95 hectares, under the jurisdiction of the North Konkan Mangrove Division, has been declared as Reserved Forest.

- To address growing threats such as encroachment, pollution, urbanization, industrialization, and solid waste dumping affecting Mumbai's mangroves, personnel have been appointed within the Mangrove Cell for the Mumbai City and Mumbai Suburban divisions. This workforce includes 3 Range Forest Officers, 6 Foresters, 14 Forest Guards, and 103 security guards from the Maharashtra State Security Corporation. boundaries of mangrove areas under the jurisdiction of the Mangrove Cell to ensure their protection.
- Notices were issued to vacate unauthorized huts built within mangrove areas, and approximately 79 such huts were removed.
- Satellite mapping of the mangrove areas has been conducted to facilitate monitoring. This district-wise mapping covers areas under the Forest Department's jurisdiction at a 1:5000 scale, and boundaries have been demarcated on the ground accordingly.
- Implementation of the Mangrove Conservation and Livelihood Generation Scheme: This initiative provides locals with sustainable livelihood projects linked to mangroves, in exchange for which they assume responsibility for protecting the mangrove areas. Currently, locals from

60 villages within the jurisdiction of the North Konkan Mangrove Division are benefiting from this scheme.

- The Forest Department conducts capacity-building programs for staff to enhance the effectiveness of protection measures.
- Action is taken under the Indian Forest Act, 1972, against any observed illegal activities such as tree felling or land reclamation in areas under the Mangrove Cell's jurisdiction.
- Effective protection and conservation of mangrove areas under the Mangrove Cell's jurisdiction are being managed by the Cell. The 'Mangrove Suraksha App' was launched in 2024 to effectively address information and complaints regarding mangrove destruction and encroachment (filling). Complaints received through this app are promptly relayed to the concerned officials specifically Sub-Divisional Officers and Tehsildars from the Revenue Department, as well as Assistant Conservators of Forests and Range Forest Officers from the Forest Department thereby facilitating timely action. Upon receiving a complaint whether directly at the office of the Divisional Forest Officer (Mangrove Cell, North Konkan) or via the app officials conduct an inquiry in coordination with the relevant Revenue/Forest Department personnel and the complainant. If the incident occurred within a mangrove area under the jurisdiction of the Forest Department, action is initiated under the Indian Forest Act, 1927. Conversely, if the incident took place in a mangrove area not under the Forest Department's control or within the 50-meter buffer zone, the Revenue Department or other relevant authorities are informed so that action can be taken under the Environment (Protection) Act, 1986.

2. Mangrove Conservation and Livelihood Generation Scheme

- The Scheme was imitated on 20th September 2017 by Government of Maharashtra in the coastal districts of Maharashtra, to conserve mangroves on both private and government lands. The Scheme aims to provide benefits to individuals and community members of selected Villages.
- Based on the current mangrove cover, about 60 villages from Thane have been selected for implementation of the scheme activities by Mangrove Cell, Maharashtra Forest Department and The Mangrove Foundation.
- To ensure participation of the local communities, the Scheme is being implemented through village-based Mangroves Co - Management Committees (MCMC). Through this Scheme a group activity is entitled to 90:10% of subsidy while an individual (land owners with more than 1 acre mangrove) will get 75:25% subsidy through the scheme, the following activities are being implemented across various villages along the coastline of Division North Konkan (MDNK):

  1. Carb Farming
  2. Fish Cage Culture (Asian Sea Bass)
  3. Oyster and Mussel Farming

4. Ornamental Fish Culture
5. Mangrove Ecotourism
6. Mangrove Seed Collection

3. Mangrove Afforestation

- Mangrove sapling have been raised in nurseries for establishing mangrove plantations in different coastal districts of the state.
- Since 2025-26 a total area of 92.40 hectares distributed over 20 locations across Mumbai and Thane has been covered under mangrove plantation programme and the a total of 4,10,625 lakh mangrove saplings have been planted.

4. Clean-up Campaign

- Annual Mangrove Clean – up programmes are conducted to create awareness
- The Clean Mangrove Campaign, a three- year initiative started in 2015, by the citizens of Mumbai city and Mangrove Cell, made it to the Limca Book of Records. This was one of the biggest governments-citizen partnership projects. In 2025-26, through this campaign 53,930 kg of garbage (mostly plastic) was cleared, involving about 12,227 Volunteers across Mumbai.

5. Awareness generation

- A Coastal and Marine Biodiversity Centre has been established at Airoli, Navi Mumbai.
- Regular lectures on environmental topics are organized for the general public and students.
- Public awareness is raised by observing significant environmental and wildlife-related days.
- School visits to the Coastal and Marine Biodiversity Centre at Airoli are organized to introduce school children to coastal and marine biodiversity.

6. Coastal and Marine Biodiversity Central and mangrove Parks in Mumbai

- The Mangrove Cell, Maharashtra Forest Department has developed a Coastal and Marine Biodiversity Centre (CMBC) at Airoli, Navi Mumbai in collaboration with the German agency GIZ under the Indo-German Biodiversity Programme.

The major attraction at the Centre are

- Vibrant and colourful exhibits of the rich coastal and marine biodiversity observed in the Thane Creek Flamingo Sanctuary.
- Sounds of various birds like Flamingo, Kingfisher etc. and marine animals like Indian Ocean Humpback Dolphin and Blue Whale.
- Interactive computer screens and wide LED displays showcasing interesting information and photographs about coastal and marine biodiversity.
- A theater room which shows documentary films and on the biodiversity of Thane Creek Flamingo Sanctuary.
- A tourist board for flamings safari is also operated from this centre for tourists.
- The Mangrove Cell will be establishing a Giants of the Sea museum at CMBC Airoli. This museum will house life-size exhibits of giant's sea animals such as giant sea animals such as Giant Squid, Whale Sharks and also skeletons of blue whales and other Marine animals.

- Mangrove Park has been developed at Gorai through the Mangrove Cell and the nature Information in the said Mangrove Park is as follows.

Gorai Mangrove Park

- Located in Gorai, Mumbai, the park spans 0.6675. Hectare within an 8-hectare mangrove ecosystem. The project, with an estimated cost of ₹33.43 crores, aims to raise awareness about
  the crucial biodiversity found in mangrove and coastal ecosystems.
- The project has been designed and built with an eco-sensitive approach, ensuring minimal impact on the fragile mangrove ecosystem. Every aspect of the park, from planning and material selection to construction details, has been carefully considered to align with sustainable and environmentally responsible practices. Importantly, not a single mangrove tree was cut down during the construction; instead, they have been thoughtfully incorporated into the design, ensuring that
- The park enhances and protects the natural habitat rather than disrupting it. The use of eco-friendly materials, solar energy, and elevated pathways further reinforces the commitment to conservation and sustainability.

Key Features of the Gorai Mangrove Park

Nature Interpretation Center: A state-of-the-art, two-story building featuring a rooftop restaurant, a nature-themed gift shop, workshop rooms, a library, an audio-visual room, and an information center. The center will also utilize a solar power system, generating 80 % of its required electricity.

Boardwalk: A 740-meter-long wooden walkway meandering through the mangroves, offering visitors an immersive experience without disturbing the delicate ecosystem.

Viewing Deck: A specially designed deck at the end of the boardwalk, providing panoramic views of the surrounding creek.

Bird Watching Tower: An 18-meter tower for avid bird watchers to observe the diverse avian species inhabiting the area.

The Gorai Mangrove Park is poised to become a vital educational and recreational resource, offering a unique opportunity for visitors to connect with nature and learn about the importance of mangrove conservation.

Dahisar Mangrove Park

- The Mumbai Mangroves Conservation Unit has announced the upcoming Dahisar Mangrove Park, a 30-hectare eco-tourism project designed to Attract, Educate and Engage citizens on the importance of mangroves.
- The heart of the project is a Nature Interpretation Centre (NIC) designed as an elevated skywalk structure with minimal land disturbance. Spread across multiple levels, it will house a reception and waiting hall, lecture and seminar hall, workshop space, an interactive Mangrove Museum, a virtual museum, and an eatery with observation deck.

- The park will also feature a 400-metre Mangrove Trail aligned with the high tide line for deeper ecological interaction, pause points with information kiosks, a mangrove nursery, mud crab pane, and dedicated selfie points. A jetty at Dahisar will ensure year-round waterway connectivity with Gorai Mangrove Park, allowing visitors to experience both centres.
- With a total project cost of ₹79,39,02,740/- (including GST), Dahisar Mangrove Park has already secured all statutory clearances and sanctions, including CRZ, Environmental and Forest approvals, Eco-tourism clearance, and High Court permission. Once complete, it will emerge as a unique green destination for Mumbai - combining research, recreation, and awareness to strengthen conservation while providing meaningful leisure to citizens.

7 URBAN RENEWAL SCHEME

The old dilapidated buildings of the Brihanmumbai Municipal Corporation and on rental basis will redeveloped by the Development Regulations to take up the city renovation plan by the Brihanmumbai Municipal Corporation and Maharashtra Housing and Area Development Authority (MHADA), a government authority involved in the housing sector and make such open spaces available for various civic amenities.

Recreational Facilities

Providing recreational amenities to the public is a discretionary duty of the Corporation under section 63 of MMC Act1888. For balanced environment, abatement of air pollution and Green Mumbai, beautiful and clean Mumbai, Brihanmumbai Municipal Corporation provides recreational amenities to the citizens of this city by way of maintaining gardens and providing playgrounds (PG), recreational centres, water fountains, etc. In addition to recreation, Brihanmumbai Municipal Corporation also encourages sports, art, cultural programs etc. Whereas health education and health promotion of citizens being its objective (Table No.7.1). These facilities are utilized by citizens as well as others from different places.

Table No. 7.1: Recreation Facilities Provided in the Mumbai for the year 2025-2026.

Sr. No.	Particulars	Total No. (Up to 31.3.2026)			
		City	Western suburbs	Eastern Suburbs	Total
1	Garden (Except strip Gardens)/ Park	27	188	123	338
2	Recreation Grounds	170	203	94	467
3	Playgrounds	53	206	128	387
4	Shilpgram	0	1	0	1
5	Fountains	20	21	8	49
6	Band stands	3	1	2	6
7	Nurseries	11	11	7	29
8	Plant Sale Counter	9	10	5	24
9	Statues	56	12	14	82
10	Tree Plantations (Traditional method) + (Miyawaki method)	2424	8698	13200	24322
11	Sales of plants	3641	0	1660	5301
12	Distribution of plants	4423	5593	2614	12630
13	Number of dead and dangerous tress removed	188	265	219	672
14	Trees trimmed for balancing	53399	53046	27055	133500
15	Deconcretized trees	304	2156	506	2966
16	**Total No. of tress**	**718589**	**1221737**	**1034957**	**2975283**

Source: This information is received from Garden Department of Brihanmumbai Municipal Corporation.

Table No. 7.2: Recreation Facilities Created in the year 2025-2026									
Sr. No.	Details	Recreation Facilities Total No. (Up to 31.3.2026)							
		Zone-1	Zone-2	Zone-3	Zone-4	Zone-5	Zone-6	Zone-7	Total
1	Garden (Except strip Gardens)/ Park	9	18	49	80	54	69	59	338
2	Recreation Grounds	57	113	55	90	42	52	58	467
3	Playgrounds	27	26	38	71	70	58	97	387
4	Shilpgram	0	0	1	0	0	0	0	1
5	Fountains	6	14	6	5	2	6	10	49
6	Band stands	3	0	1	0	2	0	0	6
7	Nurseries	5	6	4	4	4	3	3	29
8	Plant Sale Counter	5	4	3	4	3	2	3	24
9	Statues	49	7	3	5	6	8	4	82
10	Tree Plantations (Traditional method)+(Miyawaki method)	290	2134	476	2256	9983	3217	5966	24322
11	Sales of plants	3641	0	0	0	1485	175	0	5301
12	Distribution of plants	3268	1155	1228	4030	1654	960	335	12630
13	Number of dead and dangerous tress removed	87	101	74	83	90	129	108	672
14	Trees trimmed for balancing	23187	30212	8803	23217	10722	16333	21026	133500
15	Deconcretized trees	114	190	430	299	106	400	1427	2966
16	**Total no. of tress**	**255118**	**463471**	**337716**	**643505**	**411745**	**623212**	**240516**	**2975283**

8 VEERMATA JIJABAI BHOSALE BOTANICAL UDYAN AND ZOO

Veermata Jijabai Bhosale Botanical Udyan & amp; Zoo is one of the oldest zoos in the country & was established in 1862. This area was under the control of Agri- Horticultural Society of Western India. The management of this Udyan & Zoo was handed over to MCGM by the then state govt in 1873. The total area of this Udyan & Zoo is approx. of 53 acres and is declared as “Heritage Grade II (B)” site. This Udyan- Zoo has been recognized as ‘Medium Zoo’ up to 25-12-2025 by Central Zoo Authority, New Delhi.

Visitor data and revenue

Financial Year	No. of Visitors	Revenue (Rs.)
2023-24	30,16,827	11,98,37,171/-
2024 - 25	23,57,831	9,18,75,231/-
2025 - 26	25,42,135	9,85,87,055/-

Garden Department

- In year 2025-26, a total of 24322 trees are planted on municipal roads and available open spaces of which 6972 trees are planted by traditional method and 17350 by Miyawaki method. Plantation of more than 5 lakh trees by Miyawaki method has been done till date.
- Removal of concrete and cement from around 2966 no. of tress.
- Spraying of insecticides and pesticides on infected tress.
- Trimming of 133500 tree branches to balance the trees.
- Formation of Tree basins around the tress.
- Removal 672 no. of dead and dangerous tress
- During 2025-26, the Brihanmumbai Municipal Corporation and the Tree Authority was organised the 29th exhibition of plants, flowers, fruits and vegetables from 6th February to 8th February 2026 at Veermata Jijabai Bhosale Botanical Udyan & Zoo. To create consciousness and awareness about environment among the citizens, the workshop on various horticultural subjects was also arranged from 14th February to 15th February 2026.
- A Flower exhibition was organised in 'K/West' ward of western suburb at Pushpa Narsee Park, Juhu, Andheri (West) and in 'T' ward of eastern suburb at Dr. C.D.Deshmukh Udyan, Mulund (East) from 14th February to 15th February 2026. In T ward of eastern suburb, flower exhibition was organised at Dr.C.D.Deshmukh Udyan, Mulund (East) from 14th February to 15th February 2026.
- The Garden Department organized the First International Bonsai & Origami Show from 28th to 30th November 2025 at Veermata Jijabai Bhosale Botanical Udyan & Zoo, Byculla, in collaboration with the Consulate General of Japan in Mumbai.

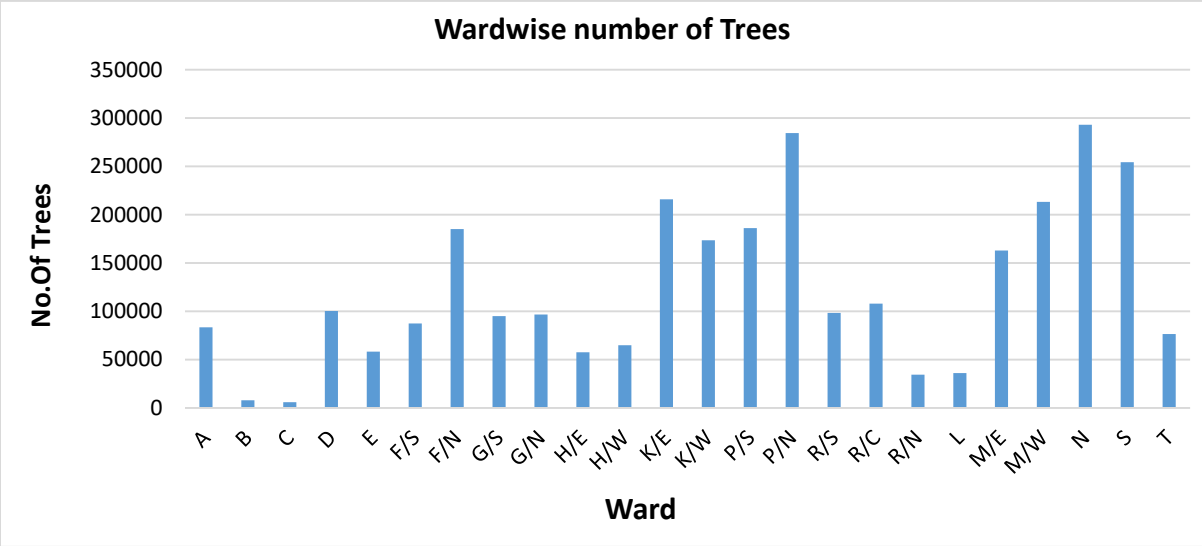
- In the year 2026-27, around 25000 trees are proposed to planted on roadside and on other places in BMC jurisdiction.
- As per tree census, total no. of trees in 24 wards is 29,75,283.

Table No 8.1 : Ward wise number of trees

Sr.No.	Ward	No. of tress	Sr.No.	Ward	No. of tress
1	A	83201	13	K/West	173232
2	B	2	14	P/South	186002
3	C	3	15	P/North	284271
4	D	100317	16	R/South	98305
5	E	58028	17	R/Central	107841
6	F/South	87240	18	R /North	34370
7	F/North	184837	19	L	36023
8	G/South	94774	20	M/East	162638
9	G/North	96620	21	M/West	213084
10	H/East	57314	22	N	292965
11	H/West	64674	23	S	254038
12	K/East	215728	24	T	76209
				Total	**2975283**

Source: Garden Department of BrihanMumbai Municipal Corporation.

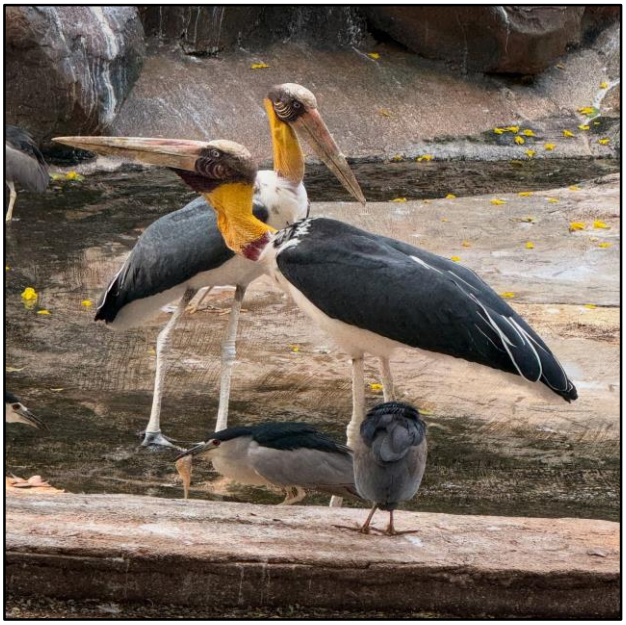
Graph 8.1: Section-wise trees of Mumbai



Zoo

Veermata Jijabai Bhosale Botanical Udyan & Zoo at present and Modernization Project

- As on 31st March 2026, there are in all 382 animals, which include 75 mammals of 11 Species, 248 Birds of 13 species and 59 Reptiles & aquatic animals of 8 species displayed in this Udyan & Zoo.
- Veermata Jijabai Bhosale Botanical Udyan and Zoo is an educational center where awareness programs on nature and environmental conservation are conducted throughout the year for visitors and students.
- At Veermata Jijabai Bhosale Botanical Udyan and Zoo, trees from six of the seven continents of the world are found. To ensure that visitors and citizens can learn about these trees, a series called "Vrukshavalli" has been started online. Through this series, information about the trees found in the zoo is shared on social media through videos in simple and easy-to-understand language.
- Veermata Jijabai Bhosle Botanical Udyan and Zoo is a plastic-free zone, hence bringing single-use plastic items into the zoo has been completely banned since October 2023. The seating benches have been made by recycling single-use plastic bottles collected from tourists. These benches have been installed in the zoo for the convenience of tourists.
- The Zoo has now become paperless by way of full-fledged online ticketing system and self-ticketing kiosks have been installed at the Zoo entrance for visitors' usage.
- Battery operated E-vehicles have now been purchased by the Zoo and soon they will be made operational for the use of Senior citizens and common visitors.
- Under modernization development works, approx. 105 trees of various 29 Indigenous species have been newly planted inside nearby all the animal exhibits which has helped to maintain the biodiversity.



9 WATER SUPPLY

Mumbai receives raw water from seven impounded water resources viz. Vihar and Tulsi within Mumbai and Tansa, Modak Sagar, Upper Vaitarna, Middle Vaitarna and Bhatasa located at a distance of about 100 to 175 Kms from Mumbai.

Raw water available from these sources is conveyed with transmission main system ranging from 2235 mm to 5500 mm diameter pipelines and tunnels to the state of the art water treatment facilities at Bhandup Complex (2810 MLD) and Panjrapor (1365 MLD). Water Treatment facilities for Tulsi (18 MLD) and Vihar (90 MLD) are located near to these sources. At these treatment plants, water is treated with processes such as coagulation, flocculation, settling, rapid sand filtration and post-Chlorination and quality of the effluent water is maintained in accordance with IS 10500: 2012-Drinking water Specifications.

The treated water is stored in the Master Balancing Reservoirs (MBR) located near to treatment plants at Bhandup Complex (within Mumbai) and Yewai (Outside Mumbai). It is further distributed to 27 service reservoirs located throughout Mumbai City with water supply network of about 450 Kms this conveyance system remains charged for 24 hours and eliminates the chances of water contamination because of intrusion of ground water/sewage etc. There is 4000 MLD water supply to Mumbai.

Population growth projections, water demand, and increase in water supply

Mumbai's population is steadily increasing. Considering this growing population, the daily water demand by the year 2041 is projected to be 6,424 million liters (including losses during transit and distribution).

Table No.9.1: Source of Water Supply

Source	Yield in MLD	Ownership	Distance from City	Treatment Plant
Tulsi	15	BMC	City Limit	Tulsi
Vihar	99	BMC	City Limit	Vihar
Tansa	623	BMC	100 KM from City	Bhandup Complex
Modak Sagar	1731	BMC	100 KM from City	Bhandup Complex
Upper Vaitarna Middle Vaitarna		Government of Maharashtra Brihanmumbai Municipal Corporation	173 KM from City	Bhandup Complex

Bhatsa	2053	Government of Maharashtra	100 KM from City	Bhandup Complex and Panjarapur
Subtotal	4521	-	-	-
Enroute + Losses	391	-	-	-
Total Supply to City	4130	-	-	-

Brief note regarding activities at Bhandup Complex Water Treatment Plant

Mumbai city and suburban areas are being supplied with 4000 million liters of water on a daily basis. This water is drawn from various lakes as well as river sources. Out of above 4000 MLD water, 2500 MLD is treated at Bhandup Complex and is supplied to city and western suburban wards.

Water is brought to Bhandup Complex by gravity mains originating from Tansa / Bhatsa/ Vaitarna / Upper Vaitarna lakes. This water is pre chlorinated at Yewai @ 50 Kms upstream of Bhandup Complex.

Water received at Bhandup Complex is then treated using conventional treatment methods such as pretreatment/ filtration/ post chlorination and is then distributed through Master Balancing Reservoir (MBR) to consumers through network of pipelines, tunnels, service reservoirs etc.

During all these activities, water samples at each stages of treatment are collected and tested for various parameters. The laboratory at Bhandup Complex is working round the clock for this purpose and quality of final water leaving Bhandup Complex is always maintained within prescribed limits as per drinking water standards IS 10500:2012.

Breif note regarding activities at Bhandup Complex Laboratory

Laboratory at Bhandup Complex was commissioned in the year 1980 for daily monitoring the quality of drinking water being supplied to Mumbai, as per IS 10500: 2012.Activities: Analysis of water for Physical, chemical and bacteriological parameters is being carried out to maintain the quality of drinking water as per IS 10500: 2012. Accordingly water sample is tested at every stage of treatment viz. Clarification, Filtration, chlorination etc. as follows.

1. Turbidity -Hourly
2. pH – bi hourly
3. Residual Chlorine – bi hourly
4. Temperature – bi hourly
5. Colour – bi hourly

Jar test is conducted on raw water sample in every shift for prescribing optimum Poly Aluminum Chloride dose. Complete analysis of water samples at Raw, Filter & Final stage is carried out for Total Alkalinity, Total Hardness, Calcium Hardness, Chlorides, Suspended solids, Total solids, Manganese, Iron, Aluminum, Dissolved Oxygen and Bacteriological examination for total coliform and E.coli once in a day. In general total 760 no. of tests are being carried out on daily basis.

Brief note regarding activities at Pise Panjrapur Water Treatment Plant

Approximately 50% of the total water supply to the Mumbai city is provided by the Pise Panjarapur water treatment plant. About 2120 MLD Bhatsa river water is pumped at Pise weir which is distance approx at 48 km from bhatsa dam. Out of 2120 MLD water, 1365 MLD water is treated at the Panjarapur water treatment plant and supplied to the Mumbai city and eastern suburbs on daily basis. 640 MLD raw water is injected in Tansa-Vaitarna main which is further treated at Bhandup water treatment plant.

At Pise, pre-chlorination is carried out on Bhatsa river water and then travels to Panjarapur water treatment plant for further treatment methods such as sedimentaion, filtration, post chlorination. Treated water is further passes through Master Balancing reservoir (MBR) and service reservoirs to consumer end.

During all these activities, water samples at each stage of treatment are collected and tested for various parameters. Panjarapur laboratory is working round the clock for this purpose and quality of final water through Pise Panjarapur is always maintained within prescribed limits as per drinking water standard IS10500:2012.

Table No. 9.2: Water Quality at Source (Raw) and Treated (Final) during April 2025 to March 2026

Parameters	Tulsi		Vihar		Bhandup Complex		Panjrapur (Bhatsa)		B.I.S. standards 10500:2012
	Raw	Final	Raw	Final	Raw	Final	Raw	Final	
Turbidity NTU	8.9-1.6	5.0-0.31	87-2.1	2.7-0.86	39-1.0	2.0-0.17	2.0-365	0.43-2.4	1-5
pH	7.70-6.95	7.65-6.85	9.00-7.25	8.30-7.20	7.80-7.00	7.65-6.85	6.8-7.5	6.8-7.2	6.5-8.5
Chlorides (mg/l)	21-12	24-14	18-13	30-18	16-9	18-11	9-43	12-47	250-1000
Total Alkalanity (mg/l)	41-28	42-25	45-38	43-35	45-34	43-31	23-86	27-81	200-600
Total Hardness (mg/l)	48-40	46-37	54-40	52-39	51-39	48-38	26-85	23-81	200-600
Bacteriological examination (CFU/100ml)									
Total Coliform	0-0	0-0	0-0	0-0	90-0	0-0	1600 - 1600	0.0-0.0	-
E-Coli	0-0	0-0	0-0	0-0	0-0	0-0	220 - 1600	0.0-0.0	-

Source: Hydraulic Engineer Department.

Unit: NTU= Nephelometric Turbidity Unit

mg/l = miligram per litre

CFU/100ml=Colony forming unit per 100 ml

Municipal Analyst Laboratory

Municipal Analyst laboratory is a Public Health Laboratory of Brihanmumbai Municipal Corporation (BMC) that specializes in analysing food and water samples to ensure safety and quality.

The Laboratory was established by the Public Health Department of Brihanmumbai Municipal Corporation (BMC) in 1903, primarily for testing clinical samples and later water samples. The Prevention of Food Adulteration Act (PFA) 1954 was implemented in Greater Bombay in 1956 since then the analysis of food samples initiated for the chemical and microbiological parameters. Thereafter considering the significance laboratory which was located in the old BMC building was shifted to centrally located G/North Ward office building in Dadar West. The consolidated Food Safety and Standards Act 2006 was established in India replacing the Prevention of Food Adulteration Act, 1954.Since then the laboratory head Municipal Analyst exercise his duties as a Food Analyst and give expert opinion in the court of law in cases of the unsafe regulatory samples.

The Laboratory is in the process of renewing its accreditation by National Accreditation Board for Testing and Calibration (NABL) for complying with International Standard ISO/ IEC/ 17025:2017 in field of Chemical and Biological Testing for upgraded scope of analysis. The laboratory provide Cost-Effective and Quality Testing Services using advance techniques following National and International Standard methods. Since January 2023 the laboratory has also implemented its own computerised Software system “Food and Water Management System (FWQMS) "for entering technical data and generating reports. The authorized customers can login the system through the website https://fwqms.mcgm.gov.in and directly access test Report.

Testing of Drinking Water surveillance samples

The drinking water is supplied through the pipeline network across Mumbai city and suburban region. During the supply water in distribution system may get contaminated by infectious microorganisms present in the environment through several sources including leaking sewage lines, back flow from cross-connections, old infrastructure, poor maintenance, illegal connections in slums and new constructions. In rainy season flooding and water logging can also contribute to contamination.

Considering the significance of community health surveillance of drinking water is essential as per World health organization (WHO) guidelines to verify that the water supplied to consumers meets national standards of safe drinking water. The Public Health Departments Epidemiology cell controls the surveillance program while the laboratory provides testing drinking water sample for Water quality surveillance.

Daily around 150-170 water samples and in monsoon or in an emergency upto 200-250 drinking water samples are jointly collected by the Public Health Department (PHD) and Hydraulic Engineering (HE)Department. The water samples are collected from the service reservoirs and sampling points throughout the distribution network across 24 wards of Mumbai which provides a comprehensive understanding of water quality and its potential risks. Trained staff of the Medical Officer Of Health (MOH), Assistant Engineer Water Works- Quality Control and Assistant Engineer Water Works- Leak Detection collect the samples following standard procedures. These water samples are transported by

maintaining cold chain to the laboratory for analysis. Routine Bacteriological Quality check of all the drinking water samples is done in accordance to Indian Standard-Drinking Water-Specification IS: 10500:2012, accordingly the indicator bacteria E.coli and Total Coliform tested by using Membrane Filtration Technique (MFT) as per Indian Standard IS- 15185:2016. All the water samples are processed by Membrane Filtration Technique (MFT) using a Chromogenic culture media by which the confirm results are obtained within 24 hours. The reports are generated on the FWQMS portal accessible to all the authorities.

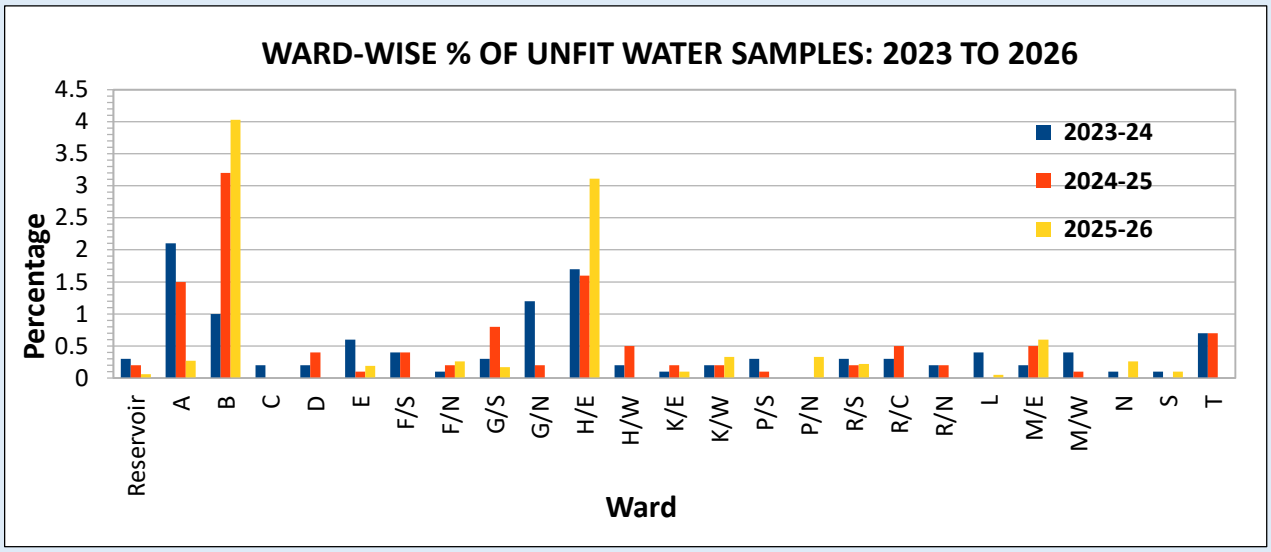
Table No. 9.3 : Wardwise % of Unfit water Samples April 2023 - March 2026

Sr. No.	Ward	% of Unfit Samples			Sr. No.	Ward	% of Unfit Samples		
		2023-2024	2024-2025	2025-2026			2023-2024	2024-2025	2025-2026
1	Service Reservoirs	0.3	0.2	0.06	14	K/W	0.2	0.2	0.33
2	A	2.1	1.5	0.27	15	L	0.4	0.0	0.00
3	B	1.0	3.2	4.03	16	M/E	0.2	0.5	0.33
4	C	0.2	0.0	0.00	17	M/W	0.4	0.1	0.22
5	D	0.2	0.4	0.00	18	N	0.1	0.0	0.00
6	E	0.6	0.1	0.19	19	P/N	0.0	0.0	0.00
7	F/N	0.1	0.2	0.00	20	P/S	0.3	0.1	0.05
8	F/S	0.4	0.1	0.26	21	R/C	0.3	0.5	0.60
9	G/N	1.2	0.2	0.17	22	R/N	0.2	0.0	0.00
10	G/S	0.3	0.8	0.00	23	R/S	0.3	0.2	0.26
11	H/E	1.7	1.6	3.11	24	S	0.1	0.0	0.10
12	H/W	0.2	0.5	0.00	25	T	0.7	1.0	0.00
13	K/E	0.1	0.2	0.10		**Mumbai Average**	**0.46**	**0.46**	**0.28**

Source: Municipal Analyst Laboratory of Brihanmumbai Municipal Corporation, G/N

The ward wise percentage of unfit water samples shows decreasing trend comparing to last years than present year.

Graph No. 9.1: Zone-wise percentage of contaminated water samples



Water Supply Project

Future Sources of Water Supply to Mumbai

The gap between demand and supply for the year 2041 is 6424 MLD at present there is a 4000 MLD Water Supply To Mumbai. To meet the gap and to increase the water supply to Mumbai City & Suburbs, it is proposed to undertake development of following sources for augmenting water supply of Mumbai.

Table No. 9.4: Future allotted sources of water are shown in following Table.

Sr. No.	Sources	Yield in MLD	Ownership
1	Gargai	440	Brihanmumbai Municipal Corporation
2	Pinjal	865	Brihanmumbai Municipal Corporation
3	Damanganga-Pinjal Project	1586	Govt. of India /Govt. of Maharashtra /Govt. of Gujrat
4	Desalination Plant at Manori	200	Brihanmumbai Municipal Corporation
5	Desalination Plant at Versova	200	Brihanmumbai Municipal Corporation
6	12 MLD Advanced Tertiary Treatment Plant (ATTP) at Colaba	12	Brihanmumbai Municipal Corporation
Total		**3303**	

Source: BrihanMumbai Municipal Corporation Hydraulic Engineer's Department.

- Gargai Project consists of construction of Roller Compacted Concrete dam across the river Gargai and tunnel of about 1.6 Kms. The vetting of Components of DPR by CDO Nashik is completed. MoTA Clearance is received and Forest, State Board of Wildlife Clearance is received and is put up for approval of NBWL is in process. Joint measurement survey of submerged land as well as rehabilitation and resettlement land has been completed earlier. The land for afforestation is partly obtained and process for obtaining remaining land is in progress. This project will augment Mumbai's water supply by 440 MLD. DL to MS put up for approval of Standing Committee BMC.
- Pinjal project consists of construction of dam across Pinjal River, conveyance system and allied works like Water treatment plant, Master balancing reservoir, pumping station etc. Brihanmumbai Municipal Corporation has appointed Consultancy Services for obtaining Environmental, Forest/Wildlife clearances from Competent Authorities including socio and environmental impact assessment studies and enumeration of trees for Pinjal Project.
- Under 'River Linking Programme' initiated by Government of India; it is proposed to link Damanganga & Pinjal rivers and thereby 1586 MLD water is planned be made available to Brihanmumbai Municipal Corporation and this water will be conveyed into Pinjal reservoir after its completion. However, the GoM is now proposing to alter the scheme by construction of Khargihill damonly and transferring water to Dehraji dam for further use.
- Brihanmumbai Municipal Corporation, has planned to augment water supply by construction of 200 MLD (expandable to 400 MLD) Desalination plant which will provide a climate change resilient and reliable source of water for Mumbai. The work order for the said project is issued. MCZMA clearance for the said project has been obtained and process for MoEFCC clearance for CRZ is being pursued. Also process for obtaining other statutory permissions is in progress.
- Brihanmumbai Municipal Corporation has now also planned to augument water supply of Mumbai Suburbs by 200 MLD by Construction of Desalination plant at the existing work Versova STP under DBFOT (Design Built Finance Operate Transfer) Model which will provide a climate change resilient and reliable source of water for Mumbai. An Expression of Interest (EOI) was invited from interested bidders, in response to which 8 Bidders have submitted their interest and further scrutiny work is in progress.

Projects under Water Supply Project Department

1. Construction of new water treatment plant of capacity 2000 MLD at Bhandup Complex

Eco Sensitive Zone permission from Sanjay Gandhi National Park is received. Excavation work at site and approval of various design documents is in progress. Design Build Period for the project is 48 months & further 15 Years of Operation & Maintenance.

2. Construction of new clear water Pumping Station of capacity 2000 MLD at Bhandup Complex

Work order for the subject work is issued on 05.12.2025. Eco Sensitive Zone permission form Sanjay Gandhi National Park is received. Preliminary site work and approvals of various design

documents is in progress. Design Build Period for the project is 42 months & further 15 Years of Operation & Maintenance

3. Design Build, Operate and Construction of 455 MLD capacity Pumping Station and Construction of new Pick Upweir with Gate at village Pise in Tal. Bhiwandi

Existing Weir was constructed on the Bhatsa river at Pise village in 1979, and BMC sources approximately 2120 MLD water from Bhatsa dam, conveyed via Bhatsa river course up to Pise village. Water was stored in existing Weir up to a level of 31 meters T. H. D. Considering the increasing water demand, rubber balloons were installed in the year 2000 on the top of the existing weir to increase the water level by 2 meters. Due to technical difficulties in the operation and maintenance of the said rubber balloons to control leakages, work is underway to construct a new Pick up Weir as per the report of the Central Design Organization, Nashik.

Also, to resolve the issues of the existing 4-phase Pise pumping stations, work is underway to construct an additional pumping station with a capacity of 455 MLD at Pise, which will improve the water supply to Mumbai city from Pise-Panjarapur.

The work order for 'Design Build, Operate and Construction of 455 MLDcapacity Pumping Station and Construction of new Pick Up weir with Gate at villege Pise in Tal. Bhiwandi' has been issued to the contractor on 18.02.2025 and the work has been started from 04.03.2025. The time period for the completion of the said work is 36 months including the monsoon. At present, the construction of the pumping station and New Pick up Weir is in progress and approximately 50 percent of the total work is completed.

4. Construction of new Water Treatment Plant of capacity 910 MLD at Panjrapur Complex

Work order for the subject work is issued on 25.11.2025. Preliminary site work and approvals of various design documents for 910 MLD WTP & Pumping Station is in progress. Design Build Period for the project is 48 months & further 15 Years of Operation & Maintenance.

5. Recycle & Reuse of Wastewater to potable water at Colaba WwTF

Brihanmumbai Municipal Corporation is exploring various possibilities for augmenting Mumbai's Water Supply by non-conventional methods to tide over the current demand- supply deficit and providing sustainable alternative to the same. Considering this, it is proposed to carry out 12 MLD pilot project for conversion of Waste water to potable water at the Colaba Waste water Treatment facility. Project Management Consultant is appointed for 12 MLD Advance Tertiary Treatment Plant at Colaba and consultant have submitted final tender documents along with the detailed cost estimate to this department. The tender process is in progress.

6. Front End Engineering Design, preparation of Draft Tender and Bid phase assistance for constructing new Tulsi Water Treatment Plant

M/s Tandon Urban Solutions Private Limited have been appointed for the work of "Consultancy Services for Detailed Survey, Front End Engineering Design, and preparation of Draft Tender and Bid phase assistance for constructing new Tulsi Water Treatment Plant". At present the consultant M/s

TUSPL has submitted Detailed Survey Report. Also draft of FEED and Detailed Project Report (DPR) submitted.

7. Development of Renewable Hybrid Energy Project Facilities of Hydro Electric Power Plant and Floating Solar PV Power Project at "Hindu hridaysamrat Shivsena Pramukh Balasaheb Thackeray Middle Vaitarna Dam"

Forest land re-diversion permission and forest land Diversion Permission (Stage- I) for high voltage transmission line is received from forest department. At present, activities related to the financial closure are in final stages. Design Build Period for the project is 24 months (excluding monsoon) & further 25 Years of Concession period during which BMC will purchase generated electricity at the Levellised tariff of Rs. 4.75 /kWh.

8. Design Build and Operate (DBO) intake & pumping station (including Civil, Mechanical, Electrical and I & C works) of Vehar Lake for pumping water to inlet bay of Bhandup Complex WTP.

All statutory permissions for the project work are obtained. The work commenced. Presently, the foundation work of Intake channel and Pumping station is completed. Construction of the side RCC walls of Intake channel and Pumping station is in progress.

9. Reconstruction of Culverts and Bridge acrosss the Municipal Service Road, Passing along BMC Water Trunk Mains at Pise Panjrapur Complex.

The BMC is undertaking the contruction of ageing brigde infrastructure located along the service road use for the maintains of major water pipelines. Thus existing stone brigde and culverts,constructed approximately 40 years ago,have been identify as being in a highly dangerous and fragile condition.consequently,The project involved replacement of 38 Nos. of Pipe Culverts, 6 No. of Minor Bridge and 4 nos. of Masonry Culverts on Existing Service Road along Water Mains from Yewai to Pise road. At present, these Culverts are in dilapidated condition. Brihanmumbai Municipal Corporation has taken up work of Reconstruction of Culverts by demolishing existing masonry culverts and pipe culverts across Municipal Service Road passing along BMC Water Trunk Mains at Pise Panjrapur Complex. The work order for the work was issued on 10.07.2024. At present work is in progress

10. Structural Repairs to MBR, Yewai, Panjrapur:

Above work is completed on 02.04.2026. MBR handing over to HE Department is in process.

Proposed / Ongoing Projects of Tunnels in support for Improvement in Water Conveyance system

1. Design and Construction of Tunnel from Yewai Master Balancing Reservior to Kasheli:

Two waters mains, measuring 2345 mm and 3000 mm dia., run alongside Mumbai Nasik Highway from Yewai MBR to service reservoir. To accommodate further Mumbai Nashik highway's expansion and enhance water security, BMC has taken up the work of construction of Water Supply Tunnel from Yewai Master Balancing Reservoir to Kasheli. The work order for the work was issued on 26.08.2024. The time period for the work 73 months (including monsoon), expected date of completion is 26.09.2030. At present excavation of assembly and tail tunnel of tarali shaft 2 and shaft 2A is in progress.At present 12 % of work is completed till date.

2. Construction of Water Conveyance Tunnel from Kasheli (Bhiwandi) To Mulund (Octroi Naka)

The above work is entrusted to M/s. Afcons Infrastructure Ltd. vide letter of acceptance u/no. Ch.E./WSP/P/2429 dt.26.08.2024, SCR no.750 dt.26.08.2024 and work order u/no. Ch.E./WSP/P/2659 dt.06.09.2024. The work is commenced on 06.09.2024 and contract period for the subject work is 73 months including monsoon. The scope of subject work consists of construction of two shafts, one at Mulund Octroi naka (134m deep) second one is at Kasheli (128m deep) and boring of tunnel of dia. 5.3m (4.5m finished dia) for a length of 7.13 km between above two shafts through Tunnel Boring Machine. The construction of Mulund shaft by Controlled Blasting is completed and construction of Kasheli shaft is in progress. Further, construction of Tail tunnel of 40m is completed and construction of Assembly tunnel is in progress. Factory Acceptance Test (FAT) of Tunnel Boring Machine is completed on 20.03.2026. Tunnel boring expected to commence from Sept-2026. The overall physical progress is 16%.

3. Design and Construction of Tertiary Treated Water conveyance Tunnel from Dharavi WWTF to Ghatkopar WWTF

Due to irregular rainfall in recent times, Mumbai citizens have to face water shortages of 10 to 15 percent. There is a need to develop reliable and climate change sensitive sources to increase Mumbai's water supply and reduce the gap between demand and supply. As a solution to this, projects have been undertaken at various places to set up environment friendly sewage treatment plants to carry out scientific and modern processing of sewage generated within the Brihanmumbai Municipal Corporation area. It is proposed to perform tertiary treatment of 50% of the sewage after the sewage treatment facility is operational. In the first phase, 500 MLD of tertiary treated water available from Dharavi, Ghatkopar and Bhandup Sewage Treatment Facilities is proposed for potable/industrial use. Accordingly, construction of underground tunnels is proposed to carry the available tertiary treated water.

The work order for the work have been issued to the contractor. Preliminary site activates is in progress & obtaining the necessary permissions from Government Department is in progress.

4. Design and Construction of Tertiary Treated Water Conveyance Tunnel from Ghatkopar WWTF to Bhandup WWTF and further up to Bhandup Complex -Package I

Due to the continuous delay in the arrival of rains in Mumbai for the past few years, the citizens of Mumbai have to face water shortage of 10 % to 15%. There is need to develop reliable and environmentally sustainable water sources to augment Mumbai’s water supply gaps. Brihanmumbai Municipal Corporation has taken up the works for the Design, Build, and Operation & Maintenance of Waste water Treatment Facilities and these works are in progress. After commissioning of these WwTF, 50% of waste water will be treated to tertiary level. Thus, much concerning issue of environmental preservation and degradation will get addressed. According to Feasibility report and detailed project report, to explore the feasibility for Recycle and Reuse of Tertiary Treated Water for the potable / industrial use / other bulk consumer re-use after series of treatments using the advance technology by conveying it to Bhandup Complex by constructing deep tunnel of length 11.61 km conveyance network

from Ghatkopar WwTF to Bhandup WwTF and further upto Bhandup Complex. Presently, Excavation work at Bhandup Comples shaft, Bhandup WsTF shaft no. 1 and shaft no. 2 are in progress. The theoretical date of completion of the said project is June 2032.

5. Construction of tunnel from Powai to Ghatkopar High Level Reservoir and further upto Ghatkopar Low Level Reservoir (Remaining Work)

The Letter of Acceptance is issued to the contractor on 12.04.2022 and the letter of commencement is issued to the contractor M/s. Patel Engineering Ltd. on 02.12.2022. The work of excavation of shaft, Assembly & Tail tunnel by controlled blasting method at SCI (Shipping Corporation of India at Powai) is completed. Further, excavation of tunnel 2.80 m dia. tunnel by TBM from SCI shaft to Ghatkopar High level reservoir is completed.

Presently work RCC lining in tunnel section from Ghatkopar High level reservoir to SCI is in progress, The physical progress of the work is 75%. The schedule date of completion of work is 01.03.2027.

6. Construction of tunnel from Hedgewar Udyan to Trombay Low Level Reservoir, Further upto Trombay High Level Reservoir (2.5 mtrs dia, 5.5 Kms length)

The shaft excavation and its RCC lining at Hedgewar Udyan, TLLR and THLR site is completed. The tunnel boring from Hedgewar Udyan to TLLR and from TLLR and THLR by TBM and its lining is also completed. Vertical pipeline in shaft at Hedgewar Udyan, TLLR and THLR site is completed. The surface pipeline works at Hedgewar Udyan, TLLR and THLR are completed.

At present the overall progress of the project is 93% and is tunnel is expected to be commissioned in month of May 2026. After commissioning of tunnel, the water supply in M/East and M/West Wards will be improved.

7. Amar Mahal-Wadala-Parel tunnel (2.5 mtrs dia, 9.7 kms length)

The shaft excavation along with RCC lining at Hedgewar Udyan, Pratiksha nagar & Sadakant Dhawan, Parel site is completed. The tunnel boring from Hedgewar Udyan to Pratiksha Nagar (Wadala) and further upto Parel along with RCC lining is also completed. Mumbai-III interconnectivity is completed & Mumbai interconnectivity work is in progress at Hedgewar Udyan shaft. The surface pipeline connectivity work at Parel shaft is completed & the same (Option3) will be commenced by first week of May.2026 at Pratiksha Nagar shaft site. At present the overall progress of the project is 95% and tunnel is expected to be commissioned in month of May 2026. After commissioning of tunnel, the water supply in 'F/North', 'F/South' & part of 'E' & 'L' Wards will be improved and will also cater to the requirement of future development at BPT(Bombay Port Trust) land & Wadala Truck Terminal areas.

Pipelines

- **Replacement of old Twin Tansa Mains (1450mm dia. each) by providing and laying Single 2000mm dia. M.S. pipeline from Maroshi to Sahar Village:**

  Background: - Due to the frequent bursting of water pipes laid about 90 years ago due to deterioration, thousands of liters of water were being wasted, affecting the water supply of Mumbai.

Accordingly, the Brihanmumbai Municipal Corporation has proposed to remove the existing and deteriorated two 1450 mm. Diameter water pipes and lay one 2000 mm diameter water pipe from Maroshi to Sahar village for water security as per the recommendations of the Technical Advisory Committee and the Conservation Department. In this work, a 2000 mm diameter and 3.15 km long mild steel water pipeline has been proposed from Maroshi Gate to Sahar village.

Current Status: - Removal of existing Twin Tansa (East & West) mains is in progress. Laying of proposed 2000 mm dia. M. S. Pipeline is in progress.

- **Replacement of 2750 mm dia. Tansa Enlarged main in Gundavali – Kasheli – Balkum section and Replacement of 2400 mm dia. Vaitarna main in the Gundavali – Kapurbawadi – MCP – Saddle Tunnel section by providing and laying 3000 mm dia MS Pipeline.**

  Vaitarna and Tansa Enlarged mains are old and deteriorated, making it impossible to supply water at their full capacity. Additionally, the existing water mains passes through densely populated slum areas in Thane city, posing a constant potential risk to the surrounding areas in case of any damage. This makes it essential to replace the water mains in this section.

  In this context, it is proposed to replace 2750 mm dia. Tansa Enlarged main in Gundavali – Kasheli – Balkum section and 2400 mm dia. Vaitarna main in the Gundavali – Kapurbawadi – MCP – Saddle Tunnel section by providing and laying 3000 mm dia MS Pipeline. The work order is issued on 20.09.2024 and the work is in progress.

- **Design, Build and Construction of New 3000 mm Diameter M S Water main from Tunnel Shaft location at Gundavali (Bhiwandi) to Dome near WYE Junction (Modak Sagar):**

Package I -From shaft location at Gundavali (Bhiwandi) to Jambhivali Anchor Block

Vaitarna main, Upper Vaitarna main, Middle Vaitarna main and New Tansa main carry water supply from Vaitarna basin source to Gundavali. After commissioning of Gargai Project, this network will be put to its optimum capacity. The Vaitarna Main (2400 mm dia.) was commissioned in 1954, while the Upper Vaitarna Main (2750 mm dia.) was commissioned in 1972 and these water mains have been in service for more than 70 years and 50 years, respectively. Therefore, Vaitarna main and Upper Vaitarna main cannot be utilized to their full carrying capacity as there is always risk of burst and flooding. Thus, in the event of failure / isolation of any primary water main from source upto Gundavali, an alternative trunk main is necessary along existing water mains for maintaining adequate water inflow to Bhandup WTPs. Moreover, to ensure an alternative water supply during emergency conditions, laying an alternative water main from the Vaitarna Basin to Gundavali will provide long-term benefits to the Brihanmumbai Municipal Corporation. Considering all above aspects and in light of aging of water mains, future augmentation, water security and alternative arrangements, the laying of an additional 3000 mm dia M. S. water main from Vaitarna basin source to Gundavali Tunnel Shaft has been commenced as per the work order dated 03.11.2025 and the work is in progress.

Package II – From Jambhivali Anchor Block to Dome near WYE Junction (Modak Sagar).

As part of a long-term strategy to enhance the safety and reliability of Mumbai city's water supply system, it is proposed to strengthen the water supply from Modaksagar and to facilitate additional supply upon completion of the Gargai Water Supply Project. In this regard, the work of laying a new 3000 mm diameter water pipeline from the Gundavali tunnel shaft to the dome near the Y-junction has been proposed in two sections. The main objective of this project is to strengthen the existing water conveyance infrastructure and ensure an uninterrupted water supply to Mumbai city. The work was commenced as per the work order dated 03.11.2025, and the laying of the 3000 mm dia. M.S. water pipeline is in progress.

Structural repairs to existing Reservoirs:		
Sr. No.	**Name of Work**	**Current Status/Remarks**
1.	Structural repairs of Ghatkopar Low Level Reservoir in N Ward, including consultancy services.	The work is currently in progress.
2.	Structural reconstruction works of Bhandarwada Reservoir.	On 22.04.2026, the committee of IIT Roorkee inspected the Bhandarwada Hill Reservoir from inside. Their report/remarks are awaited.
3.	Dismantling and reconstruction of Golanjhi Hill Reservoir in F/South Ward, including consultancy services.	The tender process for the said work has been completed, and further action is in progress for awarding the work to the lowest responsive bidder.
4	Structural repairs of the reservoir constructed under the Mumbai Urban Development Project (BUDP) in S Ward, and structural repairs, including consultancy services, of Compartment No. 4 of the Turbhe Low Level Reservoir in S Ward.	Following the prevailing procedure for the said reservoir work, the Letter of Acceptance has been issued to the contractor recently.
5.	1. Structural repair work of Borivali Hill Reservoir – II in R/Central Ward, including consultancy fees. 2. Structural repair work of Borivali Hill Reservoir – III in R/Central Ward, including consultancy fees.	Following the prevailing procedure for the said reservoir work, the Letter of Acceptance has been issued to the contractor recently.
6.	Structural repair work of Malad Hill Reservoir II and Control Rooms I and II in P/North Ward, including consultancy fees.	Following the prevailing procedure for the said reservoir work, the Letter of Acceptance has been issued to the contractor recently.
7.	Structural repairs of Pali Hill Reservoir – I and Pali Hill Reservoir – II in H/West Ward, including consultancy fees.	Pre-tender activities are in progress.
8.	Structural repairs of Veravali Hill Reservoir Nos. I and II in K/East Ward, including consultancy fees.	Pre-re-tender activities are in progress.
9.	Structural repairs of Veravali Hill Reservoir No. III in K/East Ward, including consultancy fees.	Pre-tender activities are in progress.

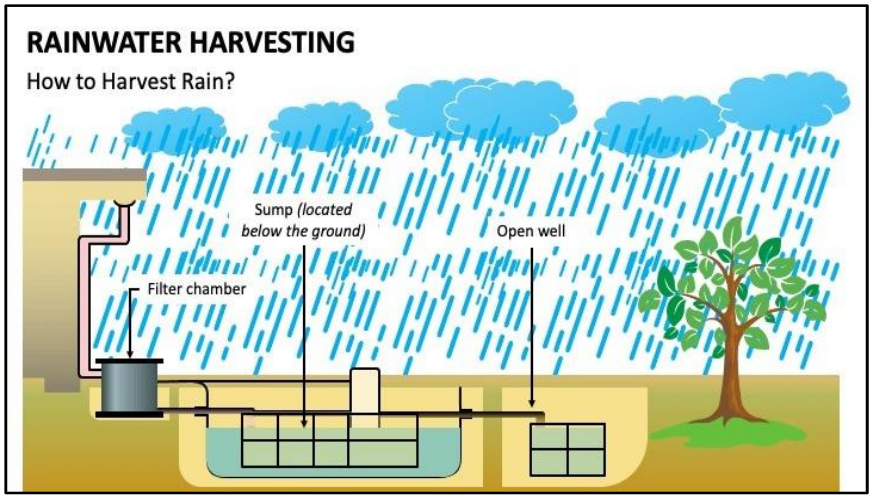
10.	Structural repairs of Powai High Level Reservoir – 1 in S Ward, including consultancy fees.	The tender process for the said work has been completed, and further action is in progress for awarding the work to the lowest responsive bidder.
11.	Structural repairs of Fosberry Reservoir in F/South Ward, including consultancy fees.	Tenders have been invited for the said work.
12.	Structural repairs of Rawli Low Level Reservoir in F/North Ward, including consultancy fees.	Pre-tender activities are in progress.
13.	Reconstruction of Malabar Hill Reservoir at Firozshah Mehta Garden in D Ward.	Date of commencement of work – 30.05.2022; expected date of completion – 17.11.2029. 1% of the work has been completed. The said work is currently suspended, and IIT Roorkee has recommended structural repairs to the reservoir. It has also recommended construction of an additional compartment of 52.05 million litres to ensure uninterrupted water supply during the repair work.

10 RAINWATER HARVESTING

Brihanmumbai Municipal Corporation supplies 4000 million liters of water every day, against a demand of 4660 million liters per day to Mumbai, the economic capital of our country. The purity of the water supplied to the citizens of Mumbai is very high on the "International Quality Standards Rating"& considerable expenditure is incurred for this purification. Unfortunately this water is being used for all secondary requirements also such as flushing of latrines and washing of vehicles. In view of the indiscriminately rising population and comparatively limited resources there is an urgent need to search ways to save water and to put those to actual use. BMC may not be able to supply water for secondary requirements such as flushing, gardening, vehicle washing swimming pools, air conditioning etc. & it is expected that Citizens have to generate the water for secondary requirements through rain water harvesting or recycling.

Rain Water Harvesting (RWH) is an ancient and convenient method. It implies storage of rainwater in, manmade tanks or recharging ground water and utilization as per requirement. Since, rainwater within our own compound is to be stored; anybody is entitled to do so. Most importantly, the capital expenditure and maintenance cost involved in this method is quite low. Rain Water Harvesting contributes in raising the ground water level, the quality of the ground water improves & Soil erosion is arrested. Entry of seawater in ground water can be prevented. Following methods can be deployed for Rain Water Harvesting.

- Storage in underground or above ground artificial tanks.
- Direct recharging of the subsoil water strata (aquifer) through dug up wells or bore wells.
- Recharging of the subsoil water by percolation.
- Forcing rainwater in the ground through bore wells and thereby preventing entry of salty seawater in the subsoil strata.



Rainwater Management: A simple and modern method of collecting rooftop rainwater to recharge wells and raise the groundwater level.

Very large quantities of water can be stored because of the large roof areas of industrial buildings. Those who buy water in tankers can save on this expenses by using rainwater. House owners or tenants can store rainwater with a little bit of efforts. BMC is making all-out efforts to actually practice Rain Water Harvesting / water conservation.

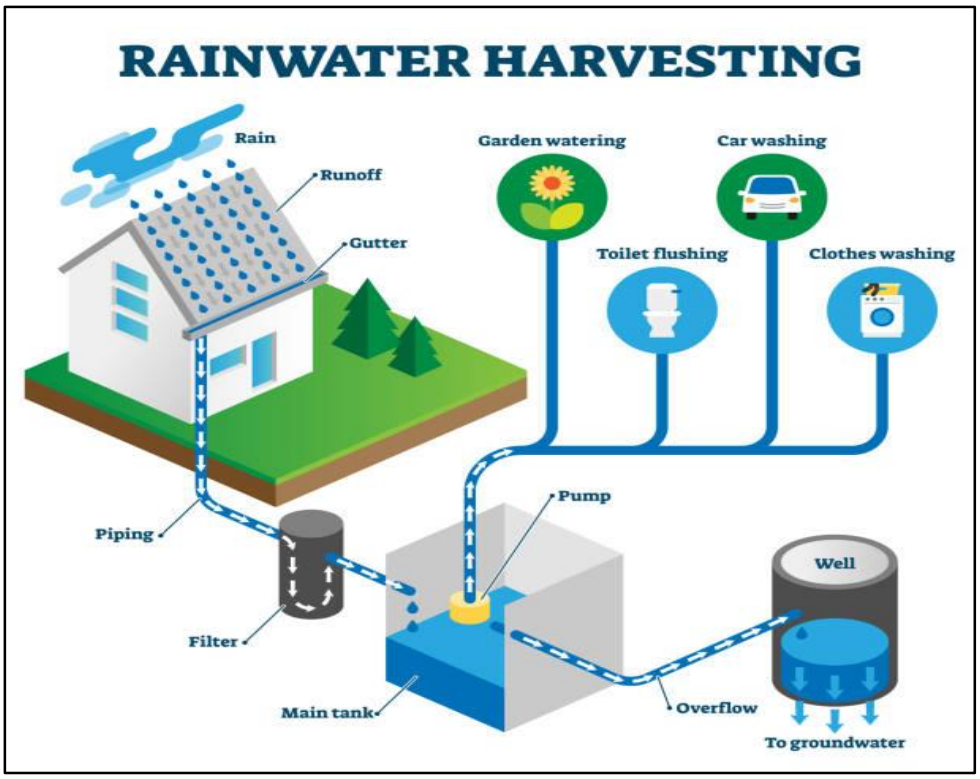
Brihanmumbai Municipal Corporation of Greater Mumbai is the 1st Municipal Corporation in Maharashtra to make Rain Water Harvesting mandatory. From 8.05.2019 as per DP 2034, the condition is binding to all developments having plot area 500 Sq. Mts. & more. The condition is applicable to the properties coming for addition alternation /use of balance FSI etc. The condition is imposed as one of the I.O.D. (Intimation of Disapproval) conditions for installation of RWH scheme and occupation certificate is granted only after compliance of the same. RWH scheme is being designed by the RWH consultant appointed by the Architect. The completion certificate for the implemented scheme is also being issued by the RWH Consultant. Building Proposal dept. verifies the completion certificate issued by the Consultant before issuing Occupation Certificate.

RWH is being implemented in all the new developments of Municipal Corporation where RWH is mandatory. In addition all the Departmental Heads of BMC have already been directed to get RWH schemes implemented in their premises. To encourage existing private Co-op Housing Societies / Owners to implement RWH schemes in their premise Rain Water Harvesting & Water Conservation Cell of BMC guides regarding implementation of RWH schemes free of cost. In addition BMC while issuing new bore well permissions in private premises, a condition is incorporated to recharge such bore well with roof top rain water.

The Cell organized first 2 days technical seminar with All India Institute of Local Self Government (A.I.I.L.S.G.) and Indian Water Works Association (I.W.W.A.) on 28th Feb. / 1st Mar. 2003. The seminar comprised of 17 lectures& 130 participants were appraised of various PenTupants werc appralsed of various aspects of Rain Water Harvesting. The RWH cell had participated in most of the major seminars in Mumbai & conducted many awareness programs to appraise various sections of society. To involve citizen Essay competition on "My way of Water Conservation" was organized in July 2003 in four groups and four languages. An information booklet on Rain Water Harvesting & water Conservation was released in its prize distribution ceremony by Hon. Mayor of Mumbai. The booklet is appreciated even by Government of Maharashtra & circulated to many Municipal Corporations / Councils. Municipal Calendar 2004 was dedicated to Rain Water Harvesting so that the message is conveyed to people at large.

Drawing competition for Municipal school children was also conducted in Jan / Feb. 2004 to create awareness amongst teachers, students and their parents. N.S.S. students were involved in awareness campaigns to reach more citizens, Techniques like Jalmelas in each administrative ward & open grounds, training ward staff for dispersing basic information, painting BEST busses relaying messages through TV sets on Railway Stations, in BEST buses & private premises, putting message on Municipal bills, advertisement hoardings at prominent locations, informative

documentaries in C.S.T. subway are being adopted to reach masses. N.G.O.s are also involved in this activity. Media like TV channels & FM radios are also being used for communicating messageos. The all requisite information is also uploaded on website www.BMC.gov.in for easy access by Citizen. As a part of awareness campaign, in 2012, BMC has published a school book series in Marathi titled प....पाण्याचा on water conservation & rain water harvesting for Std. I to X. Moreover, another activity titled `Aji Ajobanche bol' had been introduced to rope in senior citizen in this campaign. It is expected that senior citizen would use their energy in convincing people in their nearby locality to save water. They would also interact with school children and even read out books to them & explain the ideas incorporated thereat.



Rainwater Harvesting and Filtration System

In view of the late monsoon in the year 2015, (RWH. &Wat.Cons.) Cell has started Save Water Awareness Campaign to spread awareness amongst the citizens of Mumbai. As a part of the continuous awareness campaign, advertisements in local newspapers were published appealing Mumbaikars to use water judiciously and to avoid wastage of water. Save water awareness posters, short videos were prepared with the help of Tata Trust. Save Water appeals / advertisements were also displayed on BEST buses, Bus Queue Shelters, TV in BEST buses & in local trains.

Lectures on water conservation in various Municipal school via virtual: classroom were delivered through Marathi Vidnyan Parishad.A yearlong initiatives 'Water smart Mumbaikars

mass awareness for water t, conservation" has been initiated by me 2 green NGO as BMC as concept partner. Due to late monsoon in 2019, with the help of Bublic Relation Depo Hydraulic Engineer's dept. printed 1,92,000 Saver water awareness posters in Marathi, English & Hindi appealing Mumbaikars to use water judiciously and to avoid wastage of water. These porrs were pasted in all the municipal offices & some of the private premises all across Mumbai.

Jal Shakti Abhiyan: Catch the Rain 2022

Central Government had launched a nationwide campaign "Jal Shakti Abhiyan: Catch the Rain 2022"- when it falls where it falls, focusing on saving & conserving rain water, covering both Urban & Rural Areas across the country. Under Jal Shakti Abhiyan Catch the Rain 2022, Rain Water Harvesting Cell of BMC had implemented Awareness Campaign consisting of an exhibition of posters, advertisements in local daily Newspapers, display of banners etc. and save water messages published through local daily newspapers in Marathi, Hindi, English & Urdu Languages on every Sunday from the month of May 2022 to August 2022. Save water Digital posters & flex banners had displayed in all the 24 BMC Wards Offices, Municipal Hospitals, Municipal Offices, CFCs centers etc.

Save water awareness campaign 2024-25: Due to less rainfall last year in catchment area of dams, the available water stock in the dams is less as compare to last two years. Hence, it is necessary to create awareness among the citizens of Mumbai to avoid wastage of water. As a part of awareness campaign it is decided to distribute and display the Save Water Awareness posters in 24 wards of BMC, to publish advertisement in local daily newspaper, to broadcast audio clip though FM radio and to display save water messages on BMC portal.

Jal Shakti Abhiyan – Jal Sanchay Jan Bhagidari -2025

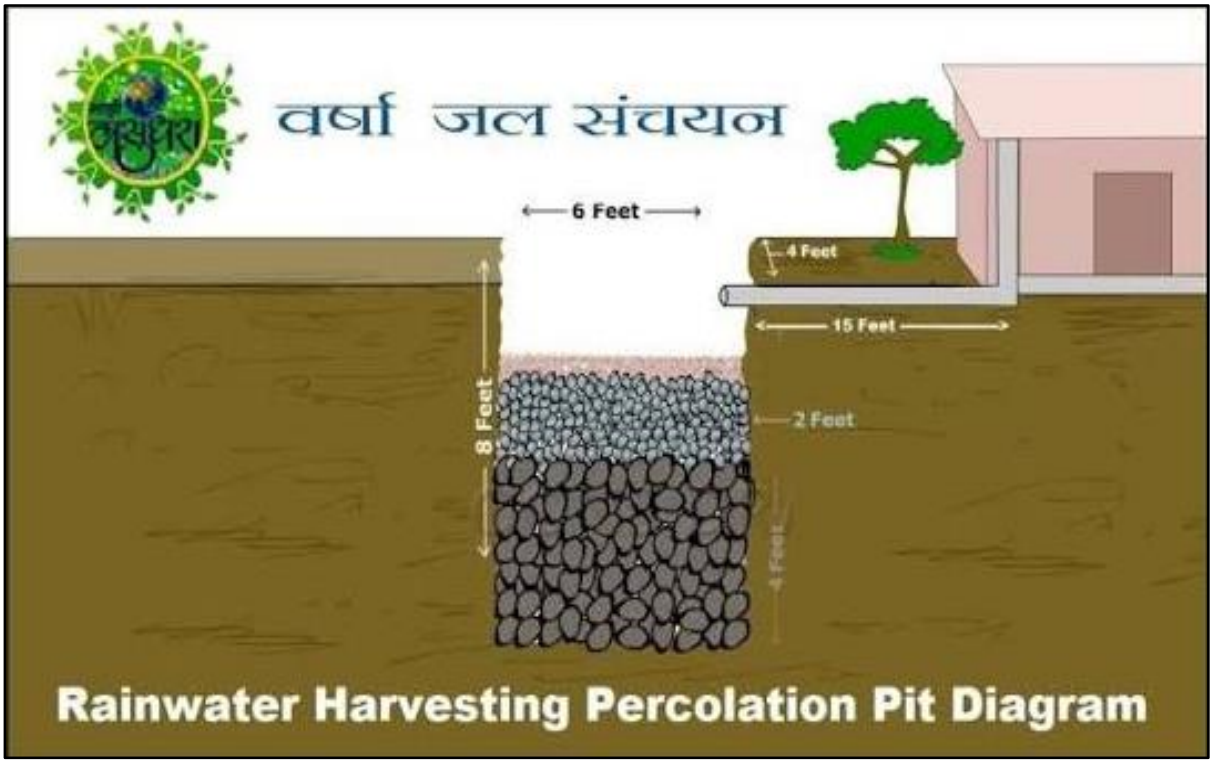
The Central Government has launched the Jal Shakti Abhiyan, a nationwide campaign to "Catch the Rain," in 2019. Under this campaign, the Jal Sanchay Jal Bhagidari initiative had been launched on 06.09.2024. The main objective of this initiative is to save water. The Jal Sanchay Jan Bhagidari campaign aims to build 10,000 recharge structures within the limits/jurisdiction of each Municipal Corporation. As part of the Jal Shakti Abhiyan, a separate website has been launched for the Jal Sanchay Jan Bhagidari initiative, where information such as photos of the recharge structures, latitude and longitude, and the current status of the structures must be submitted.

B.M.C takes efforts in all directions to support Rain Water Harvesting which is one of the Best Management Practices for a Corporation. It is the duty of all citizens to contribute their own efforts to this cause to help themselves.

During the Ganesh Chaturthi festival of 2025, water conservation messages were disseminated in ganpati mandals.

Save water awareness campaign - 2026

It is necessary to create awareness among the citizen of Mumbai for the judicious use of water. For this purpose, it is proposed to publish water conservation messages in local daily news papers in Marathi, Hindi, English & Gujrati languages, as well as to promote these messages on various social media platforms (Facebook, X etc.)



Rain water storage

11 SEWAGE DISPOSAL

Sewerage disposal work is carried out by three departments of Brihanmumbai Municipal Corporation in following ways.

1. **Sewage Operation (SO):** It Operates and maintains Municipal sewage systems comprising of conveyance systems i.e. sewer lines, collection system i.e. Sewage Pumping Stations and Sewage Treatment Facility and disposal system.
2. **Sewage Projects (SP):** This department looks after the work of sewer planning, laying of new sewers, up-sizing the existing sewers and elimination of missing links in existing sewer network.
3. **Mumbai Sewerage Disposal Project (MSDP):** This department carries out the work of construction of Waste water Treatment Facilities and Pumping Stations for treatment and disposal of sewage. It also carries out works of construction of sewer tunnels.

Brihanmumbai Municipal Corporation has prepared second sewerage master plan known as Mumbai Sewage Disposal Project (Stage II) in the year 2002. In order to provide safe and clean environment to citizens various projects such as Upgradation of existing Waste Water Treatment Facility (WwTFs), Construction of new WwTFs, Reconstruction of Sewage Pumping Station, construction of Sewer Tunnels are planned.

The projects of WwTFs are undertaken as per effluent discharge standard prescribed by Hon'ble NGT in their order dated 30.04.2019 (BOD<10 mg/Ltr, TSS<20 mg/Ltr, Fecal Colliform<100 MPN/100 ml).

Table No. 11.1 : The details of the WwTFs projects

Sr. No.	Name of WwTF	Plant capacity in MLD	Tertiary Treatment(Capacity in MLD for Reuse)	Design, Build Period in years	Expected date of Completion
1	Worli	500	250	5	04.07.2027
2	Bandra	360	180	5	04.07.2027
3	Dharavi	418	209	5	04.07.2027
4	Versova	180	90	4	04.07.2026
5	Malad	454	227	6	04.07.2028
6	Bhandup	215	108	4	22.08.2026
7	Ghatkopar	337	170	4	04.07.2026
	Total	**2464**	**1234**	-	-

The tenders for WwTFs at Worli, Bandra, Dharavi, Versova, Malad, Bhandup and Ghatkopar were invited on Design Build Operate (DBO) basis in which operation and maintenance of 15 years are included. All the STP works are awarded to successful contractors. STP works for Worli, Bandra, Dharavi, Varsova, Malad and Ghatkoper have commenced from 05.07.2022 and work for Bhandup STP has commenced from 23.08.2022.

The work of 37 MLD Colaba WwTF has been completed and same has been put in operation from April 2020.

Brihanmumbai Municipal Corporation has emphasized the need of recycle and reuse of treated waste water for non-potable and industrial purposes.

There is a provision of 50% of plant capacity for tertiary treatment in WwTF. This tertiary treated water will be made available for non-potable purposes. At present 10 MLD of treated waste water is available at Colaba WwTF for reuse. After completion of these seven STPs in Mumbai, not only 2464 MLD of sewage water will be recycled but also the much concerning issue of environmental preservation and degradation will get addressed.

Under Mithis River Rejuvenation Project, Package-I, 8 MLD capacity sewage Treatment Plant has been constructed at Powai water Supply Yard and the same has been commissioned from January, 2023. Dry Weather flow ingress into Mithi River on upstream side is intercepted and conveyed to the said STP for treatment and treated water is discharged back into Mithi River. Under Powai Lake Rejuvenation Project, the work of construction of 8 MLD Sewage Treatment Plant at Powai Plaza has been awarded for intercepting dry weather flow ingress to Powai Lake and diverting it to the said STP for treatment.

List of other works of Sewer tunnels and Pumping stations being carried out by Mumbai Sewage Disposal Project Department along with their present status is as below

Table No. 11.2 : Sewer Tunnel Works

Sr. No.	Name of the Tunnel	Size of Tunnel in mm	Length of Tunnel in Km	Remarks
1	Versova - From D.N. Nagar old Versova Pumping station To new Versova Influent Pumping station (near Versova Lagoon)	2000	3.1	Work in progress. Tunnel Boring completed. Physical Progress =98%
2	Priority Sewer Tunnel – 1: From Don Bosco school, Borivali (West) To New Malad IPS.	3200	5.9	Work in progress. Physical Progress = 84%
3	Priority Sewer Tunnel-II: From Goregaon Pumping Station To new Malad IPS	2600	4.7	Work in progress. Physical Progress = 67.15%
4	Mithi-IV - Construction of Sewer Tunnel From Bapat Nallah and Safed Pul Nallah To Dharavi WwTF	2600	6.7	Work in progress. Physical Progress = 96.80%

Table No. 11.3 : Pumping Stations works			
Sr. No.	**Sewage Pumping Station**	**Plant Capacity in MLD**	**Remarks**
1	Varsova IPS	540	Work in progress (88%)
2	Malad IPS	1580	Work in progress (77%)
3	Bhandup IPS	461	Work Complete
4	Ghatkopar IPS	699	Work in progress (84.30%)
5	Harve road IPS	10	Work in progress

The benefits of various MSDP - II projects to the environment are as follows:

1. Saving and Conservation of Drinking Water
2. Conservation of Environment
3. Improvement in Public Health of Mumbai City
4. Improvement in Sea aquatic Life and water quality.

Sewerage Project (S.P.): The Sewerage Project Department carries out planning for laying sewerage lines and laying new sewerage lines as per requirement, upgradation of existing old sewerage lines as per requirement, and completing the missing links in the existing sewerage network, etc.

The important works being carried out by the Sewerage Project Department are as follows

DWF (Dry Weather Flow):

A consultant has been appointed by the Sewerage Project Department to prepare a Detailed Project Report (DPR) for intercepting & diverting Dry Weather Flow (DWF) from major nallas under the jurisdiction of the Brihanmumbai Municipal Corporation to prevent pollution of the sea/bay and the work of preparing the detailed project report is in progress through the consultant. The work of diverting Dry Weather Flow (DWF) from four major nallas (Crompton Nalla, Bombay Oxygen Nalla, Nanepada Nalla and Ushanagar Nalla) in the eastern suburbs has been taken up on a pilot basis and the work of preparing the detailed project report for the same is in progress through the consultant.

The important works being carried out by the Sewerage Project Department are as follows

Rejuvenation of lakes:

The work of rejuvenation. Of lakes in the city, eastern suburbs and western suburbs under the jurisdiction of the Brihanmumbai Municipal Corporation and intercepting / diverting the Dry Weather flow ingress in the lakes has been undertaken on a pilot basis.

a) The work of rejuvenation of the Sion Lake in the city division is in progress.

b) The work of rejuvenation of the Shital Lake in the eastern suburbs is noaring completion.

c) The work of rejuvenation of the Dingeshwar Lake in the Western Suburbs has been completed.

d) The work of detecting, intercepting and diverting the Dry Weather flow (sewage) entering the Powai Lake in the 'S'ward of the Eastern Suburbs has been undertaken.

e) Swami Vivekanand Sarovar (Bandra Lake) in H/West ward of Western Suburbs. The tendering work of rejuvenation and its operation and maintenance for 3 years has been completed by inviting tenders through EPC method by the Sewerage Project Department and work order have been issued to the contractor. The said work is in progress under the supervision of H/West ward office engineering staff.

Sewage Operation (SO)

Laboratory at Dadar under Sewerage Operation department has carried out monitoring of marine outfalls at Worli and Bandra. Marine water samples are collected at 1km. peripheral area from outfall disposal point.

Table No. 11.4 : Water Quality at Marine Outfall 2025 -2026

Sr. No.	Location	PH		DO		Turbidity		E-Coli		BOD	
	MPCB Standard: SW-II	6.5-8.5		>4 mg/l		<30 NTU		<100/100 CFU		<3 mg/l	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	Worli	7.23	8.33	1.1	6.5	1.25	6.91	90	380	1.5	5.0
2	Bandra	7.82	8.35	4.3	6.9	2.38	9.18	100	350	1.0	11.0

D.O.: Dissolved Oxygen
B.O.D.: Biochemical Oxygen Demand
CFU: Colony Forming Unit
Source: This information is received from Sewerage Operation Department Dadar Laboratory.

The analytical reports are compared with the MPCB standards - SW II and it has been found that at Worli and Bandra, levels of pH, D.O., Turbidity are within the prescribed standards and max. Level of E. Coli and max. level of B.O.D. are exceed than standards.

Table No. 11.5 : Zone wise capacity and average dry weather flow capacity of sewage			
Sr. No.	**Name of Sewage Treatment Plant**	**Installed Capacity (In MLD)**	**Zone wise Average Dry Weather Flow of sewage (In MLD)**
1	Colaba	37	28.25
2	Worli	757	340.09
3	Bandra	797	438.28
4	Versova	180	88.38
5	Malad	280	175.59
6	Bhandup	280	83.95
7	Ghatkopar	386	98.76
8	Charkop	6	4.39

Source: This information is received from Sewerage Operation Department Dadar Laboratory.

Sewage Treatment Plant – Dahisar

12 STORM WATER DRAINS

Mumbai is liend on the west by Arabian Sea and intercepted by number of creeks. The tidal variation is a major concern in the system of strom water drains (SWD) to release rainwater as well as wastewater into sea. The present SWD system in the Mumbai city area has Major nalla of approx. 281 Kms, Minor Nallla and Road side driain of 636 km and 2181 km respectively long and existing since 100 years. This network consists of underground drains, laterals and water entrances built on the basis of area and weather conditions. The old SWD system is capable of handling rain intensity of 25 mm per hours at low with runoff cofficent of 0.50.If the rain intensity exceeds 25 mm per hour during high tide, is always possibility of water logging in low lying areaso of the city.

In practice however, in addition to strom water, they aloso crry sewage overflow from septic tank, surface water, ect. The flow from the open SWD is discharged either into nallhas, culvert, creek or sea. This open SWD becomes an eyesore due to throwing of garbage by citizens especially in slum area and creats unhygienic conditions. Therefore, desilting is carrind out through registered contractual agencies througout the year. Due to existing inadequate Sewerage System the sewage is transported through road side open drain, underground Storm Water Drain. Consultant has suggested to prevent the sewage transportation through SWD network. Under JNNURM Sewerage project Department has undertaken plan to separate the sewage flowing through SWD network.

There are 82 major out-falls in the city area which drain to Arabian sea directly, also 9 at Mahim creek, 7 at mahul creek, and 7 at Thane creek. There are 51 out-falls in western suburbs draining directly into Arabian sea while 14 drain into Mithi river which altimately joins mahim creek. In eastern suburbs, 25 out-falls discharge in Thane creek, while 4 discharge in Mahul creek. In suburbs and extended suburbs area, open SWD are constructed on both side of road.

Heavy rain in Mumbai city in june 1985 had resulted into flood like situation, which paralyzed the roads and railway traffic and there was heavy economic loss. In view of this, corporation dicided to carry out thr study of the strom water drainage system in the city. A master project was planned to help to drain out strom Water immediately and reduce floods. In the year 1989 M/s Watson Hawksley International Pvt. Ltd. And their Indian sister concern M/sAIC was appointed as a consultant for this project. The consultants had inspected existing strom water drainage system and maintenance. They have also studied the preparation of map and its scale again. In year 1993, to improve the strom water drainage system, they prepared a master plan, which is known as BRIMSTOWAD Master Plan. This plan suggested improvments in SWD system with desing criteria, of rainfall intensity of 50 mm/hr with runoff coeffcient of 1.00.

Subsequntly in the year 2005 Mumbai faced unprecedented rains on 26th and 27th july 2005 and 944 mm rainfall was recorded in one day. This resulted in the flooding; therefore, Goverment of Maharashtra had appointed a fact Finding Committee to analyze the factors

responsible for the situation that arose during July 26th and 27th, 2005 in mumbai and find out the remedial measures thereat so as to avoid such incident in future. Based on the BRIMSTOWAD Master Plan Report and recommendations of Fact Finding Committee, the balance BRIMSTOWAD warks for the improvement to the storm water drain system are undertaken. As per suggestion of the face finding Committee BRIMSTOWAD report is to be reviewed and upgraded for which BMC has appointed M/s. MWH (I) Pvt. Ltd, as the consultant, The master plan is finalized by the consultant and same is submitted on 30.04.2018. The scope of the BRIMSTOWAD project is as under:

1. Rrhabilitation and augmentation of underground drains in city
2. Construction of new drains in RCC
3. Training of nallas in RCC M-40
4. Widening and Deepening of nallas.
5. Consteucation of access road along the nalla
6. Construction of Strom Water Pumping Stations.

Haji Ali Stormwater Pumping Station

The Government of India sanctioned a special grant of Rs. 1200 crores as per detailed project report submitted to Government of India to implement BRIMSTOWAD Project in year 2007. Out of these, BMC has received Rs. 1000 crores till date. Brimstowad Project is proposed to be implemented in two phases. There are 20 works in Phase-I and 38 works in Phase-II. Present status of the BRIMSTOWAD Project.

Table No. 12.1 : Present status of the BRIMSTOWAD Project								
Details	Phase I				Phase II			
	City	W.S.	E.S.	Total	City	W.S.	E.S.	Total
Name of the work	5	7	8	20	16	10	12	38
No. of completed works	5	7	7	19	14	5	11	30
No. Of the works in progress	0	0	1	1	1	3	0	4
Tenders yet to be invited/ Tenders invited	0	0	0	0	1	2	1	4

Source: Storm Water Drains Department

Table No. 12.2 : Status of Storm Water Pumping Stations under BRIMSTOWAD		
Sr. No.	Pumping Station	Status
1	Haji Ali	Completed and commissioned in May 2011
2	Irla	Completed and commissioned in May 2011
3	Cleaveland	Completed and commissioned in May 2015
4	Lovegrove	Completed and commissioned in May 2015
5	Britannia	Completed and commissioned in June 2016
6	Gazdarbund	Completed and commissioned in June 2019
7	Mogra	Contractor Appointed.A contractor has been appointed. The process of obtaining the mandatory No Objection Certificate is currently underway. Project work will commence upon the completion of this process.
8	Mahul	A contractor has been appointed. The land acquisition process is in its final stages. Subsequently, project work will commence once the process of obtaining the mandatory No Objection Certificate has been completed.

Source: Storm Water Drain Dept of Brihanmumbai Municipal Corporation

The total expenditure incurred on the BRIMSTOWAD Project till March 2025 is approx Rs.2541.37 Crores. However, the increased in the width and depth of the drains due to change in design parameters, requirement of unconventional technology specially in tidal zone and passage of time-particularly due to encroachment issues, total financial requirement due to encroachment issues during the project has require additional funds of Rs.2700 Crore.

Environmental Aspect

As regards cleaning and desiliting of nallas, the same is carried out every year, prior to monsoon within BMC jurisdiction.The same are cleaned by specially appointed. The work of desiliting is carried out in phases. About 75% of the work is carried out before monsson. 15% during monsoon and balance 10% post monnsoon. Further, silt from all the water inlets are also removed.

The desiliting of the underground strom water drains is carried out deploying sufficient machineries such as fierx, suction, Recycling machine, jetting, and suction cum jetting machine in deep chambers, where man entries are prohibited. The road side desilted by means of rodding and dredgers. JCB, poclain, pantoon mounted poclain, machineries are engaged for desilting of major nallas in suburbs.

Brihanmumbai Municipal Corporation has undertaken rejuvenation work of Dahisar, Poisar and Oshiwara River. Work of rejuvenation of Dahisar, Poiser and Oshiwara River is in progress.

The rejuvenation work includes widening of river, improvisation of quality of river water, preventing contamination of rivers caused form river catchment area, network of sewage disposal line, construction of service road for sewage water process stations, beautification of river bays/ sides and installation of sewage water process stations etc.

Ankit Nagar Nallah, Mumbai – Stormwater drainage system developed under the Brihanmumbai Municipal Corporation (BMC)

Development of Mithi River

Govt. of Maharashtra vide GR No. MRD-3305/C.N. - 109/UD-7 dtd. 19.08.2005 has formed "Mithi River Development and Protection Authority" under the Chairmanship of Hon'ble Chief Minister of Maharashtra State for the effective implementation of Mithi River Development Project. As per the said Government Resolution, out of total river length of 17 km, the development works for 11 km length (between Filtarpada, Powai and CST Bridge, Kurla) have been carried out by Brihanmumbai Mahanagarpalika (BMC), whereas, the development works for remaining 6 km length (between CST Bridge, Kurla and Mahim Causeway) have been carried out by Mumbai Metropolitan Region Development Authority (MMRDA). In BMC's jurisdiction part of Mithi River, widening and deepening work is almost completed except the stretch between Kurla-Kalina Bridge and CST Bridge.

Till date, 92% of widening & deepening work and 93.5% of construction of retaining wall work have been completed for 17 km long Mithi River, as a result two times the holding capacity and three times the carrying capacity of river has been increased. In order to control the pollution problem of Mithi River, Mithi River Pollution Control plan has been prepared. The said plan is being carried out in 4 packages, between Filtarpada, Powai and Mahim Causeway.

13 SOLID WASTE MANAGEMENT

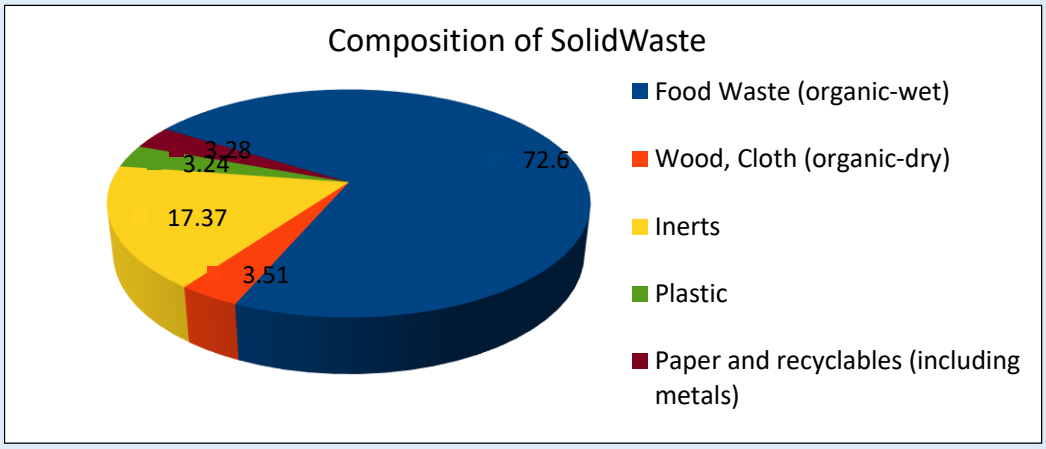
Due to various projects and programs arranged by Brihanmumbai Municipal Corporation in the last 5 years of the quantum of waste collected in the year 2022 has been approx 6300 MT per day. Of the 6300 MT transported to disposal sites by vehicles in over 921 trips/day, the waste is primarily collected separately as dry and wet waste. The waste can be broadly classified in various categories i.e. 72.60% Food waste (organic-wet), 3.51% wood, Cloth (organic-dry), 17.37% Sand, Stone and Fine earth, 3.24% Plastic, 3.28% Paper and recyclables (including metals).

Table No. 13.1 : Composition Of Garbage In Mumbai

Sr. No.	Type of Solid Waste	Percentage
1	Food Waste (organic- wet)	72.60%
2	Wood, Cloth (organic- dry)	3.51%
3	Sand, Stone and Fine earth	17.37%
4	Plastic	3.24%
5	Paper and recyclables (including metals)	3.28%
	Total	**100.00%**

Source: Report of NEERI, 2016

Graph No. 13.1: Components of solid waste in Mumbai



The waste from all over the city is collected and at present, it is treated at Kanjur processing site using Bio-Reactor Technology and Windrow Composting and rest is disposed off at the Deonar dumping site by simple dumping and leveling. Deonar dumping ground is the oldest one, receiving approximately 10% and Kanjur receiving remaining 90% of waste generated on daily basis. The activity of receiving of fresh MSW at Mulund Dumping Ground is stopped w.e.f. 21.12.2018 and the project work of recovering the land by processing the existing waste with suitable technology is in progress. Scientific Closure Project of old site at Gorai has been

completed in 2009 and operation and maintenance of the site is in progress. Area of different dumping grounds is given in table 13.2. Input loads of MSW at various dumping sites are given in Table 13.3.

Table No. 13.2 : Capacity Of Various Disposal Sites In Mumbai		
Disposal Site	**Area (Ha) Filling m***	**No. of Years in Use**
Deonar	120	99
**Mulund	24	47
Kanjur	118.41	15

Receiving of fresh MSW at **Mulund Dumping Ground is stopped w.e.f. 21.12.2018

Table No. 13.3 : INPUT LOAD OF WASTE			
Sr. No.	**Disposal Ground**	**Classification of Waste**	**Tonnes/day**
1	Deonar	Municipal Solid Waste	Approx. 500-700 TPD
2	Mulund	Municipal Solid Waste	The activity of receiving of fresh MSW at Mulund Dumping Ground is stopped w.e.f. 21.12.2018 and the project work of recovering the land by processing the existing waste with suitable technology is in progress.
3	Kanjur	Municipal Solid Waste	Approx. 6200

There are 1566 no. of 1.1-cubic meter containers, around 15,057 nos. of 120 Ltrs. Litter bins, around 8,878 nos. of 240 Ltrs. Litter bins and 100% of total waste is collected through House-to-House collection. The daily Municipal Solid Waste (MSW) is collected and transported by deploying various types of vehicles. Salient features of transportation are given in Table 13.4.

Table No. 13.4 : SALIENT FEATURES OF TRANSPORTATION FOR SOLID WASTE						
Sr. No.	**Type of Vehicle**	**Number of Services 2021-22**	**Number of Services 2022-23**	**Number of Services 2023-24**	**Number of Services 2024-25**	**Number of Services 2025-26**
1	Compactors	1926	1547	1581	1615	1619
2	Skip Vehicles/ Dumper Placers	0	0	0	0	0
3	Dumpers/Refuse Vehicle	315	88	83	81	88
4	Bulk Refuse Carriers	-	-	-	-	-
5	Tempo/Jeeps	5294	4179	4238	4413	4285
6	JCB Machines	127	51	58	88	90
7	Stationary Compactors	97	97	95	95	95
	Total	**7759**	**5962**	**6055**	**6292**	**6177**

Swachh Bharat Abhiyan 2.0

- Swachh Bharat Abhiyan 2.0 is launched on 1st October 2021 by the Hon'ble Prime Minister with vision of 'Garbage Free' cities.
- Since the Brihanmumbai Municipal Corporation is an important administrative mechanism for implementing Swachh Bharat Abhiyan, joint efforts are being made to maintain cleanliness in the city with the cooperation of the State and Central Governments.
- Swachh Bharat Abhiyan 2.0 period is from 1 October 2021 to 1 October 2026. The objective mainly include segregation of waste at household level, scientific treatment of old accumulated waste (legacy waste), Aspirational toilets, 100% sewage management collection / disposal / processing etc.
- Under SBM 2.0, City Sanitation Action Plan for Mumbai has approved by state office for funding of 15000 community toilet seats, 400 Aspirational toilets for floating population, 4672 Individual Household latrine & 500 urinals.

Swachhata Hi Seva 2025

- As per the directives of the Central Government Swachhata Hi Seva campaign were undertaken from 17th September to 2nd October 2025. On 20th September, 2025, a special beach cleaning program was conducted in Mumbai.
- Also as per directions other activities like 48 nos. of Cleanliness Target Units were identified & cleaned under deep cleaning drives. On 25th September 2025 at 8AM special collective cleaning initiative under ‘Ek Din Ek Taas Ek Saath’ was implemented with the public participation.

- Under Swachhata Hi Seva 2025 campaign training for sweepers, health check-up camp etc sessions were included.
- On the occasion of Mahatma Gandhi's birth anniversary on 2nd October, programs like Prabhat Pheri, felicitation of Safai Karmachries, rangoli, Swachhata pledge on cleanliness were undertaken.

Capacity Building

- Training workshop were conducted on 09.09.2025 for training and safety related awareness workshop for workers associate with septic tank & sewer line cleaning.

NAMASTE Scheme

- NAMASTE scheme is jointly implemented by the Ministry of Housing & Urban Affairs (MoHUA) and Ministry of Social Justice and Empowerment (MoSJE) to ensure the safety and dignity of Sewer and Septic Tank Workers (SSW) and to mechanize the work of cleaning sewer and septic tanks.
- Under the Namaste scheme, about 2,800 nos of sewer and septic tank cleaning workers have been profiled by the municipal corporation on the Namaste portal. Safety equipment has been distributed to the profiled workers.
- Also, after instructions were given to include waste collectors/waste handling workers in the said scheme, about 5500 workers of solid waste management offices have been profiled on the Namaste portal as on 16.11.2025.

Solid Waste Management Rules, 2026

The Solid Waste Management (SWM) Rules, 2026 were issued on 28 January 2026 by the Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India, under the Environment (Protection) Act, 1986, and came into force from 1 April 2026, replacing the earlier 2016 rules. The rules are applicable across India to all urban and rural local bodies, every waste generator including households, institutions, commercial establishments, and bulk waste generators, thereby creating a uniform framework for solid waste management.

The rules emphasize a transition to a more structured and accountable waste management system by mandating segregation of waste at source into four categories wet, dry, sanitary, and special care waste which forms the foundation for further collection, processing and disposal. They also establish mechanisms for scientific processing of waste, reduction in landfill usage, and improved tracking of waste through an online monitoring system, ensuring better compliance and transparency.

Under these rules, waste generators are responsible for segregating waste at source, storing it appropriately, and handing it over to authorized agencies. Bulk waste generators, defined based on waste generation, area, or water consumption, have additional responsibility to manage and process their waste, particularly biodegradable waste, in an environmentally sound manner and ensure proper handling of all waste streams. Urban Local Bodies (ULBs) are entrusted with the responsibility of ensuring door-to-door collection, transportation, segregation,

processing, and safe disposal of waste, along with setting up necessary infrastructure and ensuring compliance within their jurisdiction. They are also responsible for managing landfills and handling legacy waste through remediation processes.

Regulatory oversight is provided by the Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCBs)/Pollution Control Committees (PCCs), which guide implementation and enforce compliance, including imposing environmental compensation under the polluter pays principle for violations. Overall, the rules clearly define responsibilities across all stakeholders and establish a regulated system focused on segregation, scientific processing, accountability, and reduction of environmental impact.

Municipal Solid Waste (Management & Handling), Cleanliness and Sanitation Bye Laws, 2025

The Municipal Solid Waste (Management & Handling), Cleanliness and Sanitation Bye Laws, 2025 of the Brihanmumbai Municipal Corporation (BMC) were prepared in February 2025 to replace the earlier 2006 sanitation framework and establish a comprehensive regulatory structure for solid waste management in Mumbai. These bye laws apply to all waste generators across the city, including residential, commercial, institutional, industrial, and public spaces, ensuring a uniform and enforceable system for maintaining cleanliness and sanitation.

The bye laws focus on regulating the entire lifecycle of waste management, beginning with the prohibition of littering and prevention of public nuisances, and emphasizing the need to maintain cleanliness in all premises, described as ensuring a “clean aangan/premises/place.”

A key operational requirement is the segregation of municipal solid waste at source, along with proper storage, handling, and delivery of waste to authorised municipal systems, forming the core of organized waste processing and disposal. The bye laws also provide structured provisions for handling various categories of waste, including solid waste, biomedical waste, e-waste, plastic waste, and construction and demolition waste, ensuring that each type is managed according to specified procedures and environmental standards.

An important aspect of these bye laws is the clear definition of roles and responsibilities. Waste generators are required to maintain cleanliness, segregate waste, and hand it over as prescribed, while following guidelines for different waste types. The BMC, along with its agents and contractors, is responsible for providing infrastructure and services related to collection, transportation, processing, and safe disposal of waste, as well as ensuring compliance and enforcement throughout the city. In certain situations and waste categories, responsibilities are shared between the generators and the municipal authority to ensure proper management.

The bye laws also introduce strict enforcement mechanisms, including enhanced penalties for offences such as littering, non-segregation, and improper disposal, along with provisions like user fees for waste collection services, aimed at improving accountability and financial sustainability. Overall, the SWM Bye Laws, 2025 establish a detailed, enforceable, and city-specific

framework focused on cleanliness, segregation, defined accountability, and scientific waste management to improve sanitation standards in Mumbai.

Sr. No	Work Description	Time limit from the date of notification of rules.	Action taken by Brihanmumbai Municipal Corporation
1	Identification of suitable sites for setting up solid waste processing facilities.	2 years	Already identified the land by BMC, in January 2015. Requested Govt. of Maharashtra to allot the land at Mauje Karvale, near Taloja to BMC for processing and disposal of Municipal Solid Waste (MSW) in compliance with SWM rules 2016. Also BMC has identified land at Mulund East (near Airoli bridge) and requested GoM to handover the same. As per Hon'ble High Court vide its order in PIL No.217 of 2009, Government of Maharashtra (GoM) has allotted about 52.10 Ha. land at village Karavale, Tal – Ambernath, Dist – Thane to BMC for Solid Waste Management Project. Out of this, 39.90 Ha. land is Government land and 12.20 Ha. is private land. Out of total 52.10 Ha. land, 35.82 Ha. lands is useful for the BMC (i.e. 29.715 Ha. Govt. land and 6.105 Ha. of private land) due to alignment of Alibaug Virar Corridor and the GAIL Pipeline passing through the designated plot. Out of 39.90 Ha. Govt. land Advance possession of Govt. land admeasuring 38.81 Ha. is given to BMC on 18.01.2016. The physical possession of Government land admeasuring about 12 Ha. has been taken over by BMC from Tahsildar Ambernath on 16.02.2019. Acquisition of remaining Govt. land and about 6.105 Ha. private land is being carried out through Collector Thane District. After completion of physical acquisition process, the land will be used for SWM Project activities of Brihanmumbai Municipal Corporation. Complied within the time stipulated.
2	Identification of suitable sites for setting up common regional sanitary landfill facilities for suitable clusters of local authorities under 0.5 million population and for setting up common regional sanitary landfill facilities or stand alone sanitary landfill facilities by all local authorities having a population of 0.5 million or more.	1 year	Same as above

3	Procurement of suitable sites for setting up solid waste processing facility and sanitary landfill facilities.	2 years	Is in process. Same as Sr.No.1
4	Enforcing waste generators to practice segregation of bio degradable, recyclable, combustible, sanitary waste domestic hazardous and inert solid wastes at source.	2 years	Notices are already issued. Enforcement is being implemented in phased manner. BMC has taken various initiatives for encouraging the segregation by bulk generator and the action against the defaulter has been taken. BMC, against 1325 defaulting bulk generators has taken action under section 368 of MMC Act. Out of 1325 cases, in which prosecution was launched, and fine of Rs. 42,93,500/- is recovered. Also under section 53 (1) of MRTP Act, out of 326 notices issued, in 44 cases prosecution is launched against non-compliance. Further, BMC has identified 207 Bulk generators having area more than 20,000 Sq.M. and in 7 cases Maharashtra Pollution Control Board (MPCB) has launched prosecution. BMC has established 46 dry waste segregation centers in 24 wards for segregating collected dry waste from various establishments. For collection and transportation of dry waste, BMC has deployed 96 vehicles in 24 wards, which carry the dry waste to segregation centres. BMC has implemented new zonal contract for collection of waste in line with SWM Rules 2016, in which 399 nos. of large compactors & 246 nos. of mini compactors vehicles having separate compartment for collection & transportation of dry waste, e-waste & wet waste are to be provided Complied within the time stipulated.
5	Ensure door to door collection of segregated waste and its transportation in covered vehicles to processing or disposal facilities.	2 years	The Municipal Corporation has taken various initiatives and achieved the targets of 100% door-to-door waste collection and 86% waste segregation.
6	Ensure separate storage, collection and transportation of construction and demolition wastes.	2 years	As of date, BMC collects and transports separately the construction and demolition waste. 2 plants of 600 TPD for Processing of C&D Waste has been commissioned in Nov2024. As per the direction in Hon'ble Supreme Court of India in Special Leave Petition (Civil) no. 23708 of 2017, BMC has devised Special Software System to insure safe disposal of C&D generated by bulk generator complying with C&D Rules 2016. Also as regards to small scale C&D generators, BMC has 'debris on call' services. Complied within the time stipulated.
7	Setting up Solid waste precessing facilities by all local bodies having 100000 or more population.	2 years	Brihanmumbai Municipal Corporation has already setup Solid Waste Procesing facility at Kanjur Landfill site. The MSW processing facility has a capacity of processing 1000 TPD of MSW with composting technology and 3000-6500 TPD with bioreactor technology for period of 25 years & has been operational since 13.02.2011.

			Presently, around 6200 TPD (5200 TPD by bio-reactor technology and 1000 TPD by compost) is being processed. Work of Waste to Energy Project is awarded at Deonar Dumping Ground. About 600 TPD MSW will be processed scientifically and about 8 MW energy will be generated from this project. Consent to Establish (CTE) has been received for the project on 04.06.2022from MPCB. Project is expected to be commissioned by 30.06.2026. Mahanagar Gas - 1. The Brihanmumbai Municipal Corpo-ration has entered into a Memorandum of Understanding (MoU) with Mahana-gar Gas Limited for a Compressed Bio-gas (CBG) project with a capacity of 1000 TPD (Phase I – 500 TPD; Phase II – 500 TPD). 2. Administrative approval has been ob-tained for entering into a Concessional Agreement with MGL. 3. The proposal for transfer of land at Deonar to MGL was submitted to the State Government for approval under Section 92(dd) of the Brihanmumbai Municipal Corporation Act, 1888. The same has been approved by the Government through a Government Resolution dated 28 May 2025. Further action is in progress. In Process.
8	Setting up common or stand alone sanitary landfills by or for all local bodies having 0.5 million or more population of the disposal of only such residual wastes from the processing facilities as well as un-treatable inert wastes as permitted under the Rules.	3 years	A scientific landfill site is available at the Kanjur waste processing facility.
9	Bio-remediation or capping of old and abandoned dump sites.	5 years	The work of scientific closure of Dumping Ground at Gorai is completed in 2009 by BMC. Work of Dumpsite Reclamation at Mulund Dumping Ground (MDG) is awarded to the contractor. After obtaining required clearances and mobilization of equipments and machineries, commencement of the project is started from 01.10.2019. Till date (22.04.2026) contractor has scientifically processed and disposed off about 59,90,844 MT of legacy waste. M/s MITCON Consultancy & Engineering Services Ltd. has been appointed as Project Management Consultant (PMC) for this project. As regards to Deonar Dumping Ground, the existing dump thereat is about 18.5 million MT. The Hon’ble High Court, Mumbai vide Order dated 26th & 29th February 2016 directed BMC to engage the services of IIT or NEERI as consultants to suggest the measures for properly maintaining the site till proper facility is created thereon as per MSW Rules.

			At present Deonar Dumping Ground accumulated 18.5 million ton of MSW. According to order of High Court dated 26th & 29th February, 2016 five member monitoring committee has been constituted for monitoring the operation and maintenance activities at Deonar Dumping Ground. Accordingly progress of same is being reviewed regularly by Monitoring Committee. Thereafter, NEERI is in-principally appointed for closure plan at Deonar Dumping ground for the study to develop the closure plan for Deonar dumpsite, including advice on appropriate technologies to be used for the dumped waste at Deonar as per SWM Rules 2016. Currently work has been awarded for bioremediation of legacy waste at Deonar Dumping Ground vide LOA dt.10.10.2025. Total contract period 3 years currently processed of obtaining various statutory/regulatory clearances is going on.In process,

Dry Waste Sorting Centers

BMC has set up 46 dry waste collection & sorting centers in 26 wards. 94 Nos. of separate vehicles are deployed for collection and transportation of dry waste to dry waste sorting centers, in all the 26 wards of BMC. Currently 10 sites have been selected for modernization out of which 5 have under constructions. Waste / Rag Pickers' Associations are appointed to carry out the collection and segregation of dry waste. Dry Waste is segregated into paper, cardboard, thermacol, plastic, metal & glass and then sent to the recyclers for recycling directly by the rag pickers' associations.

BMC framed its own Bye-laws in 2025, named as "Greater Mumbai Cleanliness & Sanitation Bye-laws". These Bye-laws are applicable to every public place within the limits of Greater Mumbai, to every generator of Municipal solid waste and to every premise under the ownership or occupation of any person within the limits of BMC. Currently the byelaws are in process of modification to suit the requirement of SWM Rules, 2026.

Kanjur MSW Processing Site

- As per orders of Hon'ble High court and Hon. Supreme Court, the Government of Maharashtra handed over a plot admeasuring 141.77 hectares area at Kanjur to BMC on 24.10.2005 for developing MSW disposal site. Out of said 141.77 Ha. area, mangroves area admeasuring 23.36 ha. was retained by the Government of Maharashtra vide notification dtd.02.04.2012.
- Kanjur MSW Processing facility has received Environment Clearance from State Environment Impact Assessment Authority Maharashtra (SEIAA) on 05.12.2014 for 65.96 ha. non CRZ area.
- Further, Kanjur MSW Processing facility has received Environment Clearance from State Environment Impact Assessment Authority Maharashtra (SEIAA) on 29.10.2018 for

Scientific processing of MSW in the balance 52.45 ha. of CRZ –III area. Renewed authorization from MPCB is received on Dt.23.08.2022. Accordingly total 118.41 ha. of land is available at Kanjur MSW processing facility.

- At present, processing of about 5200 TPD of MSW with bioreactor technology and about 1000 TPD of MSW with windrow composting technology is being carried out at Kanjur MSW Processing facility.

New Projects for scientific processing of MSW

1. Development of Waste to Energy (WTE) Project at Deonar:

Work of Waste to Energy Project is awarded. About 600 TPD MSW will be processed scientifically and about 8 MW energy will be generated from this project. Consent to Establish (CTE) has been received for the project on 04.06.2022from MPCB. Project is expected to be commissioned by 30.06.2026.

2. Dumpsite Reclamation at Mulund Dumping Ground (MDG) in Mumbai by adopting suitable technology for existing garbage dump:

Work of Dumpsite Reclamation at Mulund Dumping Ground (MDG) is awarded to the contractor. After obtaining required clearances and mobilization of equipments and machineries, commencement of the project is started from 01.10.2019. Till date (22.04.2026) contractor has scientifically processed and disposed of about 59,90,844 MT of legacy waste. M/s MITCON Consultancy & Engineering Services Ltd. has been appointed as Project Management Consultant (PMC) for this project.

3. Scientific processing and disposal of Waste at village Karvale, near Taloja

As per Hon'ble High Court vide its order in PIL No.217 of 2009, Government of Maharashtra (GoM) has allotted about 52.10 Hectare land at village Karavale, Tal – Ambernath, Dist – Thane to BMC for Solid Waste Management Project. Out of this, 39.90 Hectare land is Government land and 12.20 Hectare is private land. Out of total 52.10 Hectare land, 35.82 Hectare lands is useful for the BMC (i.e. 29.715 Hectare Govt. land and 6.105 Hectare of private land) due to alignment of Alibaug Virar Corridor and the GAIL Pipeline passing through the designated plot. Out of 39.90 Hectare Govt. land Advance possession of Govt. land admeasuring 38.81 Hectare is given to BMC on 18.01.2016. The physical possession of Government land admeasuring about 12 Hectare has been taken over by BMC from Tahsildar Ambernath on 16.02.2019. Acquisition of remaining Govt. land and about 6.105 Hectare private land is being carried out through Collector Thane District.

4. Collection, Transportation, Processing & Disposal of Construction & Demolition (C & D) Waste in Mumbai.

The BMC scientifically processes 1200 TPD of C & D waste. 2 plants of 600 TPD for Processing of C&D Waste has been commissioned in Nov 2024.

The work consists of Collection, Transportation, processing & Disposal of C&D Waste

Service Level Benchmarking:

1. To monitor the performance of any ULB regarding its Service Delivery to the Citizens, MoUD has devised benchmarks for each service delivered.
2. For Solid Waste Management Dept. there are 08 such benchmarks.

The benchmarks are elaborated below. (Current achieved values are mentioned in bracket)

Description of service	Target	Achieved
Coverage of SWM services through Door to Door collection	100%	100%
Efficiency of Collection	100%	100%
Extent of Segregation of Municipal Solid Waste	100%	86%
Extent of Municipal Solid Waste Recovered	80%	35%
Extent of Scientific Disposal of Waste at Landfill site	100%	88%
Efficiency in Redressing Customer Complaints	85%	94.93%
Extent of Cost Recovery in SWM Services	100%	100%
Efficiency in Collection of SWM Charges	90%	100%

Deep Cleaning Program

The launch of the "Deep Cleaning Program" in December 2023 addressed air pollution concerns by deploying machinery to clean major junctions and wash roads. Led by the Hon. Chief Minister, this comprehensive program focused on concentrated cleaning efforts in one area at a time, including repainting infrastructure, removing debris, and engaging the community. Response from citizens and active participation has created a mass movement. In 2024 more than 65,975 manpower, NGO workers, students, BMC staff has contributed to Deep Cleaning Program. More than 6,111 tons of debris, 1,150 tons of odd/ abandoned material and 3,113 tons of garbage was cleared. More than 6,777 machines and equipments were used. The program's success is evident and has been replicated across the state of Maharashtra.

Bio-Medical Waste (Management & Handling) Rules, 2016

Bio Medical Waste (Management and Handling) Rules, 2016 are notified by Ministry of Environment and Forest, Govt. of India, under Environment Protection Act 1986 vide Notification dated 28/03/2016. As per rules it is the duty of ‘Occupier’/ ‘Generator’ to ensure that BMW is handled without any adverse effect to human health and environment by way of segregation, packing, transportation, storage, final treatment and disposal. An ‘Occupier’ is defined as an institutions like hospital, nursing home, clinic, dispensary, veterinary institution, animal house, pathological laboratory, blood bank etc. which generate BMW.

BMC owns major hospitals, maternity homes, dispensaries and clinics. BMC is therefore considered to be an ‘Occupier’ and is required to dispose of the BMW generated in these

institutions as per BMW Rules 2016. Moreover as per the BMW sub rule 6, it is not an obligatory duty of M.C.G.M. to collect & treat the BMW generated from private health care establishments.

However, as per amended BMW Rules 2016, sub Rule no. 7, Municipal Corporations should provide suitable sites to private medical institutions for installation of common treatment facility without prejudice to the duty of 'Occupier'. Accordingly M.C.G.M. has provided suitable land at Deonar dumping ground for installation of bio-medical waste treatment plant for disposal of bio-medical waste generated in Mumbai jurisdiction.

The provisions under BMW Rules, states that the prescribed authority is Maharashtra Pollution Control Board & they are supervising the operation of the plant. An 'Authorization' to the plant operator of BMW treatment plant is issued by M.P.C.B. As per rule, it is also necessary to obtain an authorization from M.P.C.B. as a "Generator" who are generating the bio-medical waste.

As such, M.C.G.M. has installed integrated bio-medical waste treatment facility under the guidance of M.P.C.B. at Ghatkoper Mankhurd Link Road near Deonar dumping ground through M/s. SMS Envoclean (P) Ltd. The said facility has started its operation from May 2009. In all, M/s. SMS Envoclean (P) Ltd has put 46 nos. of specialized vehicles for collection of bio-medical waste from all heath care establishments. Those Health Care Establishments who are registered with the BMW treatment facility are being provided the services of BMW collection and disposal by M/s. SMS Envoclean (P) Ltd. As of now 14000 nos. of health care establishments are registered with the centralized facility. Daily approx 20 M.T. of BMW is being collected & treated at Deonar BMW treatment facility.

The amendments to Bio-Medical Waste Management Rules, 2016 mainly strengthen compliance and scope.

The 2018 amendment introduced phasing out of chlorinated plastics, mandatory bar-coding and GPS tracking, and stronger reporting systems.

The 2019 amendment made daily record maintenance, online disclosure of waste data, and stricter liquid waste standards mandatory. The 2026 amendment expanded coverage by including AYUSH healthcare systems and their representation in monitoring committees.

E-Waste (Management) Rules 2016

1. To avoid mixing of e-waste with municipal solid waste, BMC has proposed to appoint MPCB authorized e-waste recycling agency to set up e-waste collection centers in wards.
2. The work of setting up of e-waste collection centers can be given to MPCB authorized electronic producers/ e-waste collectors/ dismantlers/ recyclers. The E-Waste (Management) Rules, 2022, notified by MoEFCC on 2 November 2022, have replaced the 2016 Rules and are effective from 1 April 2023. The new rules introduce a stronger Extended Producer Responsibility (EPR) regime, making producers responsible for recycling targets and requiring mandatory registration on a CPCB portal. They also expand the scope of electronic equipment

covered, promote scientific recycling, and introduce provisions for environmental compensation, audit, and monitoring

Plastic Waste (Management) Rules, 2016

BMC has set up 46 dry waste collection & sorting centers for segregation of collected dry waste. The plastic waste is segregated from collected dry waste and is sent to the recyclers directly by the engaged waste pickers' association. Plastic shredding machines are installed at few DWSC locations in the city. Under EPR, companies like Bisleri & Coca Cola have set up plastic processing units across city.

The use and manufacturing of plastic carry bags below 50 microns is prohibited by law. The monitoring authority for the same is Maharashtra Pollution Control Board. SWM dept has developed banned plastic collection and storage facilities for the convenience of citizens. Use of media for spreading awareness about active public participation in minimizing use of banned plastic is being done. Around 336 MT of plastic waste has been collected since the ban has come into effect.

The Plastic +Waste Management Rules, 2016 have been amended multiple times, notably in 2021, 2022, 2024 and 2025. The 2021 amendment introduced a ban on identified single-use plastic items and stricter thickness norms for carry bags. The 2022 amendment brought Extended Producer Responsibility (EPR) guidelines, making producers responsible for collection, recycling and reuse targets. 2024–2025 amendments strengthened rules through definitions of biodegradable plastics, stricter reporting, traceability (barcode/QR), and compliance mechanisms.

Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2016

Hazardous Waste Management Rules are notified to ensure safe handling , generation, processing, treatment, package, storage, transportation, use reprocessing, collection, conversion, and offering for sale, destruction and disposal of Hazardous Waste. The Rules lay down corresponding duties of various authorities such as MoEF, CPCB, State/UT Govts., SPCBs/PCCs, DGFT, Port Authority and Custom Authority while State Pollution Control Boards/ Pollution Control Committees have been designated with wider responsibilities touching across almost every aspect of Hazardous wastes generation, handing and their disposal.

Deonar Landfill Project

Kanjurmarg Landfill Project

14 POWER SUPPLY AND CONSUMPTION

BEST Undertaking

BEST is the distribution licensee to supply electricity in the old city limits of Mumbai. It covers 72 sq.km. (Area from Colaba to Sion and Mahim). In FY 2025-26 the maximum demand of Mumbai City was 907 MW and power purchased was around 4922 Mus. To meet this demand, power is purchased mainly from Tata Power Company (which also includes Hydro Power) and Manikaran Power Ltd. remaining power is purchased from bilateral sources, Power exchanges and environment friendly renewable source.

Steps towards pollution control

1. **PM-Surya Ghar Yojana:** PM Surya Ghar Muft Bijli Yojana was launched by Honorable Prime Minister on 13th April 2024. To enable the consumers to avail the benefits of this Yojna, necessary infromation of the scheme has been displayed on BEST website and electricitybills. Till 31/03/2026, 36 nos. Of new Roof Top Solar (RTS) connsumers are expected to be given connection in FY 2026-27.

   At present BEST has 708 Roof top Solar (RST) installed consumres including RST connections relesed under PM-Surya Ghar Yojna. The installed capacity of Roof Top Solar (RST) in BEST area of distribution (Mumbai-City) is 21.30 MW as on Mar 26.
2. **Renewable Enery:** BEST has signed Power Purchase Agreement for procurement of 634 MW Wind Solr Hybrid Power with Solar Energy Corporation of India (SECL). BEST will thereby be able to supply environment friendly green power to is consumers. In FY 2025-26 a Total of 32.38 Mus of Wind Power and 378.33 Mus of Solar power have been procured from these sources.
3. **Renewable Energy:** BEST is in process of signing a draft agreement for e-Retail Partnership Model with Energy Efficiency Services Limited (EESL) for Promotion of Energy Efficiency Appliances like LED bulbs, tubes fans ect. On finaliztion of the proposal, affilited links and QR codes of EESL's e-commerce portal will be placed on the BEST's Website and Electricity bills. Also it is proposed to permit EESL Channel pratner to sell Eesl appliances at various depot/ billing counter i.e. In BEST permises.
4. **Promotion of Digital Transactions:** Digital receipts of Electricity bill payment was 72% and 68% the Bill amount is collected in digital form.
5. **Release of Electricity connections for Electric Vehicle Charging:** In FY 2025-26, 1091 nos. Of new connections were released of EV charging. Till 31.03.2026, total 2203 connections and 47.85 MW load have been released towards EV charging.

Table No. 14.1 : BEST Consumers, Connected load and Consumption for the year 2025-26					
Sr. no.	Consumers Category	Mumbai City			
		Consumers #	Connected Load in MW	Consumption in Million Units (MUs)	Avg. Monthly Consumption (MUs) = e/12
A	B	C	D	E	F
1	HV Consumers	192	425.33	596.71	49.73
2	LV Consumers	1062911	4593.21	4149.95	345.83
	Total	**1063103**	**5018.54**	**4746.66**	**395.56**

Table No. 14.2 : Category wise Consumers, Connected Load and Consumption (2025-26)					
Sr. no.	Consumers Category	Mumbai City			
		Consumers #	Connected Load in kW	Consumption in Million Units (MUs)	Avg. Monthly Consumption (MUs) = e/12
A	B	C	D	E	F
1	Residential	780713	2848.97	2200.05	183.34
2	Commercial	271004	1918.89	2159.39	179.95
3	Industrial	8674	197.71	321.79	26.82
4	E. V. Charging	2203	47.85	48.56	4.05
5	Agriculture	1	0.03	0.03	0.003
6	Public Lighting	508	5.10	16.84	1.40
	Total	**1057508**	**5018.54**	**4746.66**	**395.56**

Meters installed on site

Maharashtra State Electricity Distribution Company Limited

Maharashtra State Electricity Distribution Company Limited Thane urban zone supplies electricity to Bhandup and Mulund area of BrihanMumbai Municipal Corporation. Bhandup and Mulund Zonewise information is as follows.

Table No. 14.3: MSEDCL's Consumers, Connected Load and Consumption in MU's for F.Y. 2025-26							
Sr. No.	Category	Division Name					
		Bhandup			Mulund		
		Total Consumers	Connected load (KW)	Consumption (MU's)	Total Consumers	Connected load (KW)	Consumption (MU's)
1	High Voltage Consumers	92	160528	186.33	54	40560.33	45.16
2	Low Voltage Consumers	199472	450070	515.43	141862	507424.24	446.34
Total		**199564**	**610598**	**701.76**	**141916**	**547984.57**	**491.50**

Table No. 14.4 : MSEDCL Category wise Consumers, Connected Load and Consumption in MU's for F.Y. 2025-26.							
Sr. No.	Category	Division Name					
		Bhandup			Mulund		
		Total Consumers	Connected load (KW)	Consumption (MU's)	Total Consumers	Connected load (KW)	Consumption (MU's)
1	Residential	174303	295307	313.422	123060	382650.73	304.23
2	Commercial	19810	137669	138.509	16450	105712.51	112.83
3	Industrial	4640	118562.18	147.95	1087	32096	52.63
4	Others	811	59060.03	101.877	1319	27525.331	21.8
Total		**199564**	**610598.22**	**701.76**	**141916**	**547984.57**	**491.5**

Table No. 14.5: MSEDCL's Consumers Average Consumption of energy in MU's for F.Y. 2025-26.			
Customer Categorization	Monthly Average Consumption in MU's		
	Bhandup Division	Mulund Division	Total Avg. Consumption
High Voltage Consumers	15.53	3.76	19.29
Low Voltage Consumers	42.95	37.20	80.15
Total	**58.48**	**40.95**	**99.44**

Table No. 14.6: MSEDCL's Category wise Average Consumption of energy in MU's for F.Y. 2025-26.			
LT Categorywise consumer	**Monthly Average Consumption in MU's**		
	Bhandup Division	**Mulund Division**	**Total Avg. Consumption**
Residential	26.12	25.35	51.47
Commercial	11.54	9.40	20.94
Industrial	12.33	4.39	16.72
Others	8.49	1.82	10.31
Total	**58.48**	**40.96**	**99.44**

15 ROADS, TRAFFIC AND TRANSPORT

Roads Reforms

Road is an important basic and visible amenity. BMC maintains and preserves roads of approximately 2118 km length. Mumbai being economic backbone and global face of the Country, it is necessary to make road infrastructure sustainable, durable and environment friendly with international standards.

The work of concretization of 700 km of roads has been undertaken in two phases. Out of this, concreting of 355 km of roads has been completed and remaining work is in progress. Till date, approximately 1566 km of roads/roadside strips have been improved with cement concrete.

Traffic Engincering

The work of Traffic Planning & Traffic Co-Ordination department is carried out under the control of Dy.Ch.Eng. (Traffic) who works under Ch. Eng. (Roads & Traffic). The department approves the parking design required for the proposed development on private and government land through an online system. This office look after the matters pertaining to prescription of regular line of road under the Municipal Corporation act, 1888 for widening of roads under the Municipal Corporation. Also, installation and maintenance of traffie signals on roads, installation of street name boards and directional boards, provision of traffic related facilities on roads, - inviting tenders for operationalization of parking after the transfer of public parking to the Municipal Corporation. This department looks after the installation of various traffic amenities for smooth traffic movement, in co-ordination with traffic police.

Parking Policy

In order to avoid traffic congestion due to unauthorized parking on roads tender procedure has been initiated for execution of on-street and off-street parking schemes. The contractors have been appointed for 61 pay & park scheme. Similarly out of 36 Public Parking Lot contractors have been appointed for 35 sites are in operation, which have been handed over Brihanmumbai Municipal Corporation under DC Regulation no. 33 (24) of 1991 and Regulation no. 33 (18) of DCPR 2034. There are 29 nos. of amenity parking places handed over to Brihanmumbai Municipal Corporation.

Scrapping of Abandoned Vehicles

At present, metro and other infrastructure works are in progress. As a result, the roads are either completely closed or some lanes are closed for traffic. Sometimes traffic has to be diverted. In such a situation, if there are abandoned vehicles on the road it causes traffic congestion. To take action against abandoned vehicles this office has appointed contractor for Identifying and scrapping abandoned vehicles. This will help in movement of traffic smoothly.

Multilevel Robotic Car Parking

BMC has appointed contractor for the capacity of 194 vehicles robotic multilevel parking at Flora Fountain (Hutatma Chowk) near Apsara Pen shop in 'A' Ward. Also contractor appointed for the capacity of 640 Four Whecler & 112 Two Wheeler multilevel robotic car parking at Worli Engincering Hub in G/S ward. Accordingly, parking capacity of around 834 Four Whecler & 112 Two Wheeler will be available in near future.

Initiative on Road Safety & High Risk Intersections (Black Spots)

As reported by the traffic police, 45 High Risk Intersections (black spots) in Brihanmumbai in 2022. For remedial measures of the said High Risk Interscctions (black spots), BMC is taking help of NGO, M/s. Bloomberg Philanthropies as a consultant. The aim is to review the High Risk Intersections (black spots) for conducting various engincering and traffic flow studies and to undertake appropriate engineering and planning interventions that can bear higher impact in saving lives on the road. Accordingly, NGO and his partner has submitted / being the report to the Chief Eng (Roads & Traffic). As per the said report, the concerned Deputy Chief Engincer (Roads) and concerned Ward Offices will take the necessary action on remedial measures. Also, in future, if traffic police informed the Iligh Risk Intersections (Black spots), the same procedure will be followed for eradicate High Risk Intersection (black spots). Invitation of tender is in process for the improvement of Black Spot.

Arca Traffic Control (ATC)

At present 258 Signals in Greater Mumbai has already been converted into fully adaptive automated Signal System and are working satisfactorily. The maintenance of remaining 427 conventional system and 184 flashing beacons are being carricd out.

Total Traffic Signals: 685

Total No. of Road Lamps: 1,41,145

Total No. of Flash beacons: 190

16 BRIDGES IN MUMBAI

Under the jurisdiction of the Chief Engineer (Bridges) Department, certain bridges in the City, Eastern Suburbs, and Western Suburbs were opened to vehicular traffic during the period from April 2025 to March 2026. The details of these bridges are as follows:

Major works completed during year 2025-26

1) Reconstruction of existing Bandra East Skywalk from Bandra station to MHADA office, W.E. Highway in H/E ward.

2) Andheri- Reconstruction of Gopal Krishna Gokhale Bridge connecting N.S.Phadke road to S.V. road in Andheri, in KE & KW ward. (Railway Portion & Municipal Portion)

3) Construction of Delile Road Bridge at Lower Parel is completed.

4) Construction of R.O.B. in lieu of L.C. No.14-C at Vikhroli Railway Station (Excluding Railway Span & Slip Road)

Major works undertaken during year 2026-27

1. Construction of 45 mtrs. wide elevated road from Kandarpada, link road at Dahisar (West) in BMC Limits to Mira Bhayander (West) in MBMC Limits, (Coastal Road last Leg).
2. Mumbai Coastal Road North from Versova to Dahisar (Into Six Packages i.e. A,B,C,D, E& F)
3. Design and construction of flyover and elevated rotary along goregaon mulund link road at
   a) Junction near Ratnagiri Hotel Goregaon (E),
   b) Junction of GG Singh road and GMLR,
   c) Hedgewar junction Mulund (W)
4. Proposed GMLR tunnel from Goregaon film city to khindipada.
5. Proposed Construction of flyover Arm-1 & Arm-2 at T junction of Sion Panvel Highway, Near Maharashtra Nagar Subway in M/E ward
6. Proposed construction of Flyover along LBS Marg from Kalpana Talkies Kurla ('L' Ward) to Pankhe Shah Dargah Ghatkpar West ('N' Ward) of Eastern Suburbs)
7. Design and Construction of bridge between Madh and Versova in K/W & P/N Ward.
8. Design & Construction of Part-A: Construction of Vehicular Bridge & Elevated Road Over Nalla Connecting MDP Road to Ryan International School with Construction of Additional Arms from Charkop Junction to Ryan International School and Widening of the Existing Malad-Marve Road by 3.65 m on opposite of RG Plot from Mahakali Junction upto Nalla towards Mith Chowky near Giridhar Park at Malad Marve Road, Malad (W) in P/North Ward. & Part- B: Construction of Vehicular Bridge from Lagoon Road to Infinity Mall, Malad (W) in P/North Ward.
9. Construction of Vehicular Bridge behind Bhagat Singh Nagar across Goregaon Creek along 36.60m wide D.P. Road at boundary of K/West and P/South Ward.

Table No 16.1 : Chief Engineer (Bridges) Department – City, Eastern Suburbs, and Western Suburbs Statistical Information Regarding Bridges (April 2025 to March 2026)						
Sr.No	**Details**	**City**	**Western Suburbs**	**Eastern Suburbs**	**Bridges transferred from MMRDA (W.Dru.M. and P.D.R.M.)**	**Total**
1	Bridge over a nullah or river (for traffic)	16	120	126	21	283
2	Road overbridge (crossing over the railway)	28	10	5	0	43
3	Flyover	13	8	17	14	52
4	Pedestrian bridge	28	23	30	21	102
5	Skyway	4	11	7	0	22
6	Railway Footbridge	16	10	2	0	28
7	Traffic Underpass	0	6	2	11	19
8	Pedestrian Underpass	10	5	5	15	35
9	Eastern Freeway	0	0	1	0	1
10	Tunnel	0	0	1	0	1
Total		**115**	**193**	**196**	**82**	**586**

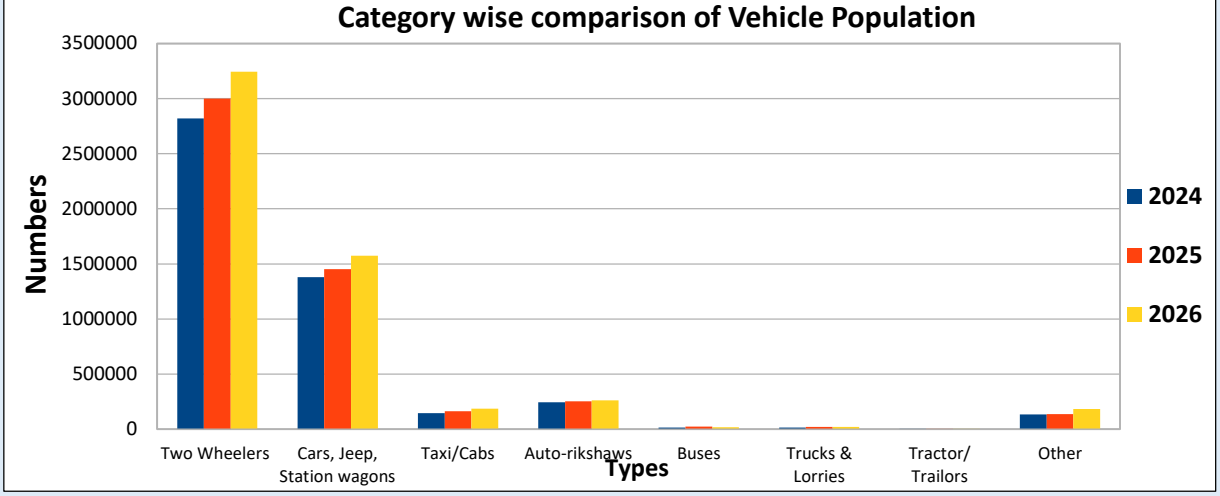
Surface Transport

There are different types of vehicles plying on the roads of Mumbai every day. They consist of cars, taxis, trucks, buses, three-wheelers, two-wheelers etc. The total number of vehicles in Mumbai as on March 2026 is 55,37,332.Their composition is 59.42% two-wheelers, 28.74% cars, jeeps and station wagons, 3.35% taxis/cabs, 4.72% auto rickshaws, 0.34% buses, 0.46% Goods vehicles, 0.12% tractors/trailers and others 2.86%. As previous year increasing number of vehicles is 9.5% in Mumbai city. Table no. 16.1 shows number of different vehicle in Mumbai.

Table No. 16.2 : Category-wise comparison of vehicle population 2024-26				
Sr. No.	**Category**	**As on 31st March**		
		2024	**2025**	**2026**
1	Two Wheelers	2820296	2999829	3290024
2	Cars, Jeep, Station wagons	1381352	1451975	1591224
3	Taxi/Cabs	146739	165204	185355
4	Auto-rikshaws	244959	253993	261594
5	Buses	15009	24100	18626
6	Trucks & Lorries	16624	21056	25380
7	Tractor/ Trailors	821	1098	6891
8	Other	134176	137661	158238
Total		**4759976**	**5054907**	**5537332**

Source: This information is received from RTO, GoM

Graph No. 16.1 (A): Comparison of vehicle numbers by type in Mumbai city



Graph No. 16.1 (B): Types of vehicles in Mumbai city (year 2025-26)

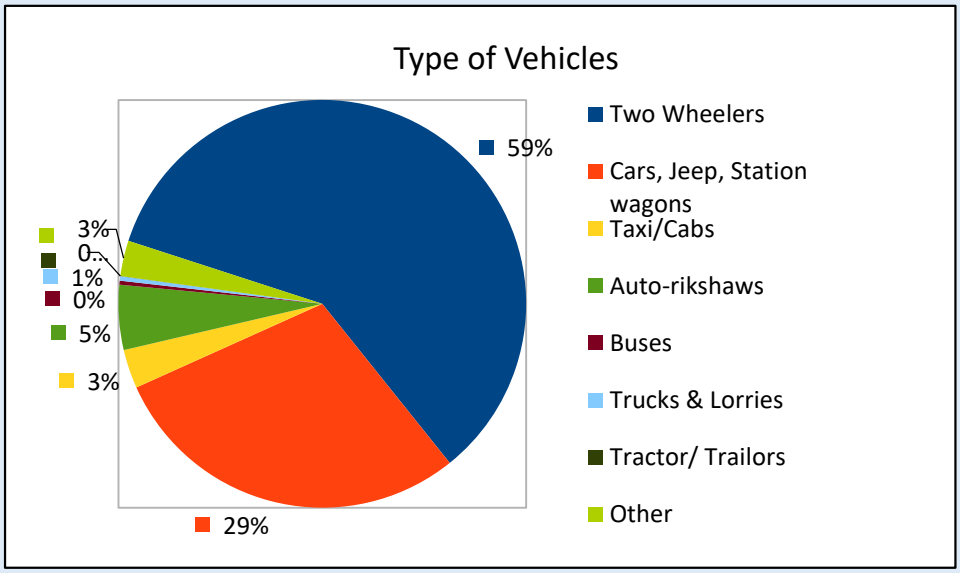
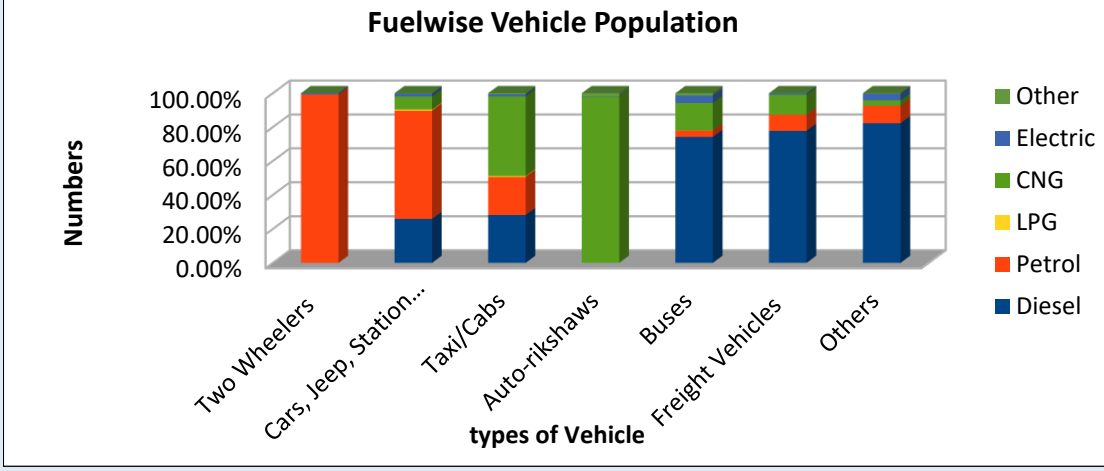


Table No. 16.3 : Fuelwise Vehicle Population in Greater Mumbai Office as on 31st March 2026

Sr. No.	Category	DISEL	PETROL	LPG	CNG	ELECTRIC	OTHERS	TOTAL
1	Motor Cycles	0	2491000	0	978	26686	250	2518914
2	Scooters	0	869378	0	567	7266	25	877236
3	Moped	0	32275	0	60	68	0	32403
	Total Two Wheelers	**0**	**3392653**	**0**	**1605**	**34020**	**275**	**3428553**
4	Cars	353396	938978	10481	111535	25288	3754	1443432
5	Jeeps	29170	480	4	89	0	0	29743
6	Stn. Wagons	3039	707	0	0	0	0	3746

7(a)	Taxis meter fited	2010	1845	532	54553	392	77	59409
7(b)	Luxury/ Tourist Cabs	44106	50690	390	21540	2489	1033	120248
8	Auto-rikshaws	20	62	4	249995	575	5260	255916
9	Stage carriages	4490	552	0	2050	114	0	7206
10	Contract carriages/Mini Bus	10525	189	1	1270	990	328	13303
11	School Bus	2933	177	1	712	28	2	3853
12	Private Service Vehicle	1050	25	2	96	1	0	1174
13	Ambulances	1916	485	0	155	0	4	2560
14	Articulated/ Multi	296	0	0	0	7	20	323
15	Truck and Lorries	23965	1302	0	2250	178	13	27708
16	Tanker	1597	2	0	0	0	0	1599
17	Delivery Van (4 wheelers)	68982	8245	4	9620	239	110	87200
18	Delivery Van (3 wheelers)	26576	4890	9	5877	1000	106	38458
19	Tractors	671	15	0	0	5	0	691
20	Trailors	303	2	0	0	0	29	334
21	Others	10000	843	2	500	481	50	11876
Total		**585045**	**4402142**	**11430**	**461847**	**65807**	**11061**	**5537332**

Graph No 16.2: Number of vehicles using various types of fuel by 31 March 2026

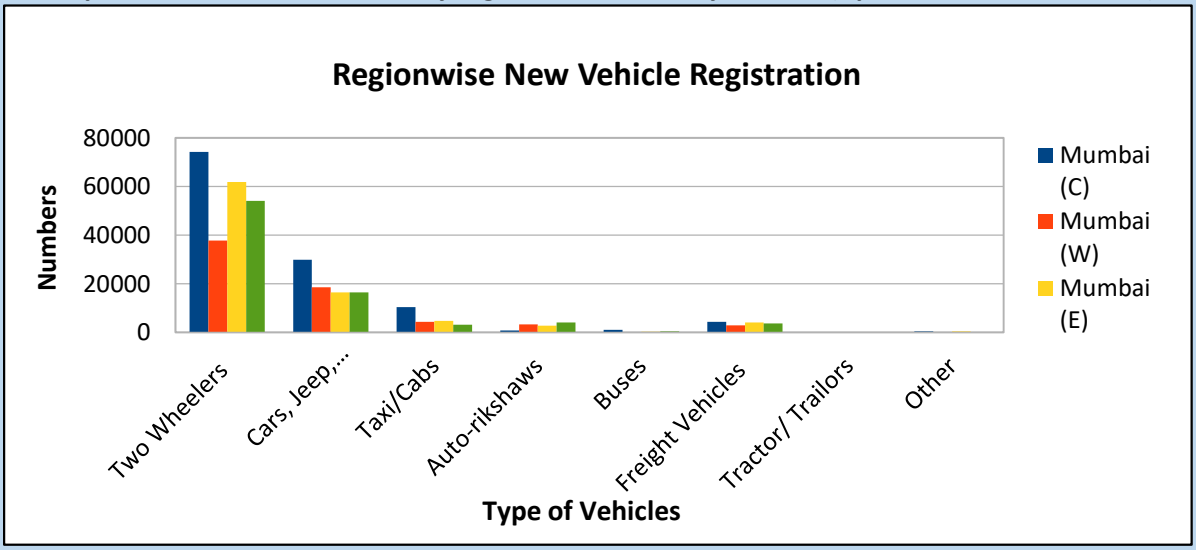


There are 1,79,657 metered taxis in Mumbai operating on petrol, diesel, CNG and LPG as on 31st March 2026. CNG, LPG and Electric which are regarded as clean fuel. More than 44.5% meter taxis and 97.91% rickshaws are running on clean fuel CNG, LPG and Electric.

Table No. 16.4 : New Vehicles Registration during April 2025 to March 2026						
Sr. No.	**Category**	**Mumbai (C)**	**Mumbai (W)**	**Mumbai (E)**	**Borivali**	**Gr. Mumbai (Total)**
1	Motor Cycles	74161	37734	61761	54073	227729
2	Scooters	7	3	50	3	63
3	Moped	25	16	45	15	101
	Total Two Wheelers	**74193**	**37753**	**61856**	**54091**	**227893**
4	Cars	29865	18568	16511	16478	81422
5	Jeeps	0	0	0	0	0
6	Stn. Wagons	0	0	0	0	0
7(a)	Taxis meter fited	1649	678	0	0	2327
7(b)	Luxury/ Turist Cabs	8812	3720	4761	3233	20526
8	Auto-rikshaws	876	3331	2755	4074	11036
9	Stage carriages	17	0	0	0	17
10	Contract carriages/Mini Bus	1008	192	334	476	2010
11	School Bus	104	19	36	0	159
12	Private Service Vehicle	28	23	1	0	52
13	Ambulances	182	52	53	49	336
14	Articulated/ Multi	2	26	237	0	265
15	Truck and Lorries	16	12	1471	3021	4520
16	Tanker	38	10	158	0	206
17	Delivery Van (4 wheelers)	3675	2045	1415	188	7323
18	Delivery Van (3 wheelers)	698	808	896	583	2985
19	Tractors	30	113	2	0	145
20	Trailors	62	25	0	13	100
21	Others	274	178	394	147	993
Total		**121529**	**67553**	**90880**	**82353**	**362315**

Source: RTO, GoM

Graph No. 16.3: Number of newly registered vehicles by division (April 2025 to March 2026)



In Mumbai region about 3,62,315 various types of vehicles are registered during April 2025 to March 2026. In this 62.90% of two wheelers, 22.47% of cars, jeeps and station wagons, 6.31% of taxi/cabs, 3.05% of Auto rikshwa's, 0.62% of buses, 4.72%, goods vehicles 0.07% of Tractors/Trailors and 0.37% of other vehicles.

BEST - Transport

Promoting the Environment Friendly Transport:

The BEST undertaking has 249 buses of its own and 2,538 buses on a wet-lease basis. A total of 2,787 buses are used for public transport. Of these, 91% are eco-friendly (CNG and electric).

Steps taken for pollution control

1. The BEST Undertaking's fleet comprises 43.95% CNG-powered buses and 47.33% electric buses. A total of 1,319 electric buses (1,023 single-decker, 50 double-decker, and 246 midi-buses) are currently in service. These electric buses have helped reduce carbon dioxide emissions in the environment by approximately 62,167 metric tonnes during the 2025-26 period.

2. Expansion of the electric bus fleet: Currently, 1,319 electric buses are operational. Additionally, work orders have been issued to contractors for 4,950 electric buses (4,750 single-decker and 200 double-decker), with the remaining buses expected to be received in the near future. By the end of 2026, electric buses will constitute over 50% of the Undertaking's fleet, and by 2029, the entire BEST fleet will consist of electric buses.

3. Charging stations for private vehicles: To promote the use of private electric vehicles in Mumbai, the BEST Undertaking has set up charging stations at 52 locations across the city and its suburbs, catering to three-wheelers, private cars, delivery vans, and electric buses.

4. E-cars for officers and staff across various departments: A total of 141 electric cars are being used for internal operations by officers and staff across various departments.

5. The BEST Undertaking is a public sector entity that provides public transport and electricity supply services to the citizens of Mumbai. Items such as engine oil, grease, batteries, etc., which are used during the preventive maintenance of buses and subsequently removed; Furthermore, hazardous waste generated by the electricity supply department such as transformer oil and lead is collected at BEST's central facility at the Oshiwara Depot. Subsequently, this waste is disposed of through registered recycling firms in accordance with the guidelines of the Maharashtra Pollution Control Board. BEST's 'Materials Management Department' submits periodic reports to the Maharashtra Pollution Control Board. A summary of the hazardous waste disposed of through registered recycling firms during the period from April 2025 to March 2026 is provided below.

Sr. No.	Description	Approximate Total Quantity
1	Used Oil / Waste Oil	81,690 Litres (73.52 MT)
2	Lead Sheets	Nil
3	Used Batteries (April '24 to March '25)	3,737 Units (154.73 MT)

6. For the disposal of used filters, BEST is a member of M/s Mumbai Waste Management Pvt. Ltd., Taloja (an agency authorized by the Maharashtra Pollution Control Board; membership number: MWML-MUM-HZW-MUM-2899). Used oil filters accumulated at the depots are sent to this disposal facility at regular intervals. During the period from January 2025 to December 2025, a total of 1.78 metric tonnes of used oil filters were sent to the authorized facility for disposal.

Electric charging station

BEST electric buses

17 MUMBAI COASTAL ROAD

Mumbai Coastal Road (South) Project

The Mumbai coastal road project (South) is one of the most prestigious projects undertaken by B.M.C. This Southern Coastal Road Project of 10.58 km from Princess Street Flyover to Worli End of Bandra Worli Sea Link is proposed to resolve the traffic congestion in Mumbai. In addition this road will provide several environmental friendly features to the city. The proposed Coastal Road is having eight lanes (4+4) configuration comprising road based on reclamation, Bridges, elevated roads and tunnels.

The Mumbai Coastal Road Project(South) will reduce the travel time, de congest existing roads, reduce the air and noise pollution levels, improve public transport facility due to proposed dedicated BRTS lane and also generate much needed additional green spaces which will also decrease Co, emission.

The Ministry of Environment, Forest and Climate Changes (MoEF&CC) has issued CRZ Clearance for the Project on D. 17.05.2017. Also, the NOC's from other concerned departments of Central Government and State Government have been obtained for Mumbai Coastal Road (South) Project.

The total Estimated Project Cost is Rs. 14,030.10 Cr. This Project is divided into three packages viz. Package-IV (From Princess Street Flyover to Priyadarshini Park), Package-1 (From Priyadarshini Park to Baroda Palace) and Package-II (From Baroda Palace to Worli End of Bandra Worli Sea Link). The design and Build work for Package I and Package IV is under progress through the contractor M/s. Larsen and Toubro Ltd. and for Package Il through the contractor M/s. H.C.C .-H.D.C. (joint Venture). For each Package one Project Management Consultant (PMC) has been appointed as Employer's Personnel for supervisions and other allied works.

Accordingly M/s Yooshin Engineering Corporation+ M/s Tec Cuatro S.A (JV), M/s Louis Berger Consulting Pvt. Ltd and M/s Egis India Consulting Engineers Pvt. Ltd Cullen Grummit & Roe (UK) Ltd. (IV) have been appointed as PMCs for Package IV, I & IL respectively. Also one General Consultant M/s AECOM Asia Co. Ltd is appointed as Employer's representative for co-ordination and monitoring the entire project through all PMCs and other allied works.

Work on the coastal road project commenced in October 2018, and it is proposed to be completed by May 2025. A budgetary provision of ₹1,593.93 crore has been proposed for this work for the 2025-2026 financial year.

Table No. 17.1 : The features of the coastal road project on the southern side are as follows:	
Length	10.58 km
Road on reclamation	4.35 km
Tunnel (3 Lanes, 11m internal dia.) X 2 Tubes	2.07 km
Bridges(4+4Lanes)	2.19 km
Interchanges (Amarson, Haji Ali&Worli)	3 nos.
Seawall Length	7.47 km
Reclamation area	111 hectare
Recreation area (Gardens, Landscape, Parks etc.)	70 hectare
Promenade (20 m wide)	7.50km
Pedestrian Underpassess	16
Underground Car parks	4 Locations (about 1800-Lots)
Generation of approximately employment opportunity due to proposed Coastal Road	1,00,000 (Man Power)
BRTS, dedicated lanes for Ambulance	Available
Sophisticated Saccardo Nozzle Ventilation system and special fire protection board intunnel	Available
Flood risk minimizes due to construction of Sea Wall and better designed drainage system along with automated anti-flood gates and box culverts of total length 1,650m.	Available

Salient Features of Site Environment Management Plan for the Project

Brihanmumbai Municipal Corporation has awarded Civil Contracts of all the three Packages of Coastal Road to recognize International Contractors like L&T, HCC-HDC (JV).

The following compliance are done/ in progress through all contractors regarding Environmental Compliance mentioned in Site specific Environment Plan as well as requirements of MOEF&CC applicable to them

- Air and Noise Monitoring is being done on sites and compared with Pre construction results (Base-LineData) and Standards of MOEF and MPCB
- For controlling dust, Contractors are doing Water Sprinkling on their sites during construction work. Wheel Wash Facilities is also provided at every Main Entrance and Exit of site where Vehicle Movement is there.
- Noise Barriers are being provided at all Critical Locations like Near Schools and Hospitals etc. during Construction.
- All Construction vehicles are provided with Noise Mufflers, Good Silencers on sites.
- All Construction sites are barricaded by barricading boards in addition to Noise Barriers to Control Noise and demarcate site from General Public and Road users.

- Preventive Maintenance schedule for all construction Machinery at site. All construction machinery is having PUC certificates. Preventive Maintenance of Machinery will also reduce noise from Machinery.
- All rotating parts of construction machineries have provided with canopies and grills to control rotating parts noise during construction phase.
- Contractors have provided Bio Toilets on sites.
- The corals noticed along the Mumbai coast in Worli region and in Haji Ali region covering an area of 0.251 m^2 and 0.11 m^2 respectively. Brihanmumbai Municipal Corporation has taken the necessary permit from the Chief Wildlife Warden to translocate the Corals and appointed CSIR-NIO a Govt. agency through Contractors to carry out the work of translocation of corals and successfully carried out translocation of corals by Brihanmumbai Municipal Corporation through the CSIR-NIO agency in the presence of authorized officers of Mangrove cell of Forest department. No damage was found to the other wildlife species during translocation process. Further regular monitoring to observe coral health and survival in the region has been carried out by CSIR-NIO for one year and as mentioned in monitoring report of NIO, it is found that survival rate of Corals is100% in May 2021.
- National Institute of Oceanography (NIO), Dona Paula, Goa is engaged for investigation on impact of Coastal Road project waves, water levels, seawater quality and related environemntal aspects during progress of work and 2 years in operation phase.
- Brihanmumbai Municipal Corporation has deposited 2% of total cost of the project (i.e. Rs.175.33 Cr) for conservation of coastal and marine biodiversity to the Mangrove Foundation of Maharashtra. The Mangrove Cell tied up with National Institute of Oceanography (NIO), Mumbai for establishment of artificial reef along the project coast as a pilot project. Artificial reef is a human created underwater structure, typically built to promote marine life. It generally provides hard surfaces were algae and invertebrates such as barnacles, corals and oyster attach. The accumulation of attached marine life in turn provides food and shelter for assemblages of fish and it enhances marine ecosystem

18 EDUCATION

As per Section 61 (Q) of the Mumbai Municipal Corporation Act, 1888, providing primary education facilities to children is a mandatory duty of the Municipal Corporation. This responsibility has been carried out by the Education Department of the Brihanmumbai Municipal Corporation since 1907.

To maintain environmental balance and create environmental awareness among students, various eco-friendly schemes and initiatives are being implemented in municipal schools.

Eco Club

To develop an eco-friendly and environmentally sensitive approach among students and communities through school education, the "Eco Club for LiFE" platform was established and environmental activities were implemented at all school levels. The main objective of this initiative is to teach students love for nature, environmental protection, and sustainable lifestyles. Activities conducted under this initiative include water conservation, plastic-free campus campaigns, energy conservation, eco-friendly programs, tree plantation, nursery development. kitchen gardens, compost preparation, and cleanliness drives. Essay competitions were conducted on the theme "Majhi Vasundhara" (My Earth). The competitions mainly highlighted issues such as increasing pollution, the importance of using public transport, and water conservation. Street plays were also presented in schools. Environmental awareness was created through Balakotsav cultural competitions and various cultural activities.

Proper Use of Water

Awareness was created among students regarding the proper use of water through the preparation of eco-friendly paper bags and various activities focused on water conservation, reuse of water, and the importance of water. These activities included street plays, morning rallies, parent meetings, awareness sessions, and cultural programs. A "Zero Waste Campaign" was undertaken in every class. Work-experience teachers in all schools enthusiastically guided students in creating durable and decorative items from waste materials. Exhibitions and handicraft competitions based on the concept of "Best out of Waste" were also organized. Through these initiatives, efforts were made to develop social awareness about the proper and responsible use of water.

Kitchen Garden Project

Kitchen Garden Project is being implemented for the BMC students at the Scout-Guide Training Centre, Powai. 'Kitchen Garden' subject is included in scout-guide syllabus. Also, to check the increasing pollution and curb the Globing Warming, the earth must be full of greenery. Keeping all these points, the 'Urban Vegetable Farming project has been carried out.

Tree plantation drive was held at the Scout-Guide Dist. Training Centre in which about 150 plants were planted by the hands of education department officers. Scout-Guide students of

different schools also carried out the tree plantation project in their respective schools. Students held rallies and different activities in school surrounding areas for Public Awareness imparting tree plantation importance. Under the international initiative YLAAC, environment awareness was promoted by implementing various activities in schools that have Scout and Guide troops.

Eco Bappa Rangva - Ganesh Festival 2025

Under the initiative "Eco Bappa Rangva - Ganesh Festival 2025," organized by the Production Department of Hastkagad Sanstha, Pune, a workshop was conducted for students of the Brihanmumbai Municipal Corporation to paint 5,000 eco-friendly Ganesh idols made from paper pulp and other nature-friendly materials.

Shivvaibhav Fort Competition

To create environmental awareness among students, the "Shivvaibhav Gadkille Competition" was organized for 300 municipal school students at Juhu Chowpatty, Santacruz West. The competition encouraged students to create eco-friendly models of forts and promote environmental consciousness.

19 ENVIRONMENT AND CLIMATE CHANGE

Environment & Climate Change Department

The National Clean Air Programme (NCAP) was launched by the Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India, in January 2019 as a national-level initiative to address air pollution, particularly in 131 Non-Attainment Cities. In accordance with the guidelines of the Central Pollution Control Board (CPCB) and the Maharashtra Pollution Control Board (MPCB), the Mumbai Air Pollution Control Action Plan was prepared on 24 October 2019 with the objective of improving air quality in the city. As per the prescribed targets, a reduction of 20–30% in particulate matter pollution by 2024 was initially envisaged, which was subsequently revised to a target of 40% reduction by 2026. These targets are proposed to be achieved through city-specific action plans comprising measures such as strengthening the monitoring network, reducing vehicular and industrial emissions, and increasing public awareness. Maharashtra has the highest number of Non-Attainment Cities in the country, with 19 such cities.

The Environment and Climate Change Department is the implementing department for NCAP and also performs the role of coordinator. All concerned stakeholders, including various departments and offices of the Brihanmumbai Municipal Corporation (BMC), have been instructed to implement the action points prescribed under the approved Mumbai Air Pollution Control Action Plan. The major stakeholders responsible for implementation of the Mumbai Air Pollution Control Action Plan include: Chief Engineer (Mechanical & Electrical), Chief Engineer (Roads &Traffic), Chief Engineer (Solid Waste Management), and Chief Engineer (Development Planning), Executive Health Officer, Superintendent of Gardens, Assistant Commissioners of all Wards. Other stakeholders include RTO, Traffic Police, MMRDA, BEST, Railways, Metro Rail, MSEB, Reliance, MSRDC, MHADA, Ministry of Transport, Ministry of Petroleum and Ministry of Mines. The Hon'ble Municipal Commissioner, Brihanmumbai Municipal Corporation, is the Chairperson of the City-Level Coordination Committee. With a view to giving priority to proper implementation by the participating departments as per the guidelines in the Action Plan, the Environment and Climate Change Department of the Municipal Corporation coordinates with various departments and makes every possible effort to reduce the increasing air pollution in the city.

Mumbai Air Pollution Prevention and Mitigation Action Plan - 2023

The Brihanmumbai Municipal Corporation published the Mumbai Air Pollution Prevention and Mitigation Action Plan in March 2023. The Action Plan identifies the major sources of air pollution and suggests immediate, medium-term and long-term measures.

1. The Municipal Commissioner and Additional Municipal Commissioner held several meetings with CREDAI-MCHI, PEATA, NARDECO and various departments of the Municipal Corporation and provided information regarding the said Action Plan and guidelines. Instructions were also issued for their strict implementation.
2. The Brihanmumbai Municipal Corporation announced a scheme for reduction of air pollution in Mumbai in the Budget 2023–24, and the said scheme was approved on 13.04.2023. Under this scheme, the Brihanmumbai Municipal Corporation has set a target of achieving net-zero emissions by 2050. As a part of this scheme, the Brihanmumbai Municipal Corporation issued 27-point guidelines on 25.10.2023 for controlling air pollution within the Municipal Corporation limits. These guidelines help in effectively controlling air pollution arising from various construction projects being undertaken within the Brihanmumbai area. Thereafter, revised 28-point guidelines were issued on 15.10.2024.
3. Vide Circular No. Dy. Municipal Commissioner/Environment & Climate Change/1184 dated 30.12.2025, information regarding "Implementation of the Court Directions in SMPIL/3/2023 and the 28-point Guidelines" was circulated.
   As per the said circular, the following requirements have been made mandatory:

   - Regular cleaning, washing and water sprinkling on the roads surrounding construction sites.
   - A 100-metre area surrounding projects up to 4,000 sq. m.
   - A 200-metre area surrounding projects from 4,000 to 10,000 sq. m.
   - A 500-metre area surrounding projects exceeding 10,000 sq. m.
   - Installation and operational maintenance of CCTV cameras at entry/exit points and tyre washing areas.
   - All demolition and dust-generating activities shall be carried out in enclosed or covered areas.
   - Continuous water sprinkling or fogging shall be carried out to prevent dust from becoming airborne.

4. As per the approval of the Municipal Commissioner, vide No. MGC/F/6526 dated 13.05.2025 and subsequent amendments dated 27.05.2025, 06.11.2025 and 30.01.2026, a circular was issued making it mandatory to install sensor-based air quality monitoring instruments and LED display boards at all construction sites within the Municipal Corporation limits.

   In collaboration with the Council on Energy, Environment and Water (CEEW), a centralized monitoring system and dashboard have been developed and operationalized. Through this system, the air quality information received from sensors installed at construction sites is collected, analysed and monitored in real time. Through the dashboard, monitoring is carried out ward-wise as well as hotspot-wise, and necessary implementation and control measures are taken.

5. Strict implementation of the Mumbai Air Pollution Prevention and Mitigation Action Plan–2023, the 28-point guidelines and circulars issued from time to time is being carried out through the Assistant Commissioners of the respective wards. For this purpose, 94 ward-level teams have been constituted and regular inspections of construction sites are being carried out.

   In case of violations, the following action is taken:

   - Issuance of written instructions.
   - Issuance of show-cause notices.
   - Penal action.
   - Issuance of work-stoppage orders.

   During the period from October 2025 to February 2026:

   - Show-cause notices were issued to 2,116 construction projects.
   - Work-stoppage orders were issued at 1,140 construction sites. This enforcement is being continued regularly.

- **Deep Clean Drive**

  BMC regularly undertakes road sweeping, dust removal and road washing to prevent resuspension of dust into the atmosphere.

  Under the Deep Clean Drive, the Mechanical sweeping of road, Brushing, Cleaning using high-pressure water, Footpath cleaning, Cleaning beneath parked vehicles, cleaning of junction-box areas activities are undertaken. The campaign was temporarily suspended during the monsoon period and was resumed at full capacity from November 2025. At present, regular road washing is being carried out using: 72 tankers of 5,000-litre capacity, 54 tankers of 9,000-litre capacity, 25 misting machines.

- **Use of Clean Fuel in Bakeries**

  An important initiative has been undertaken to encourage traditional bakeries in Mumbai using conventional fuels such as wood and coal to shift to clean fuels such as electricity, PNG and LPG.

  Through continuous coordination, awareness generation and cooperation with bakery owners and their associations:

  - 71% of bakeries have adopted clean fuel.
  - Another 12% of bakeries are at the final stage of conversion.
  - Out of a total of 593 bakeries, 354 were using wood/coal, of which 175 bakeries had been converted to clean fuel by January 2026.
  - Another 69 bakeries are under the conversion process.

  Enforcement action is being taken against bakeries that continue to violate the prescribed requirements. So far 8 bakeries have been closed. Further legal action has been initiated

against 102 bakeries. All new licences and permissions are being granted only subject to the condition that clean fuel is used, and compliance is verified before granting permission.

- **Conversion of Crematoriums to Clean Fuel**

  With the objective of increasing the use of clean fuel in wood-based crematoriums within BMC limits, 41 cremation furnaces have been converted to PNG or electric systems. A phased plan has been prepared to convert the remaining 225 cremation furnaces to clean fuel, and implementation is underway accordingly.

- **Mumbai Air Mobile Application**

  BMC has developed the Mumbai Air mobile application for iOS and Android platforms to facilitate redressal of air pollution complaints. Through this application, citizens can register complaints regarding air pollution in their respective areas.

  The application provides information regarding:

  - Current status of complaints
  - Action taken
  - Complaint redressal status
  - Dashboard-based information.

- **Vehicle-Mounted Dust Control Systems**

  To control road dust on a large scale, BMC has initiated procurement of specialized equipment, including:

  - Vehicle-Mounted Multipurpose Dust Suction System
  - Sprinkler systems
  - Fogging/Misting systems for dust suppression
  - Tendering for these systems has been completed, and 29 multipurpose vehicles are being procured for deployment across various wards. The Letter of Acceptance (LoA) was issued to the successful contractor on 4 December 2025.

- **Improving Air Quality**

  At present, a total of 28 Continuous Ambient Air Quality Monitoring Stations (CAAQMS) are operational within BMC limits. The daily Air Quality Index (AQI) recorded at these stations is published on the Central Pollution Control Board's Sameer portal. The data from the last two years indicates that the 185 days in 2023, 216 days in 2024, and 218 days in 2025 falling under the “Good” and “Satisfactory” shows improvement in AQI. Further, during the winter season, AQI improved by 22% in 2024 and 26% in 2025, as compared with 2023.

In 2026, BMC proposes to install five additional CAAQMS stations from its own funds, thereby expanding the existing network of 28 Reference Grade Air Quality Monitoring Stations and enabling more effective real-time monitoring across Mumbai.

- **Joint Projects With National Institutions**

  To strengthen air quality monitoring, BMC has undertaken several joint projects with national-level institutions

MANAS - Mumbai Air Network for Advanced Sciences (Status: Work in Progress)

In collaboration with IIT Kanpur: A hyper-local air quality sensor network has been established.

- Identification of localized and episodic pollution sources will be facilitated.
- Real-time analysis will be made available through the ICCC.
- The project was launched on 2 December 2025.
- Final locations for installation of sensors have been identified.

AIRWISE - Air Quality Early Warning Decision Support System

Collaboration with the Indian Institute of Tropical Meteorology (IITM), Pune, an air quality forecasting system is being developed for up to 72 hours.

The project will facilitate:

1. Identification of probable pollution sources.
2. Timely issuance of health-related advisories.

Grid-Based Emission Inventory for Mumbai Metropolitan Region

- An extensive emission inventory is being prepared by the Automotive Research Association of India (ARAI) for the Mumbai Metropolitan Region.
- The information will be updated every six months.
- It will support policy decisions and air pollution control measures.
- The data collection process is under way.

6. Projects Undertaken/Completed for Improvement of Air Quality in Mumbai

(A) Solid Waste Management

- A 600 TPD Waste-to-Energy Project is being developed at Deonar; Phase-I is under implementation.
- A MoU has been signed between BMC and Mahanagar Gas Limited for a Compressed Bio-Gas (CBG) project capable of processing 1,000 tonnes of wet waste.

(B) Construction and Demolition Waste Management

- Construction debris is permitted to be disposed of only at locations approved by BMC.
- Two C&D waste processing plants, each having a capacity of 600 TPD, are operational at Dahisar and Shilphata.

- The project commenced operations on 4 November 2024.
- A toll-free "Debris on Call" service has been introduced through which citizens can register requests for collection of construction debris.

(C) Road Projects for Reducing Traffic Congestion

- The first phase of the Mumbai Coastal Road commenced operations on 11 March 2024.
- Work on the Goregaon - Mulund Link Road is in progress.

(D) Parking Management

The Mumbai Parking Authority has been established and the following facilities are operational:

- 95 on-street pay-and-park centres with a capacity of 11,547 vehicles.
- 33 public parking complexes with a capacity of 27,600 vehicles.

(E) Greening

- More than 4.5 lakh trees had been planted up to 2024 – 25.
- Plantation of an additional 1 lakh trees is planned during the current year.
- A Micro-Greening Manual has been published to promote expansion of green areas at individual and community levels.

7. Measures Implemented under the National Clean Air Programme (NCAP)

During FY 2019–20, BMC received a grant of ₹9.50 crore, of which 100% has been utilized. The following activities were undertaken using the funds:

- Public awareness and capacity-building programmes.
- Procurement and operation of seven mechanical road-cleaning machines.
- Installation of traffic signal coordination systems at five locations.
- Electrical and PNG-based improvements at six crematoriums.

8. Measures under the Fifteenth Finance Commission (XV-FC)

During the period 2019 - 20 to 2022 - 23, an amount of ₹538.69 crore was utilized from funds received under the Fifteenth Finance Commission.

Major works include:

- Procurement of 2,100 single-decker and 200 double-decker electric buses.
- Installation of five new CAAQMS stations.
- PNG-based improvements at 10 crematoriums.
- Installation of Outdoor Dust Mitigation Units and Dust Monitoring Systems at five major junctions.

9. High Power Committee (HPC) Constituted Pursuant to the Directions of the Hon'ble High Court in SMPIL/03/2023

In view of the increasing air pollution in Mumbai and the Mumbai Metropolitan Region and in connection with the pending proceedings in SMPIL No. 03/2023, the Hon'ble High Court observed that an independent monitoring mechanism was necessary to ensure effective implementation of the directions issued through various orders. Accordingly, a committee comprising retired judges and experts was constituted for continuous monitoring, review of compliance and effective implementation of pollution-control measures. The Committee has been given the authority to obtain opinions from experts in the environmental and technical fields as required. The HPC has been entrusted with the responsibility of monitoring whether all directions issued by the Hon'ble High Court are being complied with.

The Committee will examine reports submitted by: Brihanmumbai Municipal Corporation, Navi Mumbai Municipal Corporation, Thane Municipal Corporation, Other Municipal Corporations in the Mumbai Metropolitan Region, Maharashtra Pollution Control Board. The Committee has authority to: Conduct site inspections, Hold physical or virtual meetings, Call for necessary documents and information, Recommend immediate, medium-term and long-term measures for controlling air pollution in Mumbai and the MMR based on the reports submitted.

The Environment and Climate Change Department, BMC, is responsible for coordinating with the Committee. Necessary immediate, medium-term and long-term measures for air pollution control are being identified and implemented through the concerned departments.

Air Quality Monitoring & Research Laboratory

As per 74th ammendment of the constitution of India in 1992 (12th schedule) the Maharashtra State Government issued an ordinance amend Municipal Corporation Act-1888 making “environment protection, promotion of ecology and urban forestry” as an obligatory duty vide section 61 (ab) in the year 1994.

In view of fulfillment of the above Act, Air Quality Monitoring and Research Laboratory working under environment department of Brihanmumbai Mahanagarpalika to measure the levels of air pollutants in Brihanmumbai Municipal Corporation jurisdiction has established a fixed air monitoring station in different location. Also measured air pollution level with the help of automatic van (Mobile Van) in dumping ground and traffic junctions. Whenever the complaints are received from citizens, special monitoring is carried out and the reports are submitted. Also under the section ‘63 B’ of Mumbai Municipal Corporation (MMC) Act. 1888 Environmental Status Report is prepared and submitted every year before 31st July to the Corporation. This laboratory established in the year 1976 this the only one environmental laboratory to monitored ambient air pollutant.

Fixed Air Quality Monitoring

The Air Quality Monitoring & Research Laboratory has established manual air monitoring stations within the Brihanmumbai Municipal Corporation area. At these fixed air monitoring stations, samples of various pollutants are collected through High Volume Sampler (HVS) equipment, such as: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NO_2), Ammonia (NH_3), Suspended Particulate Matter (SPM), Daily meteorological observations such as temperature and relative humidity are also recorded. The samples collected at the monitoring stations are analysed in detail in the laboratory using a UV Spectrophotometer**.** Along with this analysis of Polynuclear Aromatic Hydrocarbons (Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, and Benzo(a)pyrene) extracted from suspended particulate matter are analysed with the help of Gas Chromatograph. Also the analysis of heavy metals [Arsenic (AS), Cadmium (Cd), Chromium (Cr), Copper (Cu), Iron (Fe), Nickel (Ni) & Lead (Pb)] extracted from suspended particulate matter are analysed with the help of Atomic Absorption Spectrophotometer. The Air Quality monitoring is carried out as per the CPCB guidelines.

In the territory of BMC, Ambient Air Quality Monitoring network comprises manually operated monitoring stations. From these monitoring station collects the samples of various pollutants with the help of High Volume Samplers like Sulpher dioxide (SO_2), Nitrogen dioxide (NO_2), Amonia (NH_3) & Suspended Particulate Matter (SPM), temperature and relative humidity daily. These samples analysed with the help of UV Spectrophotometer. Whenever the complaints are received from citizens, special monitoring is carried out and the reports are submitted to concerns.

Pollution Monitoring Mobile Van

In the BMC area with the help of Mobile Van, monitoring is carried out at traffic junctions namely Wadala and Andheri. Similarly at the dumping grounds namely Deonar, & Kanjur. The pollutants analysed are SO_2, NO_2, CO, O_3, PM_{10}, $PM_{2.5}$, Hydrocarbans etc. In connection with citizens' pollution complaints within the Municipal Corporation area, surveys are conducted through the mobile pollution monitoring vehicle and reports are submitted to the concerned authorities. Monthly and annual reports are prepared by comparing the results with the standards prescribed by the Central Pollution Control Board and are submitted to the Deputy Chief Engineer (Environment & Climate Change)/Chief Engineer (Environment & Climate Change), Heads of Departments, and the Urban Health and Environmental Pollution Research Centre (KEM Hospital).Pollution reports are also submitted to other institutions as required.

During the year 2022–2023, the Air Quality Monitoring and Research Laboratory commissioned 05 Continuous Ambient Air Quality Monitoring Stations (CAAQMS) within the Brihanmumbai Municipal Corporation limits. Through these stations, information regarding the status of air quality, Air Quality Index and other information is made available to the citizens of Mumbai. These air quality monitoring stations are connected to the Central Pollution Control

Board server, and daily Air Quality Index information is displayed on the website of the Brihanmumbai Municipal Corporation.

Table No. 19.1: BMC: Continuous Ambient Air Quality Monitoring Stations.		
Sr. No.	**Station**	**Address**
1	Byculla	Veer Jijamata Udyan, Byculla (E)
2	Ghatkopar	New Pumping Station Ghatkopar, Eastern Express Highway, Ghatkopar(E)
3	Shivaji Nagar	Shivaji Nagar BMC Hindi School No.2, Govandi (East)
4	Kandivali	Charkop Maternity Home, Kandivali (w)
5	Sewri	Sewri-Koliwada BMC School Complex, Sewri (East)

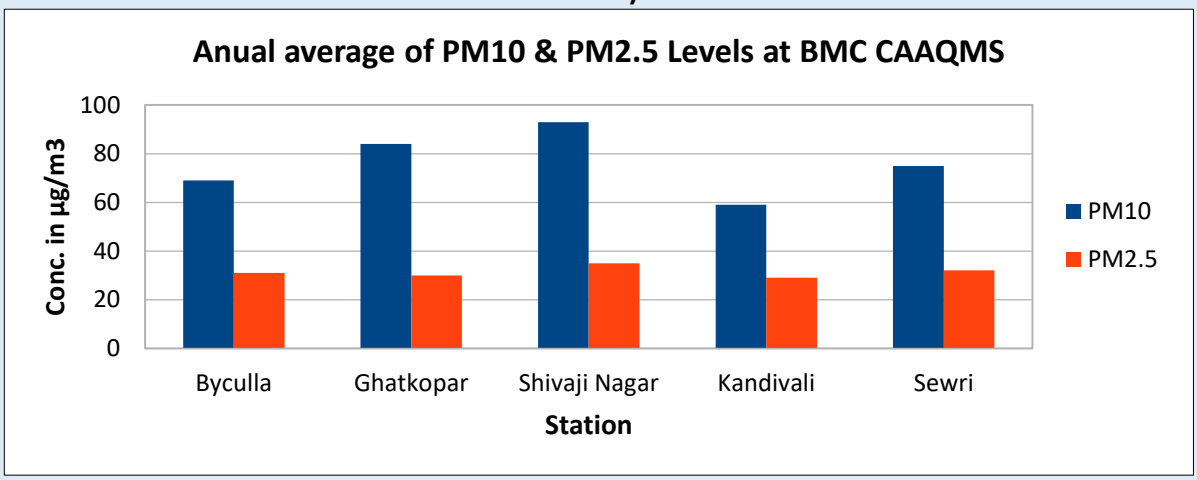
Table No. 19.2 : BMC: Air quality levels (April 2025 to March 2026)						
Sr. No.		**2025-2026**				
	Station	**PM10**	**PM2.5**	**O3**	**CO**	**NO2**
1	Byculla	69	31	23	0.6	35
2	Ghatkopar	84	30	20	0.4	27
3	Shivaji Nagar	93	35	18	0.7	22
4	Kandivali	59	29	29	0.5	15
5	Sewri	75	32	17	0.4	31
	CPCB Std. Annual Avg	**60 (µg/m3)**	**40 (µg/m3)**	**100 (8Hrs) (µg/m3)**	**2.0 (8Hrs) (mg/m3)**	**40 (µg/m3)**

Annual Averages:

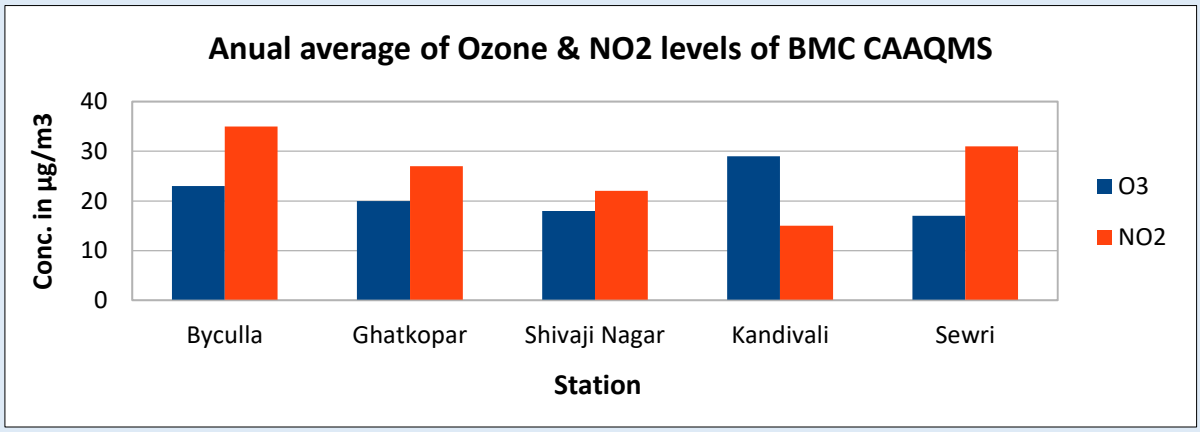
Comparison of annual levels with standards prescribed by Central Pollution Control Board observations is as follows; (Table No.19.2)

1. Annual average Levels of Suspended Particulates (PM_{10}) are found to be in the range of 59-93 µg/m^3 during 2025-2026. Maximum level of PM_{10} is observed at Shivaji Nagar (93 µg/m^3).
2. Annual average Levels of Suspended Particulates ($PM_{2.5}$) are found to be in the range of 29-35 µg/m^3 during 2025-2026. Maximum level of $PM_{2.5}$ is observed is observed at Shivaji Nagar (35 µg/m^3).
3. Annual average Levels of Ozone (O_3) are found to be in the range of 17-29 µg/m^3 during 2025-2026. . Maximum level of O_3 is observed at Kandivali (29 µg/m^3).
4. Annual average Levels of Carbon Monoxide (CO) are found to be in the range of 0.4-0.7 mg/m^3 during 2025-2026. Maximum level of CO is observed at Shivaji Nagar (0.7 mg/m^3).
5. Annual average Levels of Nitrogen di-oxide (NO_2) are found to be in the range of 15-35 µg/m^3 during 2025-2026. Maximum level of NO_2 is observed at Byculla (35 µg/m^3).

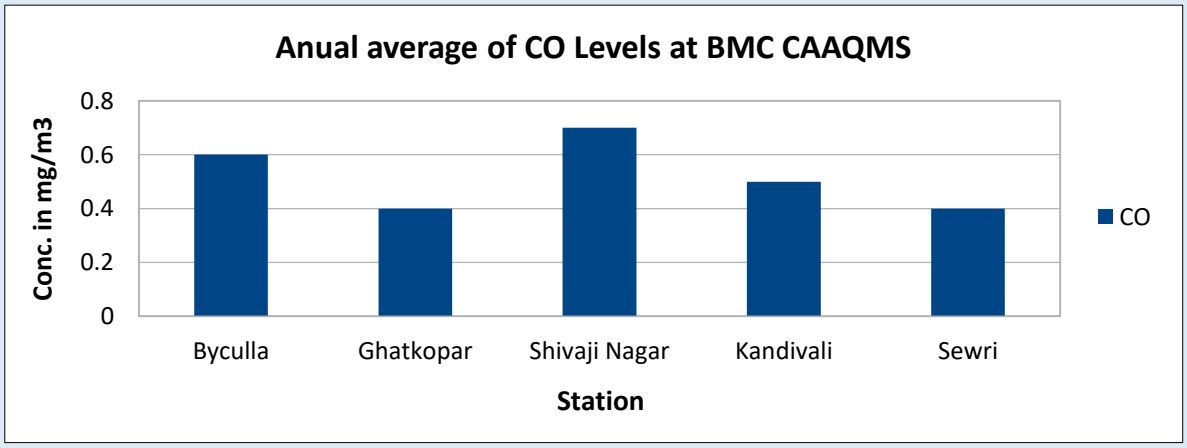
Graph No. 19.1 (A) : BMC: Air Quality Levels of PM10 & PM 2.5 (April 2025 to March 2026)



Graph No. 19.1 (B) : BMC: Air Quality Levels of Ozone & NO2 (April 2025 to March 2026)



Graph No. 19.1 (C) : BMC: Air Quality Levels of CO (April 2025 to March 2026)



The important project of SAFAR-Mumbai is a joint venture of BrihanMumbai Municipal Corporation (BMC) Indian Meteorology Department (IMD) Mumbai &; Indian Institute of Tropical Meteorology (IITM) Pune.Data received from 'SAFAR-Mumbai' is further analysed by Air Quality Monitoring and Research Laboratory for NO_2, CO, O_3, PM_{10}, $PM_{2.5}$ pollutants. Weather Forecast & Air Quality Index is now available to citizens on mobile app namely 'SAFAR-Air'

Air Quality Monitoring Stations (AQMS), Automatic Weather System (AWS) and LED Boards are installed at various locations in Mumbai to received information about current air quality and 1 to 3 days forecast

Table No. 19.3 : SAFAR-Mumbai: Air quality levels (2023 to 2026)

Sr. No.		2023-2024					2024-2025					2025-2026				
		PM_{10}	$PM_{2.5}$	O3	CO	NO2	PM_{10}	$PM_{2.5}$	O3	CO	NO2	PM_{10}	$PM_{2.5}$	O3	CO	NO2
1	Chembur	128	64	13	2.1	20	125	52	15	0.9	24	125	35	13	0.8	26
2	Bhandup	77	39	22	1.6	8	70	27	21	0.5	11	64	23	24	0.5	10
3	BKC	102	54	16	1.0	17	-	-	-	-	-	125	48	11	0.7	25
4	Colaba	83	45	27	1.5	14	96	40	39	0.6	17	95	42	35	0.5	14
5	Andheri	82	44	18	1.6	20	89	38	20	0.6	26	90	41	19	0.5	23
6	Malad	88	52	22	1.4	14	104	45	20	0.6	15	100	30	25	0.6	22
7	Mazgaon	84	40	18	1.5	22	96	41	22	0.8	24	71	35	21	0.9	27
8	Worli	83	39	23	1.3	12	88	38	31	0.8	13	79	36	25	0.7	18
9	Borivali	76	40	15	1.2	10	86	44	20	0.8	16	87	33	24	0.7	12
CPCB Std. Annual Avg		**60 (µg/m3)**	**40 (µg/m3)**	**51 (8Hrs) (ppb)**	**1.75 (8Hrs) (ppm)**	**21 (ppb)**	**60 (µg/m3)**	**40 (µg/m3)**	**51 (8Hrs) (ppb)**	**1.75 (8Hrs) (ppm)**	**21 (ppb)**	**60 (µg/m3)**	**40 (µg/m3)**	**51 (8Hrs) (ppb)**	**1.75 (8Hrs) (ppm)**	**21 (ppb)**

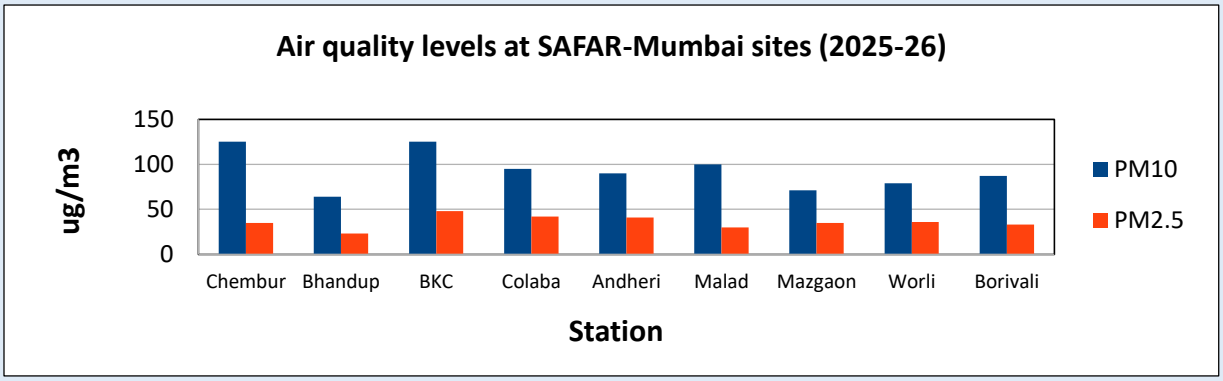
Source: 'SAFAR-Mumbai'

Annual Averages

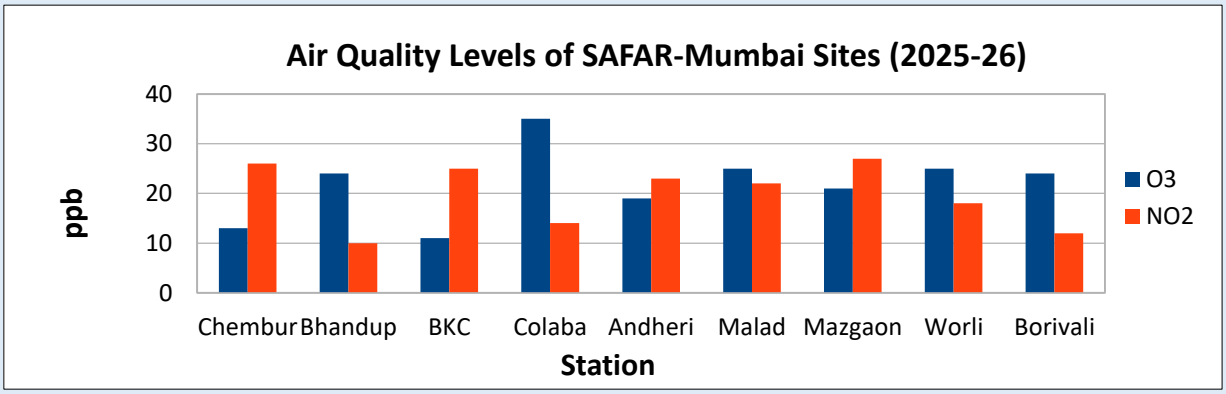
Comparison of annual levels with standards prescribed by Central Pollution Control Board observations is as follows; (Table No.19.3)

1) Levels of Suspended Particulates (PM_{10}) are found to be in the range of 64-125 µg/m^3 during 2025-2026. Maximum level of PM_{10} is observed at Chamber & BKC (125 µg/m^3).
2) Levels of Suspended Particulates ($PM_{2.5}$) are found to be in the range of 23-48 µg/m^3 during 2025-2026 Maximum level of $PM_{2.5}$ is observed at BKC (48 µg/m^3).
3) Levels of Ozone (O_3) are found to be in the range of 11-35 ppb during 2025-2026. Maximum level of O_3 is observed at Colaba (35 ppb).
4) Levels of Carbon Monoxide (CO) are found to be in the range of 0.5-0.9 ppm for the year 2025-2026 Maximum level of CO is observed at Mazgoan (0.9ppm).
5) Levels of Nitrogen di-oxide (NO_2) are found to be in the range of 10-27 ppb during 2025-2026 Maximum level of NO_2 is observed at Mazgoan (27 ppb).

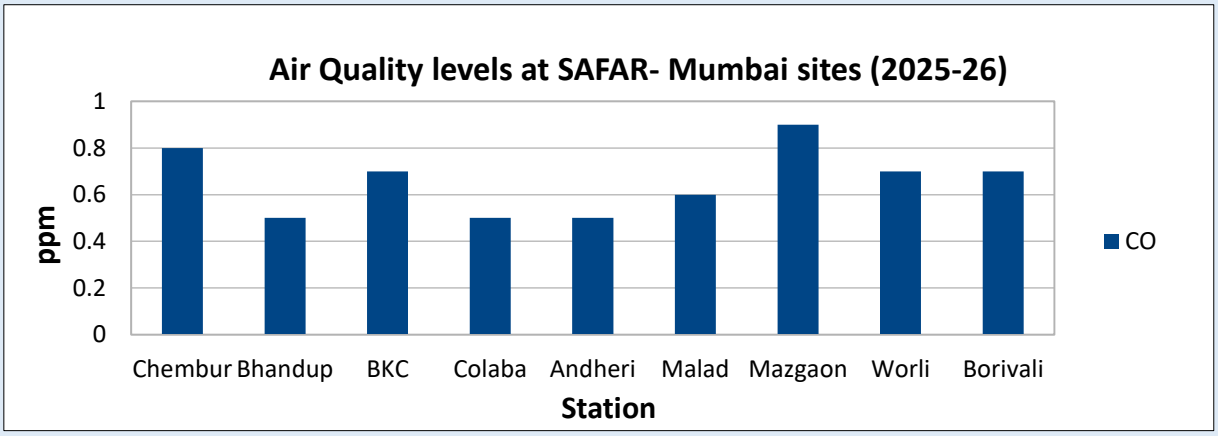
Graph No. 19.2 (A): SAFAR Mumbai: Air Quality Levels of PM_{10} and $PM_{2.5}$ (April 2025 to March 2026)



Graph No. 19.2 (B): SAFAR Mumbai: Air Quality Levels of Ozone & NO2 (April 2025 to March 2026)



Graph No. 19.2 (C): SAFAR Mumbai: Air Quality Levels of CO (April 2025 to March 2026)



Air Quality Index (AQI)

Honourable Minister for Environment, Forests and Climate change, launched the national Air Quality Index (AQI) in New Delhi, on 17th September 2014 under the 'Swachh Bharat Abhiyan'. It is outlined as 'One number-One colour-One description' for the common man to judge the air quality in his vicinity.

The current measurement of index is made comprehensive by the addition of 5 more parameters to the existing 3 parameters, i.e. in total 8 parameters are considered. AQI is a tool for effective dissemination of air quality of that area to common person. The information provided on air quality is in simple linguistic terms that is easily understood by people. The AQI is calculated by comparing the measured ambient concentration of the pollutant to the National Ambient Air Quality Standards (NAAQS).

Classification of AQI:

0 – 50	**Green**		**Good**
51 – 100	**Light green**		**Satisfactory**
101 – 200	**Yellow**		**Moderately polluted**
201 – 300	**Orange**		**Poor**
301 – 400	**Red**		**Very poor**
401 – 500	**Brown**		**Severe**

Monthly average Air Quality Index of Brihanmumbai Municipal Corporation's Continuous Ambient Air Quality Monitoring Station are shown in Table no. 19.4

Table No. 19.4 : BMC: Air Quality Index (Monthly Average) at CAAQMS during April 2025 to March 2026

Sr. No.	Month	Byculla	Ghatkoper	Govandi	Kandivali	Sweri
1	April 2025	57	68	62	47	67
2	May 2025	37	58	84	31	48
3	June 2025	43	40	59	31	39
4	July 2025	47	22	50	25	41
5	August 2025	36	28	46	18	36
6	September 2025	33	33	55	26	47
7	October 2025	73	92	98	60	94
8	November 2025	82	125	130	111	117
9	December 2025	136	137	127	92	113
10	January 2026	98	112	103	88	107
11	February 2026	91	121	112	112	96
12	March 2026	77	96	93	77	74

Graph No. 19.3: BMC: AQI of CAAQMS during April 2025 to March 2026

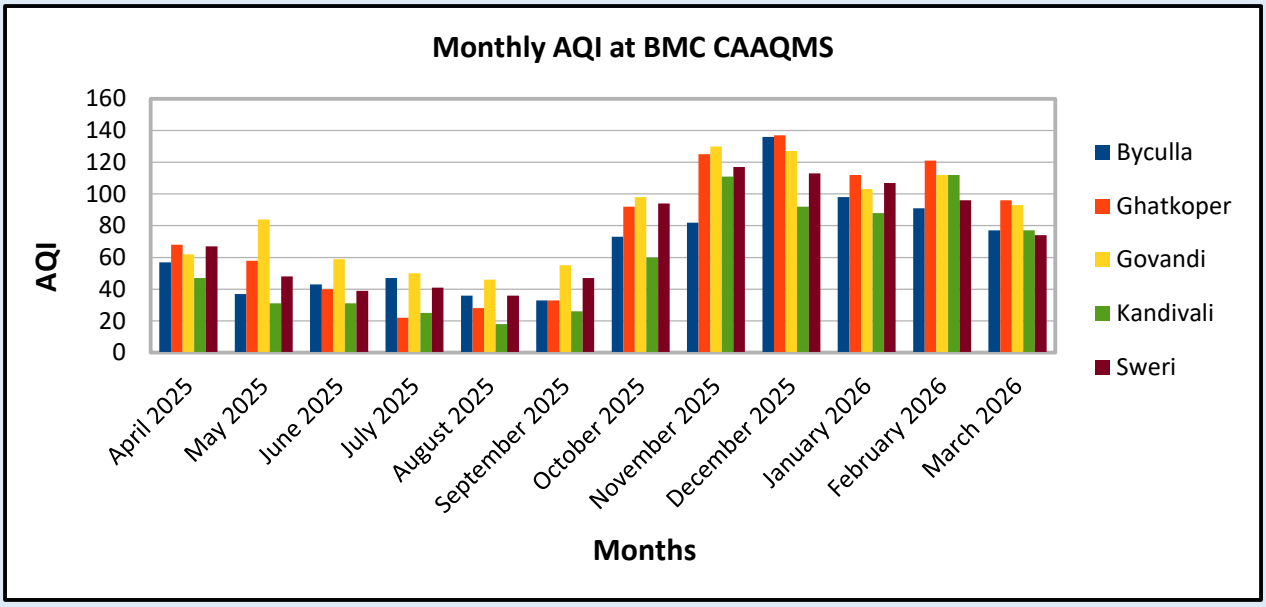
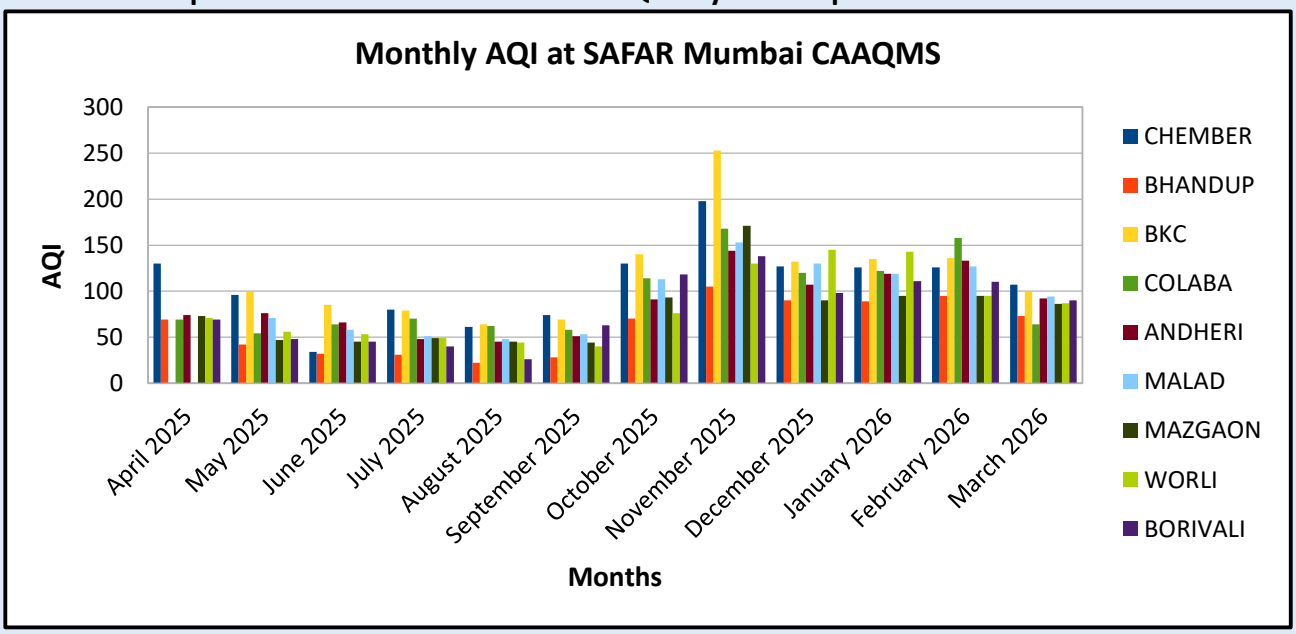


Table No. 19.5: SAFAR-Mumbai: Air Quality Index of CAAQMS (Monthly Average)

Sr. no	month	CHEMBER	BHANDUP	BKC	COLABA	ANDHERI	MALAD	MAZGAON	WORLI	BORIVALI
1	April 2025	130	69	DNA	69	74	DNA	73	71	69
2	May 2025	96	42	99	54	76	71	47	56	48
3	June 2025	34	32	85	64	66	58	45	53	45
4	July 2025	80	31	79	70	48	51	49	49	40
5	August 2025	61	22	64	62	45	48	45	44	26
6	September 2025	74	28	69	58	51	53	44	40	63
7	October 2025	130	70	140	114	91	113	93	76	118
8	November 2025	198	105	253	168	144	153	171	130	138
9	December 2025	127	90	132	120	107	130	90	145	98
10	January 2026	126	89	135	122	119	119	95	143	111
11	February 2026	126	95	136	158	133	127	95	95	110
12	March 2026	107	73	99	64	92	94	86	87	90

DNA: Data Not Available

Graph No. 19.4: SAFAR Mumbai: Air Quality Index April 2025 to March 2026.



Continuous Ambient Air Quality Monitoring Stations (CAAQMS) within the Brihanmumbai Municipal Corporation area, under the jurisdiction of the Maharashtra Pollution Control Board, are shown in Table No. 19.6.

Table No. 19.6 : Maharashtra Pollution Control Board: Continuous Ambient Air Quality Monitoring Station

Sr. No	Centres	Location
1.	Sion	Lokmanya Tilak Hospital, Sion.
2.	Bandra	Government Polytechnic College, Kherwadi.
3.	Kandivali	M/s Mahindra & Mahindra Company premises, Western Express Highway, Kandivali (East).
4.	Mulund	M/s Johnson & Johnson Company premises, Lal Bahadur Shastri Marg, Mulund.
5.	Borivali	Near Lion Safari, Sanjay Gandhi National Park, Borivali (East).
6.	Vile Parle	Cooper Hospital and Medical College, Bhakti Vedanta Swami Marg, Juhu Scheme, Vile Parle (West).
7.	Kurla	Phoenix City Mall premises, Lal Bahadur Shastri Marg, Kurla (West).
8.	Powai	IIT campus, Powai.
9.	Chhatrapati Shivaji International Airport (T2)	Near Gate No. 6, Chhatrapati Shivaji International Airport (T2), Vile Parle.
10.	Colaba	Sewage Treatment Plant, near Afghan Church, SBS Road, Navy Nagar, Colaba.
11.	Worli	NEERI premises, 89-B, Dr. Annie Besant Road, Worli.
12.	BKC	Near Asian Heart Hospital, Bandra (East).
13.	Chembur	Municipal Corporation School, Mahul Village, Chembur.
14.	Malad	Mindspace, Malad (West).

Table No. 19.7: Maharashtra Pollution Control Board: Air Quality Index – April 2025 to March 2026 (Monthly Average)

Month	BKC	Borivali	Chembur	C.S.T. Int. Airport(T2)	Colaba	Kandivali	Kherwadi Bndra
April-2025	92	84	70	79	53	99	77
May-2025	83	53	58	72	36	103	66
June-2025	62	46	57	70	62	80	57
July-2025	52	32	52	68	53	65	47
August-2025	50	27	42	65	40	48	44
September-2025	53	26	45	68	38	48	46
October-2025	100	59	89	77	88	87	105
November-2025	133	120	128	115	55	121	131
December-2025	137	95	152	130	111	111	139
January-2026	122	79	99	120	95	107	113
February-2026	124	64	97	122	90	108	114
March-2026	91	51	84	84	68	36	77

Month	Kurla	Malad	Mulund	Powai	Sion	Vile Parle	Worli
April-2025	102	56	47	75	93	70	80
May-2025	76	49	41	65	133	120	72
June-2025	81	45	42	51	60	55	73
July-2025	73	42	37	43	46	48	73
August-2025	66	40	35	46	70	43	67
September-2025	72	35	42	39	57	61	65
October-2025	79	83	95	78	87	85	84
November-2025	103	114	112	125	76	116	99
December-2025	110	109	81	104	107	107	102
January-2026	117	110	91	67	113	104	DNA
February-2026	115	101	84	73	101	105	121
March-2026	99	72	64	67	87	62	87

DNA: Data Not Available

Graph 19.5: Maharashtra Pollution Control Board: Air Quality Index (April 2025 to March 2026)

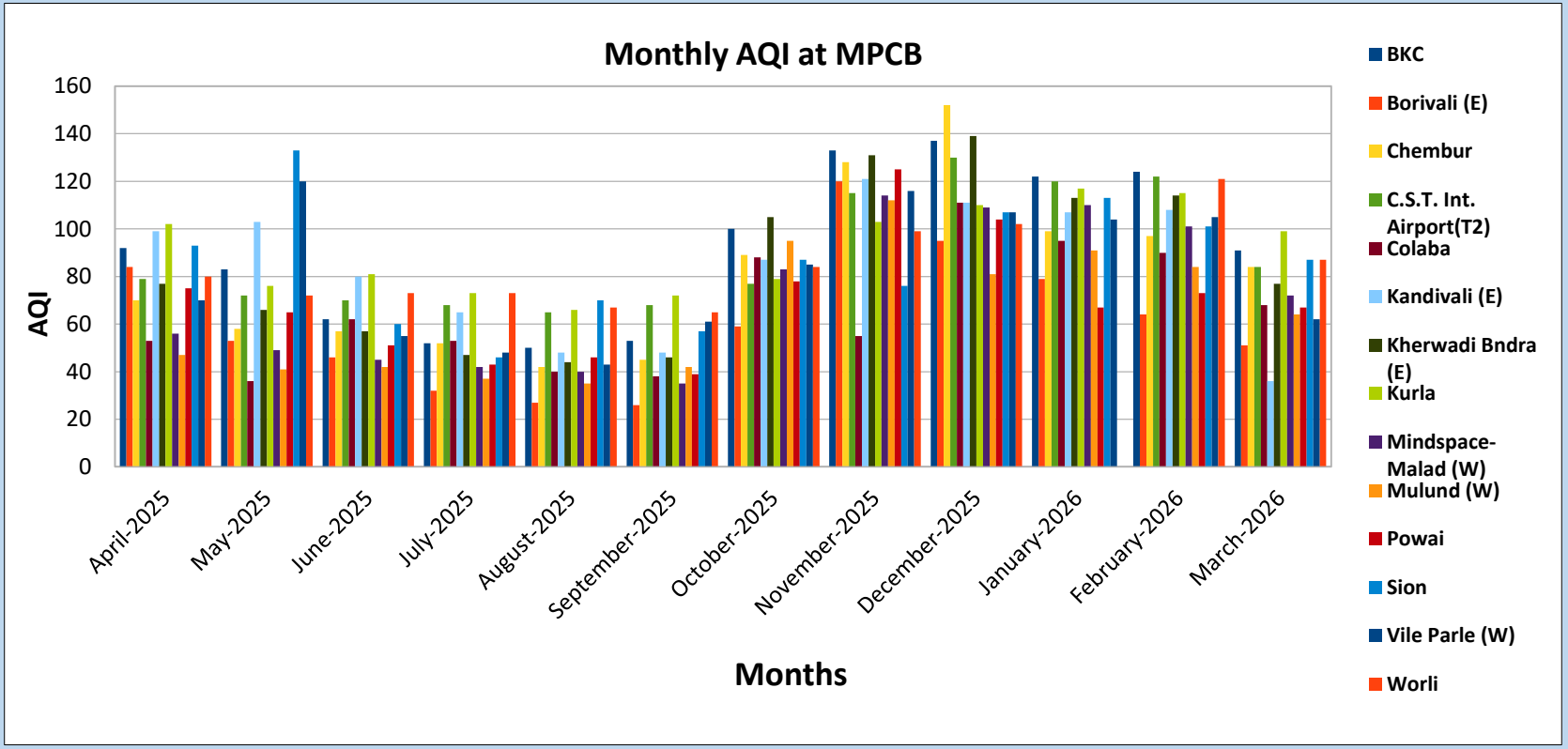


Table No. 19.8 : National Ambient Air Quality Standards central pollution control board, new Delhi (18th November, 2009)			
Parameter	**Exposure Period**	**Industrial, Residential, Rural & Other Area**	**Sensitive Area**
Sulphur Dioxide, SO_2 µg/m³	Annual avg. *	50 µg/m³	20 µg/m³
	24 Hrs. avg.**	80 µg/m³	80 µg/m³
Nitrogen Dioxide, NO_2 µg/m³	Annual avg. *	40 µg/m³	30 µg/m³
	24 Hrs. avg.**	80 µg/m³	80 µg/m³
Particulate Matter (Size less than 10μ_m) PM_{10} µg/m³	Annual avg. *	60 µg/m³	60 µg/m³
	24 Hrs. avg.**	100 µg/m³	100 µg/m³
Particulate Matter (Size less than 2.5 μ_m) $PM_{2.5}$ µg/m³	Annual avg. *	40 µg/m³	40 µg/m³
	24 Hrs. avg.**	60 µg/m³	60 µg/m³
Ozone, O_3, µg/m³	8 Hrs.**	100 µg/m³	100 µg/m³
	1 Hr.**	180 µg/m³	180 µg/m³
Lead, Pb, µg/m³ 24 Hrs. avg.**	Annual avg. *	0.5 µg/m³	0.5 µg/m³
	1 µg/m³	1 µg/m³	1 µg/m³
Carbon Monoxide, CO, µg/m³	8 Hrs.**	2.0 mg/m³	2.0 mg/m³
	1 Hr.**	4.0 mg/m³	4.0 mg/m³
Ammonia, NH_3, µg/m³	Annual avg. *	100 µg/m³	100 µg/m³
	24 Hrs. avg.**	400 µg/m³	400 µg/m³
Benzene, C_6H_6, µg/m³	Annual avg. *	5.0 µg/m³	5.0 µg/m³
Benzo alpha Pyrene, Particulate Phase only BaP, ng/m³	Annual avg. *	1.0 ng/m³	1.0 ng/m³
Arsenic, As, ng/m³	Annual avg. *	6.0 ng/m³	6.0 ng/m³
Nickel, Ni, ng/m³	Annual avg. *	20 ng/m³	20 ng/m³

1. Annual average of 104 measurements taken twice a week over a 24-hour period throughout the year.

2. Measurements (24-hour/8-hour) must be available for 98% of the year; however, if the limits are exceeded during the remaining 2% of the time, such exceedances should not occur on two consecutive days.

Note: 1. In accordance with National Ambient Air Quality Standards, air quality levels must consistently remain below the prescribed safety limits to ensure the protection of human health, vegetation, and property. 2. Two consecutive measurements exceeding the prescribed limits constitute sufficient grounds to warrant regular or continuous monitoring. 3. State Governments or State Boards must designate 'sensitive areas' and 'other areas' within their respective states within six months of the notification of the National Ambient Air Quality Standards.

20 INDUSTRIES

Environmental pollution is a by-product of industrialization. However, with the modern technologies, pollution potential of industries/factories are lowering. There are 28095 no. of industries are covered under section 390 of Mumbai Municipal Corporation Act 1888. These industries pay Air Pollution Prevention Fees on the basis of horsepower of the connected load. There are 11769 industries/factories are located in the city area, 9025 in Western Suburbs and 7301 in Eastern Suburbs. Maximum industries (4161) are in R/N ward. Ward-wise distribution of industries are shown in table

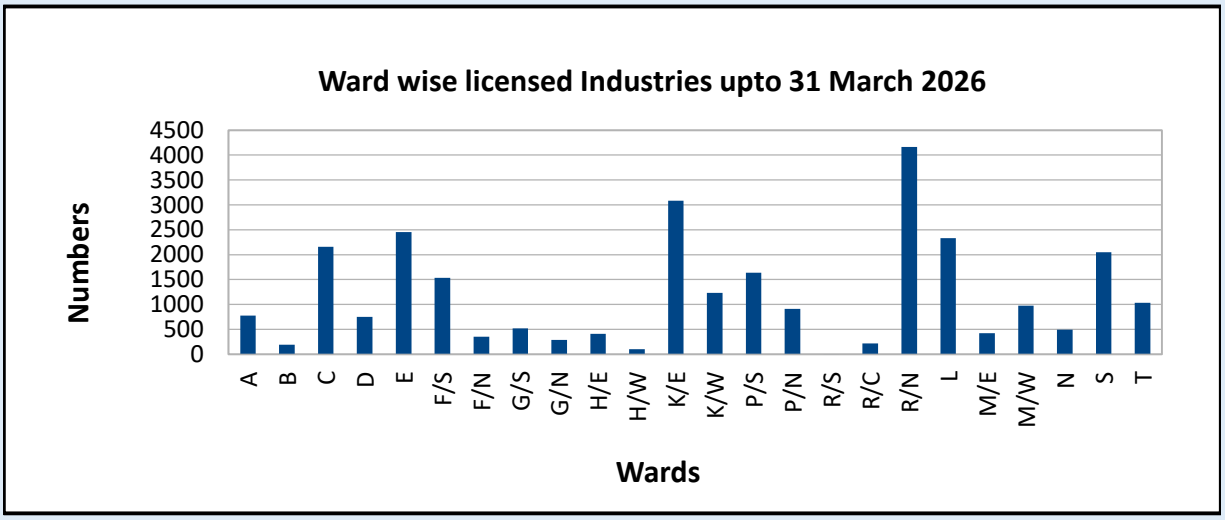
Table No. 20.1 : Wardwise Licensed Industries

Sr. No.	Ward	Upto 31.03.2026
1	A	777★
2	B	191
3	C	2160
4	D	750★
5	E	2453
6	F/S	1535★
7	F/N	350
8	G/S	519
9	G/N	290
10	H/E	413★
11	H/W	103
12	K/E	3086★
13	K/W	1233★
14	P/S	1640★
15	P/N	912
16	R/S	5★
17	R/C	216
18	R/N	4161★
19	L	2333★
20	M/E	422
21	M/W	975★
22	N	927★
23	S	2049★
24	T	1031★
Total		28095

Source: Concerned Department Office

Note★ - Information based on the 2024-2025 report.

Graph No. 20.1: Ward wise licensed industries



Ecofriendly Contribution of Industries

In addition to the efforts of Municipal Corporation of Greater Mumbai to reduced environmental pollution, other major industries in Mumbai also contribute in development of green cover in Mumbai and reduction in environmental pollution.

Rashtriya Chemicals and Fertilizers Limited

Rashtriya Chemicals & Fertilizers Ltd. (RCF) is a government-owned fertilizer and chemical manufacturer headquartered in Mumbai, India. RCF plays a major role in India's agricultural and industrial chemical sectors. RCF has undertaken several path breaking measures to mitigate/eliminate the generation of environmental waste in its operations and as a "Navratna" PSU, is very much mindful of the larger national goal towards becoming carbon neutral and has very much aligned its operations towards that end.

RCF operates two major production units - Trombay (Mumbai) and Thal (Raigad district). The company produces a broad range of fertilizers including Ujjwala (urea) and Suphala (complex NPK), bio-fertilizers, micronutrients, and water-soluble fertilizers. Its industrial chemical portfolio covers methanol, ammonia, nitric and sulphuric acids, methylamines, dimethylformamide (DMF), and argon, which serve sectors such as pharmaceuticals, textiles, and dyes.

1. RCF has installed four fixed Ambient Air Quality Monitoring Stations around its factory within the Trombay Unit. These Stations gather data on a continuous basis, which is harvested/stored online and transmitted to the MPCB's server in real time. That apart, continuous online data of SO2, NOx, NH3, PM10 and PM2.5 is being transmitted to the MPCB's and CPCB's servers since the year 2015.

2. RCF operates two Sewage Treatment Plants (STP) at its Trombay unit. Both plants put together have a capacity to treat of 45.50 MLD (Million Litres per Day) of Municipal sewage and produce 30 MLD (Million Litres per Day) of treated water for our industrial use. The plant serves a dual purpose. Firstly, it solves the issue of treatment and disposal of sewage. Secondly, it relieves the Municipal Corporation from its obligation to supply 30 MLD of drinking water, thereby making equivalent amount of water available for the community.

   RCF has also installed an Integrated Effluent Treatment Plant at its Trombay Unit that ensure that the effluents discharged from its factory meets the statutory requirements laid down by the MPCB. Real time transmission of data for parameters pH, flow and Ammonical Nitrogen of effluent discharge to the MPCB and CPCB servers since the year 2015 is also taking place.

3. For e-waste management RCF Trombay unit has the e-waste policy, which emphasizes on maximum utilization of all IT assets to their full productive life and the procedure followed for environmentally sustainable disposal, recycling and storage of used assets. Metal waste, non-metal waste generated under solid waste is disposed through authorized recyclers. Hazardous wastes such as used oil and spent catalyst are disposed of through authorized recyclers as per regulatory guidelines.

   Other wastes like ETP sludge and sulphur sludge, generated during plant operations, are recycled back into complex fertilizer production as a source nutrients. This practice is an excellent example of the 3R principle (Reduce, Reuse, and Recycle), ensuring resource recovery and minimization of environmental impact.

   RCF Trombay unit has registration with CPCB for Plastic Waste Management Rule, 2016 under Brand Owner category. RCF Trombay unit has lined up the contract with Waste Management Agency (WMA) for complying with the Plastic Waste Management Rules, 2016 regarding Extended Producers Responsibility." Waste Management Agency\ (WMA) has been recycled 7500 MT plastic waste for the year 2025-26 RCF Trombay have submitted online annual returns for e-waste, Battery waste, and hazardous waste regularly to Maharashtra Pollution Control Board (MPCB).

4. In its bid towards India's vision of achieving ecologically sustainable growth, RCF has already forayed into solar power generation including ground mounted and rooftop facilities. RCF has an aggregate capacity of 4.01 MWp of solar power generation resulting into generation of more than 5000 MWh per annum of green power. The green power generated by solar plants replaces the conventional power generated through burning of fossil fuels thereby leading to reduction in overall Greenhouse gas emissions. RCF has set up GT HRSG (Gas turbine with Heat Recovery Steam Generation) plants both at Trombay and at Thal units. With this process, RCF generates power required to meet its captive requirement. Sustainability lies at the heart of RCF's core philosophy, and it has continuously endeavoured to incorporate sustainability in every aspect of its functioning. RCF presently is self- reliant in meeting its requirement of

precious resources such as water and electricity. Under Energy Saving schemes suggested by M/s KBR implemented in Ammonia Plant recently due to which Ammonia V Plant Energy consumption came down by 0.219 Gcal/MT.

5. As per the Maharashtra Pollution Control Board ("MPCB") guidelines, at least 33% of available open land under green coverage or plantation is necessary. RCF has at its Trombay Unit set aside 34.43 hectares under green coverage area inside the factory and 23.5 hectares' green coverage area inside the RCF Township. These set asides correspond to a total green coverage area of 62% of available open land. At the said Unit, RCF has undertaken massive tree plantation activities both inside and outside of its factory premises and the same is a continuing activity, 18,329 trees planted within factory, administrative, and township areas from April 2023 to Mar 2026.

   Types of trees - Karanj, Kanchan, Satvin, Neem, Rain tree, Flcus, Palm tree, Bahava, Bakul, Tebubia, Badam, Chinch, Jamun, Vad, Kadamba, Ashoka, Sitafal, Avala, Taman, Guava, Kailaspati, Sapota etc. 14653 Nos. of sapling distributed to society, trust, MCGM, BMC & colony for plantation.

   Over the past few decades, significant efforts have been made by it to improve environmental conditions, reduce emissions, reduce its overall carbon footprint and make a positive impact on adjoining communities in its area of operations. Over the years, plants have been systematically upgraded with state-of-the-art technologies along with inbuilt emission indicators and pollution control and monitoring systems. These upgrades have taken place either incrementally by way of retro fitments or i the progressive replacement of old machines. RCF stands committed to working collaboratively with all relevant stakeholders including communities residing in the vicinity, ecosystems present in the vicinity of its operations and regulatory bodies.

Adani Power

1) Power Supply and Consumption -

- Adani Electricity has been ranked as India's No. 1 Distribution Utility for the second consecutive year. This recognition has been awarded in the Distribution Utilities Ranking (DUR) and Consumer Service Rating of DISCOMs (CSRD), released by the Ministry of Power in collaboration with REC Limited.
- In line with the Adani Group's #Growth WithGoodness philosophy, the company aims to create sustainable value through Green Tariff and contribute towards a cleaner environment.
- Network and Consumers: The Company's network is spread across approximately 400 sq. km. in Mumbai, covering areas from Bandra to Bhayandar (West) and Sion to Mankhurd (East), which constitutes approximately 85% of Mumbai's total area. The company supplies electricity to more than 3 million households and meets an electricity demand of approximately 2,000 MW.
- Initiatives for Pollution Control and Reduction of Carbon Footprint:

- Renewable Purchase Obligation (RPO): For FY 2025–26, the company achieved 37.53% renewable energy, exceeding its target of 33.01%.
- GHG Emissions: Procurement of green energy has resulted in a reduction of up to 95.51% in greenhouse gas (GHG) emission intensity.

2) Renewable Energy

- Green Energy Tariff: Customers are provided with the option to voluntarily opt for green energy. So far, 6,615 customers have availed themselves of this facility.
- Rooftop Solar: As of March 2026, the total installed rooftop solar capacity has reached 63.16 MW. Under the PM Surya Ghar: Muft Bijli Yojana, 214 projects with a total capacity of 4.98 MW have been completed.
- Office Initiatives: Installation of a 100 kW solar power project along with Battery Energy Storage System (BESS) at the company's offices has resulted in a 60% reduction in electricity costs.

3) Demand Side Management (DSM)

- Subsidies: Residential consumers are provided subsidies for the purchase of 5-star rated fans and refrigerators, resulting in energy savings of 1.43 million units.
- Energy Conservation Workshops: Awareness programmes are conducted through workshops in schools, hospitals and housing societies under the Energy Conservation Initiative.
- EV Charging Infrastructure: As of FY 2025-26, a total of 1,409 EV chargers have been installed, thereby encouraging the use of electric motorcycles and cars.

4) Green Technologies and Process Automation

- Environmental Management: The Company is certified under ISO 14001 and ISO 50001. It has also obtained Zero Waste to Landfill (ZWTL) and Single-Use Plastic (SUP)-Free certifications.
- Paperless Services: Approximately 10.76 lakh customers have been encouraged to opt for paperless electricity bills.
- Environment-Friendly Materials: Biodegradable ester oil is used in transformers in place of hazardous oil, along with non-carcinogenic silica gel.
- Plastic Waste Recycling: In collaboration with FeelGood EcoNurture LLP, cable covering (MLP blocks) has been developed using 100% recycled plastic waste.

5) Disaster Management

- Objective: To prevent loss of life during natural disasters, protect property and restore electricity supply at the earliest possible time.
- Preparedness:
- Dedicated Teams: Experienced teams are deployed at the Central Disaster Control Centre (CDCC) and at 7 Divisional Disaster Control Centres (DDCCs).
- Quick Response Teams (QRTs): A total of 32 teams are available 24×7 to undertake response and restoration activities during and after disasters.
- Infrastructure: Essential spare parts and equipment are kept in reserve at 10 locations. During the monsoon season, special vehicles and first-aid teams are deployed.

- Communication System: BSNL Satellite Phones, wireless walkie-talkies and the 24×7 toll-free helpline number 19122 are available for emergency communication.
- Essential Consumers: During disasters, priority is given to ensuring uninterrupted electricity supply to municipal pumping stations, hospitals, defence establishments and government offices.

BHARAT PETROLEUM CORPORATION LIMITED (BPCL)

Environmental Sustainability Initiatives – BPCL Mumbai Refinery.

1. Zero Waste to Landfill (ZWL) Certification Following its initial Zero Waste to Landfill (ZWL) certification received in 2022, BPCL Mumbai Refinery has successfully obtained the prestigious ZWL certification for the second consecutive certification cycle. The refinery has achieved an impressive waste diversion rate of 98.87%, demonstrating its strong commitment to sustainable waste management and the principles of the circular economy.

This achievement reflects the refinery's continued efforts to reduce dependence on landfills through systematic waste segregation, recycling, reuse, resource recovery, co-processing, and scientific disposal practices. This milestone further strengthens BPCL Mumbai Refinery's commitment to environmental stewardship and sustainable industrial operations.

2. Sustainable Hazardous Waste Management Initiative BPCL Mumbai Refinery has initiated sustainable hazardous waste management practices by undertaking pre-processing and co-processing of hazardous waste at the refinery for the first time. This initiative represents a significant step towards the environmentally responsible disposal and resource recovery of hazardous waste generated during refinery operations. The implementation of co-processing ensures that hazardous waste is utilized as an alternative resource in industrial processes, thereby reducing landfill disposal, conserving natural resources, and minimizing environmental impacts. This initiative is aligned with national environmental regulations and BPCL's broader sustainability objectives.

3. Installation of Retrofitted Emission Control Device (RECD) In accordance with the directives issued by the Maharashtra Pollution Control Board (MPCB), BPCL Mumbai Refinery has installed a Retrofitted Emission Control Device (RECD) on the CDU-4 DG Set to strengthen its emission control measures.

The installation has resulted in a reduction of emissions by more than 70%, leading to a significant improvement in environmental performance and supporting cleaner refinery operations. This initiative demonstrates BPCL Mumbai Refinery's proactive approach towards adopting clean technologies for reducing air pollution, ensuring regulatory compliance, and promoting sustainable industrial development.

4. Photobioreactor-Based Pilot Plant for Municipal Liquid Waste Treatment BPCL Mumbai Refinery successfully inaugurated a photobioreactor-based pilot plant for the treatment of Municipal Liquid Waste (MLW), developed by the Institute of Chemical Technology (ICT) in collaboration with the Department of Biotechnology (DBT). The pilot plant represents an innovative and sustainable approach to treating municipal liquid waste using advanced biological processes. The technology aims to improve wastewater treatment efficiency while promoting environmental sustainability through eco-friendly treatment methods. This initiative highlights Refinery's commitment to supporting research-driven environmental technologies and fostering collaboration with reputed academic and government institutions for sustainable development.

5. Green Belt Development and Tree Plantation Initiatives the BPCL Mumbai Refinery, established in 1955, predates the applicability of the Environmental Clearance conditions under the Environmental Impact Assessment (EIA) framework of the Ministry of Environment, Forest and Climate Change (MoEFCC), which mandate the development of a 33% green belt within industrial premises.

The refinery is spread over approximately 183 hectares of land, of which a substantial portion is occupied by process units, tankages, utilities, roads, safety clearances and other critical operational infrastructure due to technical, operational and safety requirements. Therefore, restructuring or relocating the refinery facilities is not feasible. Furthermore, the refinery is presently surrounded by densely populated urban areas, leaving no scope for expansion of land beyond the refinery boundary. The available open spaces within the refinery premises are required to maintain mandatory safety buffer distances as per the guidelines of OISD and IB, which are essential for safe refinery operations. Despite these constraints, BPCL Mumbai Refinery has developed approximately 4.8 hectares (2.67%) of green belt within the refinery premises by undertaking plantation along the peripheral areas, internal roads and available open spaces. The refinery has also undertaken extensive tree plantation campaigns outside the refinery premises.

Approximately 60 hectares, equivalent to around 32% green cover, has been developed externally at various locations. The major plantation initiatives include the following:

6. Launch of Green Cover Project with a Biodiversity Focus by BPCL Mumbai Refinery – Plantation of 65,000 Native Trees on Forest Land at Asroti Village, Khalapur BPCL Mumbai Refinery launched a Green Cover Project with a focus on biodiversity on 8 January 2026, under which 65,000 native trees were planted on forest land at Asroti Village near Khalapur in Raigad District.

As part of BPCL's Golden Jubilee celebrations and in alignment with the Government of India's LiFE (Lifestyle for Environment) initiative, the project adopts the Miyawaki method to develop a dense and fast-growing native forest. Plantation of 30,000 Native Trees at Manda-Titwala, Kalyan

To commemorate the 50th anniversary of Bharat Petroleum Corporation, National Pollution Control Day and the Government of India's LiFE (Lifestyle for Environment) initiative, BPCL Mumbai Refinery launched an ambitious environmental project involving the plantation of 30,000 native trees at Manda-Titwala, Kalyan, near Mumbai, using the Miyawaki method.

Distribution of Saplings to 111 Colleges in MumbaiDuring 2025-26, as part of BPCL's 50th anniversary celebrations, the CSR objectives across all refineries were updated and aligned to create a unified and significant sustainability impact. BPCL has set a long-term target of planting a total of 5 lakh trees collectively across its MR, KR and BR refineries, of which the Mumbai Refinery has undertaken the responsibility of planting 1.65 lakh saplings during 2025-26. As part of its CSR and CER initiatives, BPCL Mumbai Refinery, in collaboration with NGOs and local government bodies, has planned large-scale tree plantation programmes in Mumbai and surrounding areas for the year 2025-26.

Through a combination of on-site (within the refinery premises) and off-site (outside the refinery premises) plantation initiatives, BPCL Mumbai Refinery has achieved an overall green cover of approximately 34.67%.

BPCL Mumbai Refinery remains committed to continuously enhancing its green cover and strengthening environmental sustainability through extensive external plantation drives, biodiversity conservation initiatives and environmentally responsible practices. BPCL Mumbai Refinery remains committed to fulfilling and complying with all applicable environmental standards and requirements

HINDUSTAN PETROLEUM CORPORATION LIMITED (HPCL)

The Mumbai Refinery has adopted the following measures and best available industrial technologies for effective environmental management:

- HPCL-Mumbai Refinery is certified under EnMS ISO 50001:2018 and ISO 14001:2015 and has maintained these certifications through continuous improvement and excellence.
- HPCL manufactures and markets BS-VI fuels, including Motor Spirit (MS) and High-Speed Diesel (HSD), containing only 10 ppm sulphur. This helps reduce sulphur dioxide emissions, lower carbon intensity in the transportation sector, and contribute to the reduction of air pollution.
- Continuous Ambient Air Quality Monitoring Stations (AAQMS) have been installed within the refinery premises for continuous monitoring of ambient air quality in the surrounding area. These stations monitor concentrations of pollutants such as SOx, NOx, CO, PM2.5, PM10, O_3, NH_3, etc. The stations also monitor BTEX and hydrocarbon (HC) components in ambient air.
- State-of-the-art Dual Optical Absorption Spectroscopy (DOAS) systems have been installed. These fence-line monitoring systems analyse ambient air quality along the path between the

receiver and emitter. The systems are installed along the northern and western boundaries of the refinery premises and are operating continuously and effectively.

- Low-sulphur fuel gas and fuel oil are used to minimise stack emissions in accordance with CPCB standards**.** Low-NOx emission burners are installed in refinery heaters to reduce NOx emissions.
- Online real-time monitoring analysers have been installed on all process stacks. These analysers are connected to the CPCB/SPCB servers and transmit emissions data in real time.
- The refinery has a state-of-the-art integrated Effluent Treatment Plant (ETP) comprising API, TPI, DAF, SBR and MBR units**.** A VOC capture and treatment system is also operational for controlling air emissions. A separate Sewage Treatment Plant (STP) is available for the treatment of domestic sewage.
- Petroleum storage tanks comply with the roof requirements specified in the MoEF&CC Notification G.S.R. 186(E), dated 18 March 2008**,** with the objective of reducing emissions to the atmosphere.
- A hydrocarbon flare recovery gas compressor is connected to the flare system, enabling recovery of vent gases and minimising losses. Smokeless flares are used, thereby keeping flare-related losses to a minimum.
- Leak Detection and Repair (LDAR) surveys are carried out for timely identification and reduction of fugitive emissions**.**
- Hazardous waste is sent only to authorised recyclers for disposal/recycling. Applicable regulations relating to plastic waste, e-waste, battery waste and solid waste are complied with during the disposal of such wastes.
- Proper segregation of hazardous waste is carried out, and dedicated storage facilities are available within the refinery premises. The hazardous waste is stored in these designated facilities prior to transportation to CHWTSDF facilities approved by the State Pollution Control Board for final disposal.
- Tree plantation drives, including Miyawaki forests, are carried out regularly. Tree plantation drives were undertaken at HPCL Mumbai Refinery (MR), ITI Kurla, and Sonari Village, Raigad. A total of 2,115 trees were planted. Additionally, 50,000 bamboo saplings were donated to the Thane Municipal Corporation (TMC) under the Green Thane initiative.
- An Occupational Health Centre (OHC) is operational at the refinery to monitor the health of employees, and appropriate health records are maintained. Regular health check-ups of all employees and contract workers are conducted in accordance with the guidelines of the Directorate of Industrial Safety and Health (DISH).
- The distribution network is being expanded to promote clean fuels such as LPG and to ensure their reach to the maximum number of households.
- Sweeper vacuum trucks are used for removing road dust and reducing particulate matter.
- The installed solar power generation capacity within the industrial premises is 1,080 kWp.

- Approximately 1,02,198 KL of rainwater was harvested during the financial year (FY) 2025–26.

Mumbai Port Trust

Mumbai Port Authority has a long and distinguished history of making a significant contribution to the economic development of Mumbai and the nation. Established in 1873 as the Bombay Port Trust, the Authority has developed into one of India's leading major ports and has played a vital role in establishing Mumbai as the financial capital of the country.

As part of its vision for a greener and more sustainable future, Mumbai Port Authority has consistently undertaken various initiatives aimed at environmental conservation, pollution control, energy efficiency and ecosystem preservation. The Authority is committed to supporting national environmental objectives and actively contributing towards sustainable maritime operations in 2026 and beyond.

1. Mumbai Port has its own dedicated Pollution Control Cell, which monitors: i. Pollution in seawater; ii. Port water quality, ambient air quality and noise pollution. Water and air quality monitoring is carried out through third-party laboratories approved by the Ministry of Environment, Forest and Climate Change (MoEFCC), in accordance with the Environment (Protection) Rules, 1986; iii. The facility for receiving waste oil and used oil at Mumbai Port Trust and their disposal in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016; and iv. Collection of floating waste from seawater and its proper disposal.
2. The parameters are analysed for port water samples: (i) pH, (ii) Colour (iii). Odour, (IV). Oil and Grease, (v). Turbidity, (VI). Total Suspended Solids (TSS), (vii). Dissolved Oxygen (DO), (viii). Biochemical Oxygen Demand (BOD), (ix). Nitrates, (x) Nitrites, (xi). Ammonia, (xii). Phosphates, (xiii). Petroleum Hydrocarbons, (xiv). Polycyclic Aromatic Hydrocarbons (PAHs), (xv). Faecal Coliform, (xvi). Bioassay Test, (xvii). Phenol, Mercury, Cadmium and Lead.
3. Ambient air quality in the port area is monitored for the parameters :(i). Sulphur Dioxide (SO_2); (ii). Oxides of Nitrogen (NOx), (iii). Respirable Suspended Particulate Matter (RSPM–PM_{10}), (iv). Respirable Suspended Particulate Matter (RSPM–$PM_{2.5}$), (v.) Carbon Monoxide (CO), (vi). Benzene.
4. Mumbai Port is developing and maintaining a botanical garden named "Sagar Upvan" in the port area near Colaba. The garden is a matter of pride for the Port and has received the "Best Garden Award" for nine consecutive years. In addition, several green belts have been developed by the Port, and thousands of trees have been planted and maintained as part of its green initiatives.
5. The approximate quantity of solid waste generated at Mumbai Port Authority is 1,126.96 cubic metres per year**.** The waste is handed over to vendors authorised and recognised by

the Maharashtra Pollution Control Board (MPCB) for its disposal. The waste is transported to the Municipal Corporation of Greater Mumbai (MCGM) landfill site for landfilling and processing.

6. The approximate quantity of sludge generated at Mumbai Port Authority during 2025–26 is about 3,535.07 metric tonnes**.** The sludge is handed over to MPCB-authorized and approved vendors for disposal.
7. The approximate quantity of e-waste generated at Mumbai Port Authority during 2025–26 is about 0.810 metric tonnes**.** The e-waste is handed over to vendors authorized and approved by the Maharashtra Pollution Control Board (MPCB) for disposal.
8. The approximate quantity of hazardous waste generated at Mumbai Port Authority is about 31.370 kilolitres**.** The hazardous waste is handed over to MPCB-authorized and approved vendors for disposal.
9. The Bombay Natural History Society (BNHS) has undertaken a project titled “Conservation of Flamingos, Mangroves and Mudflats in Sewri and its surrounding areas.” In this regard, BNHS also organizes the Flamingo Festival every year.
10. There are presently approximately 16,000 trees within the port premises, having girths ranging from 15 cm to 200 cm**.** These trees make a significant contribution to maintaining green cover in the urban area and serve as the lungs of the city**.** (i) As bamboo is among the most efficient plants for carbon sequestration, Mumbai Port has decided to undertake extensive bamboo plantation in the available areas. The first phase has been completed with more than 55,000 grown bamboo saplings. (ii) 6,600 saplings have been planted using the Miyawaki technique to develop a multi-layered, high-density green ecosystem. (iii) An area of 4.6 hectares has been developed as an integrated green ecosystem providing habitat for local birdlife. This ecosystem is an excellent example of synergy between human activities, waste recycling, and flora and fauna. (iv) The tree plantation campaign of Mumbai Port is currently underway, with a target of planting 100,000 trees over the next few years.
11. Inspired by the Hon’ble Prime Minister’s call to prevent plastic pollution and to completely ban single-use plastics, Mumbai Port Authority has, since September 2021, prohibited the types of single-use plastics in its day-to-day operations are : (i) Plates, cups, glasses, cutlery such as forks, spoons and knives, straws, trays, wrapping/packaging materials and stirrers. (ii) Plastic or PVC banners having a thickness of less than 100 microns**.** (iii) Polystyrene (thermocol) used for decoration. (iv) Wrapping films around sweet boxes, invitation cards and cigarette packets; ear buds with plastic sticks; plastic sticks for balloons; plastic flags; and candy sticks. However, plastic received as packaging material is collected and sent to recyclers for recycling. The above decision is supported by the provisions of the Plastic Waste Management (Amendment) Rules, 2021**.** Planning is currently underway for

installation of 10 reverse vending machines at outdoor/indoor locations for the collection and recycling of plastic bottles and beverage cans.

12. The Central Kitchen at Victoria Dock, operated through the departmental canteen, provides services to approximately 2,000 MbPA employees**.** The kitchen generates approximately 18–20 kg of kitchen waste per day**.** As part of the green initiative, this waste is recycled on the rooftop of the building, which covers an area of approximately 3,000 sq. ft.
13. Mumbai Port has become the first major port to measure its carbon footprint and identify significant sources of carbon emissions**,** and the Authority has set a target of becoming carbon neutral by 2040**.**
14. Swachh Bharat Abhiyan activities have been undertaken at Jawahar Dweep, Gateway of India and Sagar Upvan**.**

Tata Powers

The following measures are taken by Tata Power to maintain the balance of the environment.

1. Fuel Quality and Emission:

Use of low sulphure (0.1 to 0.2%) low ash (5%) imported coal for power generation.
Stringent Environment Norms.

2. Air Pollution Control:

Stack Height of 275 m for wider dispersion of pollutants.
ESP for Unit # 5 and Unit # 8.
FGD for Unit # 5 and Unit # 8.
Low NOx burner from Unit # 7, Over fired dampers for other units.
Use of imported low Sulphur (0.1 to 0.2%) low ash coal (5%).

3. Fugitive dust control:

Screw Unloader (State of Art) for unloading coal at coal berth.
Pipe conveyor for carrying coal from coal berth to boiler.
Stacker Reclaimer for handling of coal.
Green belt around coal yard and coal berth.
Water sprinkling system around coal yard for dust supperssion.

4. Pollution Control and Treatment:

ETP for treatment of effluent generated from DM plant.
STP (2x125 CMD) at station A and station B for treatment of domestic effluent.
Coal Pile run off system at Coal Yard and Coal Berth.
Cooling water channel and aerators to reduce the temp of discharge water.
Online Effluent Monitoring (Temp)
STP water reused for gardening.

5. Solid Waste and Hazardous Waste:

Minimal Ash generation due to use of imported low Ash (5%) coal; 100% fly ash and bottom ash utilization.

Used Oil is disposed to MPCB approved agency in accordance with HW Rules, 2016. Submission of HW Manifest.
E-waste is disposed to MPCB approved recycler/ dismantler. Submission of form-2 and form-3
Used batteries are disposed to MPCB approved agency.
BMW is disposed to MPCB approved agency.
Horticulture waste to MCGM approve agency for manure preparation.
Biodegradable Plastic used for monsoon protection.
Biogas plant installed at kitchens to utilize daily generated kitchen wastes.

21 HEALTH

Health is the level of functional efficiency of a living being. In layman terms, health usually means to be free from illness, injury or pain. The World Health Organization (WHO) defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. To lead and enjoy a wholesome life one must have sound health.

Brihanmumbai Municipal Corporation largely takes care of citizen health through Health Care Services. The State Government, Private organizations and Private medical practitioners also contribute in the providing health care services. Health care is a primary the responsibility of Brihanmumbai Municipal Corporation. Health Infrastructure 3-Tier System in BrihanMumbai Municipal Corporation is shown in Table No. 21.1.

Table No. 21.1 : Health Infrastructure 3-Tier System in BrihanMumbai Municipal Corporation

PRIMARY SECONDARY	Health posts	212
	Dispensaries	190
	Maternity Homes	26
PRIMARY SECONDARY	Peripheral hospitals	16
	Specialty hospitals	264
TERTIARY	Major hospitals (Medical & Dental colleges) (5 main hospitals and 1 H.B.T. hospital joint with Cooper hospital.	5

Source: Health Dept.

Environment contributes to the health of human being both in positive and negative ways. Better nutrition and clean environment will help to increase life span whereas, polluted environment will cause deterioration of health. Environmental hazards are responsible for as much as a quarter of the total of diseases worldwide and more than one third among children. Environment plays a major role in aetiology of numerous diseases like water borne diseases (Gastroenteritis, Jaundice), vector borne diseases (Malaria, Dengue, Chikungunya) and non-communicable diseases like Hypertension, Diabetes, etc.

The health services are provided in two ways. There are hospitals, dispensaries and maternity homes all over the city catering to the medical needs of the people, while on the other hand there are Outreach Services. Under National Urban Health Mission 30 new health centers are started too. Objective of establishing health centers is to provide health service for implementation of family welfare program and outreach services for mother and child.

Table No.21.2. It shows Birth & Death Rates and also Infant & Maternal mortality in the year 2019 to 2021. In Year 2021 Birth rate in Mumbai was 8.81/1000 population and the Death

rate was 8.37/1000 population in the year 2021. Infant mortality rate was 22.86/1000 Live Births and Maternal Mortality rate 83/100000 Live Births for mothers.

Table No. 21.2: Health Statistics- Birth and Death Rates			
	Year 2023	**Year 2024**	**Year 2025**
Birth (Registered)	130562	117606	120420
Birth Rate/1000 population	10.03	09	9.19
Death (Registered)	39255	93852	94218
Death Rate/1000 population	7.17	7.19	7.19
Infant Mortality	2832	-	-
Infant Mortality Rate/1000 live birth	21.69	-	-
Maternal Death	89	70	74
Maternal Mortality Rate/100000 live birth	68.17	59.52	61.45

Source: Health Dept.

Table No.21.2. It shows Birth & Death Rates and also Infant & Maternal mortality in the year 2023 to 2025. In Year 2025 Birth rate in Mumbai was 9.19/1000 population and the Death rate was 8.37/1000 population in the year 2025. Infant mortality rate was 7.19/1000 Live Births and Maternal Mortality rate 61.45/100000 Live Births for mothers.

Kasturba Hospital (Infectious Diseases)

Kasturba Hospital is located in the middle of City. It is largest Infectious Diseases hospital in the South East Asia, which admits patients of all the infectious diseases.

- Patients suffering from communicable diseases such as Chickenpox, Measles, Mumps, AFP (Acute Flaccid Paralysis), Hepatitis (A, B, C, etc. and other forms of Hepatitis), Fever, Typhoid, Malaria, Leptospirosis, Dengue, H1N1, H3N2, Encephalitis, Dysentery, Vomiting and Diarrhoea, Cholera, Diphtheria, Whooping Cough, Rabies and COVID-19 (excluding Tuberculosis, Sexually Transmitted Diseases and Leprosy), as well as patients suffering from emerging infectious diseases**,** are isolated and treated at the hospital. Patients infected with Plague and Cholera are mandatorily shifted to this hospital.
- A modern 25-bed ward for the treatment of burn patients is available at Kasturba Hospital.
- Isolation wards have been provided for patients suffering from Swine Flu, COVID-19 and Measles**.**
- Kasturba Hospital has three Oxygen Generation Plants with capacities of 1,080, 360 and 190 litres per minute, respectively, for patients.
- A 10-bed isolation ward with negative-pressure facilities has been established, tested and commissioned at Kasturba Hospital.
- A Tuberculosis (TB) Laboratory has been established at Kasturba Hospital for TB patients.
- A Biosafety Level-3 (BSL-3) Laboratory has been proposed at Kasturba Hospital.
- The internal roads within the Kasturba Hospital premises have been renovated

Table No. 21.3 : Report of Different Diseases (April 2025 to March 2026)			
Sr.No.	**disease**	**Number of patients**	**Death**
1	Dengue	1449	02
2	Swine Flu H1N1	14	01
3	Lepto	242	-
4	Malaria	3148	02
5	Covid 19	15	02
6	Measles	249	01

Group of Tuberculosis Hospitals Sewree:

Group of Tuberculosis Hospitals, Sewree of the Brihanmumbai Municipal Corporation is the largest hospital in Asia. Patients with drug sensitive and drug resistant (MDR-TB) disease come to the said hospital for examination, treatment and admission.

Special Initiatives Undertaken for Tuberculosis (TB) Control

1. **100-Day Campaign**
   The objective of this campaign is to accelerate the detection of TB patients, reduce TB-related mortality, and prevent the spread of TB to avoid new infections. Surveys of high-risk populations are being conducted, and individuals with "Presumptive TB" are being screened, including CBNAAT testing**.** A mobile X-ray van has been deployed to support diagnosis.
2. **Introduction of Advanced Treatment Regimens such as BPaLM for Drug-Resistant TB Patients**
   To improve treatment outcomes among Rifampicin-resistant/Multi-Drug Resistant (MDR) TB patients**,** new drug regimens comprising four medicines, such as BPaLM**,** with a shorter treatment duration of six months**,** have been made available free of cost.
3. **Nutritional Support**
   Through Ni-kshay Mitras**,** all TB patients are provided with nutritional support every month for a period of six months, which helps to strengthen their immunity and support recovery.
4. **World Tuberculosis Day 2025 - Activities Undertaken for TB Awareness in Mumbai District**
   TB awareness messages highlighting the 10 major symptoms of tuberculosis - cough

persisting for more than two weeks, fever, weight loss, night sweats, loss of appetite, chest pain, breathlessness, blood in sputum while coughing, fatigue, and swelling/lump in the neck were displayed through various media across all 26 administrative wards of Mumbai under the Brihanmumbai Municipal Corporation (BMC). In addition, innovative TB awareness programmes were organized for TB patients and their contacts to enhance awareness regarding prevention, early detection, diagnosis, and treatment of tuberculosis.

Tuberculosis Control Programme

Under the Mumbai District Tuberculosis Control Society, the National Tuberculosis Elimination Programme (NTEP) provides various diagnostic and treatment services across 24 districts/divisions of Mumbai through 24 appointed District Tuberculosis Officers, approximately 50 Treatment Organizers from the Health Department of the Brihanmumbai Municipal Corporation, and 469 contractual personnel working under NTEP. Approximately 3% of the total TB patients in India are reported from Mumbai, of whom around 14% have Drug-Resistant Tuberculosis (DR-TB). Approximately 58% of the total Drug-Resistant Tuberculosis patients in Maharashtra are reported from Mumbai. On average, 4,000 to 5,000 Drug-Resistant Tuberculosis patients are diagnosed annually in Mumbai. The Mumbai District Tuberculosis Control Society implements various measures to make Mumbai TB-free. Tuberculosis is a curable disease, and diagnosis and treatment for TB are provided completely free of cost through the Brihanmumbai Municipal Corporation.

Measures undertaken by the Brihanmumbai Municipal Corporation for providing services to TB patients

1. Diagnostic Facilities

- 45 CBNAAT and 34 Truenat machines are available in Mumbai for free and accurate diagnosis of tuberculosis and Rifampicin-resistant tuberculosis. In 2025, a total of 2 lakh molecular (NAAT) tests were conducted.
- The Central Tuberculosis Division is also providing 4 PathoDetect machines, which will facilitate the diagnosis of tuberculosis as well as Rifampicin- and Isoniazid-resistant tuberculosis. At present, 2 PathoDetect machines have been made available at JJ Hospital and the IRL GTB Laboratory.
- The Culture and DST Laboratory at GTB Sewri TB Hospital has been upgraded into an Intermediate Reference Laboratory (IRL).
- The Culture and DST Laboratory at Kasturba Hospital has been made operational.
- Out of the 24 handheld X-ray machines received from the State Tuberculosis Officer, 16 machines are available at 16 suburban hospitals. In addition, 24 more machines are being used at the ward level for X-ray screening under CSR initiatives. Through these facilities, a total of 74,307 patients underwent X-ray examinations during 2025–2026.

2. Treatment Facilities

- Differentiated TB Care for all patients: Under this initiative, all TB patients in Mumbai are assessed at the time of diagnosis to identify high-risk factors**,** enabling appropriate management and improving treatment outcomes. A total of 19,172 patients have been registered under this service.
- Advanced BPaLM treatment for Drug-Resistant Tuberculosis: Free treatment and management of adverse drug reactions are being provided through 31 DRTB Clinics in Mumbai. The advanced 6-month BPaLM treatment regimen has been introduced. As of December 2025, treatment had been initiated for 1,093 patients, of whom 89 patients had completed treatment

3. Tuberculosis Preventive Measures

- The CY-TB test has been introduced to identify individuals who have been infected with TB bacteria but have not yet developed symptoms of the disease. If the test is positive and active TB is ruled out, appropriate preventive treatment is provided to reduce the risk of progression to active tuberculosis. If the CY-TB test is positive and active TB disease is ruled out, preventive TB treatment is advised.
- As of March 2025, CY-TB testing has been conducted for 13,311 high-risk individuals and contacts of TB patients. Of these, 1,961 beneficiaries tested positive, and 1,655 beneficiaries were provided preventive treatment**.**

3. Special Initiatives for TB Control

- TB-Free India Campaign: Under the National Tuberculosis Elimination Programme (NTEP), the Government of India launched the “TB-Free India Campaign” in 2025. Under this campaign, 13,08,200 vulnerable individuals have been screened, of whom 1,24,774 suspected patients underwent X-ray examinations**.**
- Whole Genome Sequencing (WGS): This advanced diagnostic technique provides information regarding drug resistance in tuberculosis**.** A pilot test has been completed on 2,500 samples**,** and the technique will be incorporated into the programme after approval from the Central Government.

4. Nutritional Support Kits

- Through Nikshay Mitras**,** TB patients are provided with nutritional support kits every month for a period of six months**.**
- During the last two years, a total of 1,48,867 ration kits have been distributed under the Nikshay Poshan Yojana.

5. Awareness Activities

- Awareness is created through hoardings, banners at BEST bus stops, health awareness discussions, street plays, jingles, videos, etc.
- Special awareness programmes are organized across all 26 administrative wards of Mumbai**.**

10 Symptoms of Tuberculosis

A cough lasting for more than two weeks, fever, weight loss, night sweats, loss of appetite, chest pain, and difficulty in breathing, coughing up blood or sputum, fatigue, or swelling in the neck should not be ignored if any of these symptoms are observed. Citizens are urged by the Brihanmumbai Municipal Corporation (BMC) to visit the nearest BMC dispensary, Health Post, or "Aapla Dawakhana" for free examination and treatment.

World Tuberculosis Day is observed on 24 March. The theme for 2026 is "Yes! We Can End TB! Led by Countries, Powered by People." This emphasizes that the elimination of tuberculosis can be achieved through strong national leadership and active community participation.

Reports of Tuberculosis Patients During the Last Three Years.			
Year	**Total Cases Notified**	**Cases from Mumbai**	**Cases Outside from Mumbai**
2023	63575	50206	13369
2024	60633	53638	6995
2025	57390	48835	5555

Tuberculosis Control Services of the Brihanmumbai Municipal Corporation, Tuberculosis Hospital Group and City Tuberculosis Control Programme

- Patients suffering from Drug-Sensitive and Drug-Resistant Tuberculosis (MDR-TB and XDR-TB) visit the Tuberculosis Hospital for diagnosis, investigation and hospitalization.
- A Pulmonary Rehabilitation Centre has been established for patients who have recovered from tuberculosis, and TB patients are benefiting from the services provided by the Centre.
- Alcoholics Anonymous has been made operational for tuberculosis patients suffering from addiction.
- An ART Centre (affiliated to MDACS) has been functioning since 14 August 2020 in collaboration with the Mumbai District AIDS Control Society (MDACS) for patients co-infected with Tuberculosis and HIV. The hospital also has a 24x7 digital X-ray facility.
- Separate 24x7 Outpatient Departments (OPDs) for Drug-Sensitive TB and Drug-Resistant TB are functioning for patients.
- A 10-bed Thoracic Disease Intensive Care Unit (ICU) is operational for tuberculosis patients.
- The laboratory of the Tuberculosis Hospital Group has recently been modernized and upgraded to an Intermediate Reference Laboratory (IRL). As a result, all sputum investigations required for the diagnosis of tuberculosis, including GeneXpert, TrueNAT, LPA and Culture DST, are now conducted under one roof in the Tuberculosis Hospital laboratory. The laboratory undertakes testing of samples from inpatients and outpatients, as well as sputum samples received from various parts of Mumbai under the National Tuberculosis Elimination Programme (NTEP). In addition, Culture and Sensitivity Testing is carried out for the four currently used anti-tuberculosis drugs. All staff working at the Tuberculosis Hospital are

provided with a Supplementary High-Protein Diet during all three shifts to help maintain and strengthen their immunity.

- All employees working at the Tuberculosis Hospital undergo quarterly health check-ups for tuberculosis and other diseases such as diabetes, hypertension and other ailments, and appropriate treatment is initiated wherever required.
- A new Non-Communicable Diseases (NCD) Outpatient Department has been established at the Tuberculosis Hospital. Patients and their relatives are examined and provided with appropriate healthcare services through this department.

Year-wise statistical data on Outpatient Department (OPD) and Inpatient Department (IPD) admissions.

YEAR	OPD (NEW/OLD)	ADMISSIONS
2021	22562	4157
2022	21939	4095
2023	20730	4200
2024	20607	4354
2025	20148	4222

Year-wise number of major surgeries, minor surgeries (including bronchoscopy), and total surgeries.

YEAR	MAJOR	MINOR	TOTAL
2021	00	614	614
2022	00	769	769
2023	04	1071	1075
2024	01	1678	1679
2025	01	2316	2317

Acworth Municipal Hospital for Leprosy

Mr. H.A. Acworth founded Acworth Municipal Hospital for Leprosy on 7th November 1890 the then Municipal Commissioner of Mumbai. Since 1st April 1991, the hospital has been taken over by Brihanmumbai Municipal Corporation as one of the specialized hospitals under the administrative control of the Executive Health Officer. Services provided by Acworth Municipal hospital for leprosy

Acworth Hospital provides comprehensive care to the leprosy affected patients:

1) Inpatient services: - Total active beds in the hospital is 100 beds. At present average occupancy are around 55%. The most of the patients are admitted in the hospital due to the old leper Act. Old, deformed, abandoned patients are provided shelter in the Hospital. Majority patients are living here more than 20 years almost on a permanent basis. Presently patients are admitted for ulcers and lepra reaction.

2) Outpatient services: - Out-patient services include Physiotherapy, Social service, Laboratory, Dressing and Pharmacy. Daily average O.P.D. attendance is about 56 patients per day.
3) Field Work: - Under National Leprosy Elimination Programme, Hospital carries out IEC Activities in its project area i.e. Municipal wards (E, F/South and F/North) covering about 16 lacs population.
4) Training: - The hospital provides training in leprosy to post-graduate and under-graduate allopathy and non-allopathy medical students as well as to student nurses, Social Science and O.T./P.T. students. The hospital also offers training to Govt. Medical Officers, Non-medical assistants.
5) Medical records: - The hospital maintains statistical records and generates various reports thereby assessing the progress of N.L.E.P. in entire Mumbai.
6) Collaborative Programme of Acworth Hospital with NGOs:

i. **Acworth Leprosy Museum:** Provides scientific information about all aspects of leprosy.
ii. **Footwear Unit:** MCR footwear, Splints are provided to the leprosy patients at concessional rates.

Table No. 21.4: Mumbai District Statistics 2025-26			
	2023-24	**2024-25**	**2025-26**
Total Leprosy Patients	602	620	586
MB patients among total patients	416	434	415
PB patients among the total patients	186	186	171
PR for Mumbai (Per 10000 population)	0.4	0.4	0.4

Table No. 21.5: Acworth Hospital Statistics 2025-2026	
Total Leprosy Patients in the Project area (E, F/S & F/N Ward)	58
MB patients among total patients	52
PB patients among the total patients	06
PR for AMHL (Per 10000 population)	0.4

Health Education

Acworth Municipal Hospital provide health education at E, F/S and F/N Wards. Which helps to eradicate misconceptions about leprosy. On the occasion of death anniversary of Mahatma Ghandhiji from 31st January to 13th February, leprosy fortnight is arranged by this hospital every year. During this fortnight all active organizations effectively carry out public awareness and health education movement in their work premises.

Mumbai District AIDS Control Society

Mumbai District AIDS Control Society (MDACS) registered under Charitable Trust Act is established by Brihanmumbai Municipal Corporation under the guiding principles of National AIDS Control Organization for prevention and control of HIV / AIDS in Mumbai. Currently National AIDS Control Programme-Phase V is being implemented in the country. Major responsibilities of MDACS are as follows:

1) Prevent the spread of HIV / AIDS for reducing annual new HIV infection and AIDS-related mortalities by 80% from the baseline value of 2010.

To attain dual elimination of vertical transmission, elimination of HIV/AIDS related stigma while promoting universal access to quality STI/RTI services to at risk vulnerable population by providing care, support and treatment services to people living with HIV / AIDS (Infected and affected). Mumbai district AIDS control society provides services free of cost through below mentioned divisions.

Basic Services

- Integrated Counseling and HIV Testing Centres (ICTCs) are established across the city in all Government / Municipal Hospitals / Maternity Homes. These services are freely available to all Walk-in / referred clients. Trained Counselors and Laboratory Technicians perform HIV Counseling and testing using standardized testing protocols with robust quality control.
- Early detection of HIV infection in pregnant woman is the mainstay of the program for preventing the transmission of infection from infected mother to baby. For this, Multi Drug Antiretroviral treatment is initiated during first trimester of pregnancy.
- Early Infant Diagnosis: All infants born to HIV infected mothers are screened at 6th week after birth and regularly till 18 months for HIV infection.
- Under the Mumbai District AIDS Control Society, 49 Standalone ICTCs are operational, comprising 44 Standalone ICTCs and 5 Mobile ICTCs**,** where confirmatory testing for HIV and syphilis is conducted. In addition, 197 screening facilities are available. Furthermore, HIV and syphilis testing is carried out at 7 Metro Sites, 345 Government Health Centres/Dispensaries/Maternity Homes, and 892 private hospitals across the city. These ICTCs effectively extend services to vulnerable and high-risk groups through counselling, testing, and outreach services**.**

Anti Retroviral Therapy (ART)

Treatment for HIV positive patients is made available through 20 ART Centres set up in various Hospitals in Mumbai. These centers are in 7 Medical Colleges, 6 Peripheral Hospitals, 5 are in public private partnership viz. Godrej, L&T, Wadia, K. J. Somiya and Mumbai Port Trust (MbPT) Hospitals, 2 in Brihanmumbai Municipal Corporation special hospitals (STD Clinic and TB Hospital). ART center for pediatric patients is operated through Pediatric Centre of Excellence, LTMG, and Sion Hospital. Total 42174 patients living with HIV / AIDS are registered in active care of which 42172 patients are on lifelong treatment.

Blood Safety

Preventing HIV transmission through infected blood by ensuring access to safe and adequate blood for the needy patients is one of the important services of MDACS. 24 Government, Brihanmumbai Municipal Corporation and Trust blood banks in Mumbai are supported by provision of trained manpower, HIV testing kits and grants. All the blood units collected in the blood units collected in the blood banks are tested for HIV, Hepatitis B, Hepatitis C and other blood born infections. Regular Voluntary Blood Donation Camps are organized in collaboration with Blood Banks and NGOs. Over the years, the number of voluntary blood donors has increased significantly reducing the risk of HIV infection through blood transfusion.

Sexually and Reproductive Health Services

Unsafe sexual behavior leads to transmission of Sexually Transmitted Diseases (STDs) and HIV. STDs can be easily diagnosed and effectively treated by 'syndromic management treatment' approach. 27 designated STI/RTI clinics (DSRC) are set up in public health hospitals throughout the city with trained doctors and counselors who give treatment and counseling, condom promotion, partner notification and partner treatment. Effective management of STDs and counseling on responsible sexual behavior at STI clinics helps in prevention of HIV transmission. Regional STI training Reference Laboratory at B.Y.L. Nair Hospital is set up for etiological diagnosis of STIs.

Prevention Department

HIV prevention is a key component of the National AIDS Control Programme (NACP), implemented through Non-Governmental Organisations (NGOs) and Community-Based Organisations (CBOs) in accordance with the guidelines of the National AIDS Control Organisation (NACO). In Mumbai, HIV prevention services are provided through 36 prevention projects**,** targeting High-Risk Groups (HRGs) such as Female Sex Workers (FSWs), transgender persons, Men who have Sex with Men (MSM), third-gender persons, and People Who Inject Drugs (PWID)**,** as well as Bridge Populations such as migrant workers and transport workers. The interventions include Behaviour Change Communication (BCC), HIV Counselling and Testing, Sexually Transmitted Infection (STI) Screening and Treatment, linkage to treatment services, and distribution of commodities such as condoms, needles/syringes, Opioid Substitution Therapy (OST), and lubricants. These services also include information, education and awareness activities aimed at promoting HIV prevention among the identified high-risk and bridge populations.

Targeted Intervention

Targeted Interventions are aimed at offering prevention and care services to high-risk groups viz Female Sex Workers, Men having Sex with Men, Transgender and injecting Dug Users. The bridge population of slum migrants and long distance Truckers are also provided with the information, means and skills to minimize HIV transmission. 35 Targeted Intervention projects under NACO Budget and BMC funded 1 Targeted Intervention project totaling to 36 Targeted

Intervention projects are working through NGOs/CBOs who are providing prevention services including HIV/STI screening and treatment services to these high risk groups in the city.

Information, Education and Communication

Various awareness campaigns are held using mass media, mid media and outdoor campaigns approach among youth, slum migrants and high risk groups for reducing risk behavior. Events are organized to increase the awareness among general population, especially for women and youth on various days viz. National Voluntary Blood Donation Day, National and International Youth Day, World AIDS Day, International Women's Day.

Current Status of HIV/AIDS Control

Table No. 21.6 : HIV/AIDS Control Programme Report (F.Y. 2025-26)

HIV testing at Integrated Counseling and Testing Centers in Mumabi	**Tested**	**Positive**	
General Clients	555069	2639	
Pregnant Women	170209	63	
Treatment for HIV positive patients at ART Centers in Mumbai	**Adult**	**Children**	**Total**
Number of HIV Positive patients registered in active care	40744	1430	42174
Number of HIV Positive patients on Anti-Retroviral Treatment (ART)	40742	1430	42172

Due to the comprehensive and sustained efforts made towards the implementation of the National AIDS Control Programme in the city, a significant decline in the prevalence of HIV infection among the general population in Mumbai has also been observed, from 5.4% in 2011 to 0.48% in 2026**.** Similarly, the prevalence of HIV infection among pregnant women has declined from 0.36% in 2011 to 0.04% in 2026.

Epidemic Control Cell

The Epidemic Control Cell was established under the Public Health Department with effect from 25 April 2007. The Epidemic Control Cell has been planned and equipped to monitor and control communicable diseases such as Dengue, Leptospirosis, Malaria, Gastroenteritis, Hepatitis, H1N1 (Swine Flu)**,** etc. In addition to other diseases, the Cell also undertakes the collection of patient-related information and analysis of reports for monitoring and controlling COVID-19.

Office Address:

Epidemic Control Cell, Kasturba Hospital, Ward No. 38, 1st Floor, Sane Guruji Marg, Saat Rasta, Mumbai – 400012.

Major Functions of the Epidemic Control Cell

- Every year during the monsoon season, a Control Room is activated at the Epidemic Control Cell. Daily information regarding epidemic cases is collected from Brihanmumbai Municipal Corporation (BMC), Government and private hospitals. The information received is compiled and the details of epidemic cases are communicated to the Medical Health Officers (Wards) for taking necessary measures for the prevention and control of communicable diseases. The above information is also collected throughout the year, including periods outside the monsoon season. The information is analysed and necessary preventive and control measures are undertaken accordingly. During the monsoon season, all reports received are compiled and a daily report is submitted to senior officers. The reports are also forwarded to the Directorate of Health Services, Maharashtra.
- As per the guidelines of the National Vector Borne Disease Prevention and Control Programme, information regarding cases of Malaria and Dengue is communicated to the Insect Control Department of the Public Health Department for prevention and control of these diseases. Through this mechanism, basic mosquito control measures and related services are undertaken.
- For regular water quality testing, drinking water samples are collected and tested at the Municipal Laboratory. If any sample is found to be unfit for consumption, necessary remedial measures are undertaken in coordination with the Hydraulic Engineering Department. In addition, water samples from hawkers and ice-water samples from roadside vending establishments and ice manufacturing units are also tested for quality.
- To implement preventive and curative measures for Leptospirosis**,** a Joint Action Plan for Leptospirosis has been prepared through the coordinated efforts of the Municipal Solid Waste Management Department, Insecticide Department, Hydraulic Engineer's Department and Veterinary Department. Accordingly, regular inspections of all cattle sheds, animal shelters and stables are carried out.
- Immediately after heavy rainfall, door-to-door surveys are conducted and medicines for prevention of Leptospirosis are distributed to high-risk individuals based on their respective risk categories.
- In the event of an outbreak of any epidemic disease, the Rapid Response Team (RRT) attached to the Epidemic Control Cell, in coordination with the staff of the local health centre, undertakes necessary disease-control measures at the community level.

Drug De-addiction Centre

The Brihanmumbai Municipal Corporation's Drug De-addiction Centre**,** having a capacity of 20 beds, has been functioning under the Public Health Department since 1992 at the Bhardawadi Maternity Home Building, Bhardawadi, Andheri (West), Mumbai – 400058.

The centre provides detoxification treatment for various forms of substance dependence, including alcohol, opium, charas, ganja, sleeping pills, inhalants, MD, amphetamine, tobacco and other addictive substances. The following services are available at the centre:

1. Inpatient Department

Only male patients above 18 years of age are admitted to the centre for detoxification treatment for various forms of substance dependence.

2. Outpatient Department

Patients suffering from various forms of substance dependence are treated regularly in the Outpatient Department from 9:00 a.m. to 12:00 noon, excluding Sundays and public holidays. Opioid Substitution Therapy (OST) is provided free of cost to patients dependent on brown sugar.

3. Counselling

Counselling is provided periodically to patients attending the Outpatient Department as well as those admitted to the Inpatient Department. Counselling is also provided to their family members.

4. Blood Tests

Before admission to the Inpatient Department, various blood tests are provided free of cost to all patients under the Municipal Corporation's Aapla Dawakhana Scheme**.**

5. Spiritual and Support Group Meetings

Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) meetings are conducted for patients admitted to the Inpatient Department. Family members of patients are also guided and encouraged to participate in Family Anonymous (FA) and Al-Anon meetings.

Malaria Elimination – Mumbai

The malaria elimination activities in Mumbai are carried out by the Surveillance Department under the guidance of the Assistant Health Officer (Surveillance).

Five-Point Programme of the Surveillance Department:

1. Immediate and accurate diagnosis of malaria patients and reporting within 24 hours.
2. Complete and radical treatment of all malaria-positive patients.
3. Capacity building of all staff as per the guidelines of the National Vector Borne Disease Control Programme (NVBDCP).
4. Joint action by Medical Health Officers and Insecticide Officers.
5. Public awareness and health education.

At locations where malaria cases are detected, surveillance is undertaken at the departmental level through FOCI. Information regarding the patient is also communicated to the Insect Control Officer for taking necessary mosquito-control measures.

During the pre-monsoon and monsoon periods, extensive inspections are carried out at construction sites. Mosquito nets are distributed and new workers are screened through the Development Department. The Insect Control Department undertakes insecticide spraying,

including Indoor Residual Spraying (IRS). Special campaigns are conducted for construction workers as well as vulnerable populations in the wards.

Methodology for Malaria Elimination

Preparation of micro-plans and mapping for FOCI, with a focus on identifying malaria-positive patients among fever cases.

- 1-3-7 Strategic Approach.
- 3T Approach – Testing, Treating and Tracking.
- Effective mosquito control measures.
- Coordination with various departments within the Municipal Corporation as well as external agencies/departments.
- Public awareness and training.

School Health Department

The School Health Department conducts annual medical examinations of all students from Std. I to Std. X studying in Brihanmumbai Municipal Corporation schools. Medical teams visit the schools systematically to conduct these examinations. Each medical team consists of one Medical Officer, one Junior Health Educator and one Peon**.** During these medical examinations, students identified with congenital anomalies, illnesses, diseases caused by vitamin deficiencies, growth-related problems and other health conditions are referred to BMC dispensaries, Aapla Dawakhana facilities and hospitals for further examination and treatment. Follow-up is undertaken regarding the treatment and surgeries required by these students.

The School Health Department has established 10 School Clinics, which are operational within BMC hospitals. Students referred to hospitals during medical examinations for further investigations and treatment are provided treatment through the School Clinic staff using vehicle services. These treatments are provided free of cost to the children.

During the year 2025–26, from April 2025 to March 2026, a total of 253,767 students underwent medical examination.

Health-related information was provided to school students, teachers and parents through Parent–Teacher Meetings.

The School Health Department of the Brihanmumbai Municipal Corporation (BMC) organizes the Healthy Child Competition every year in BMC primary schools and schools for children with intellectual disabilities. The competition is organized with the objective of developing a positive attitude towards health among students, parents and teachers.

For the year 2025–26, the competition was organized from 2nd to 6th February 2026**.** For primary school students, the following parameters were considered for the competition:

- Personal hygiene
- Cleanliness and neatness of clothes
- Entries in the health record
- Attendance and response of parents

- Student's knowledge regarding cleanliness and hygiene
- Immunization status
- Medical examination report of the student at the time of the competition

For students from schools for children with intellectual disabilities, the above parameters, along with their personal development, were assessed.

For the competition, two students from each Class II division of primary schools were selected. Similarly, two students each from the mild, moderate and severe intellectual disability groups in schools for children with intellectual disabilities were selected for the competition. The winning students, along with their mothers and teachers, were felicitated with prizes and certificates of appreciation. A total of 1,831 children participated in the competition, of whom 198 children were awarded prizes.

In coordination with the School Health Department and Non-Governmental Organizations (NGOs), students identified with visual defects during medical examinations are referred for further examination and provided with spectacles. This helps in correcting visual defects among students. During the year, 4,678 spectacles were distributed to BMC school students**.**

Since employees of the Water Supply Department of the Brihanmumbai Municipal Corporation are posted at Dhamangaon, Tansa and Modak Sagar, BMC has established schools at these locations for their children. During medical examinations conducted by the BMC School Health Department in these schools, students found to have minor illnesses were referred to the nearest BMC dispensaries for treatment. Students suspected of having other illnesses were referred to BMC hospitals for further investigation and treatment.

On 21st June 2025**,** International Yoga Day was celebrated in all BMC schools. On the occasion, students were provided with information regarding yoga asanas, physical exercise, balanced diet and maintenance of mental well-being, thereby creating awareness among them about the importance of a healthy lifestyle.

The School Health Department receives financial assistance from the Education Department. For the financial year 2025–26, a total grant of ₹900,000 was sanctioned. Out of this, ₹388,014.43 (43.11%) was utilized for the procurement of spectacles, medical kit supplies, prizes for the Healthy Child Competition, and other related activities.

National Child Health Programme (RBSK) Report 2025–26

- The National Child Health Programme (Rashtriya Bal Swasthya Karyakram – RBSK) has been implemented in the Brihanmumbai Municipal Corporation (BMC) since 2017. Under the programme, 55 medical teams are functioning across Mumbai District. Each team comprises one male Medical Officer, one female Medical Officer, one Pharmacist, and one Auxiliary Nurse Midwife (ANM).

- Under this programme, medical teams conduct health screening of children aged 0–6 years enrolled in Anganwadis and Balwadis twice a year, and health screening of children aged 6–18 years studying in aided schools once a year.
- During health screening under the National Child Health Programme, children are screened for the 4Ds, namely: Birth Defects**,** Diseases, and Deficiencies (primarily due to nutritional and vitamin deficiencies) and Developmental Delays and Disabilities. Early identification of these conditions enables timely referral for appropriate medical treatment and intervention.
- Children identified with health problems during screening in Anganwadis, Balwadis, and aided schools are referred to Brihanmumbai Municipal Corporation dispensaries, Aapla Dawakhana clinics, and hospitals for further evaluation, medical care, and surgical treatment, wherever required. RBSK teams also provide counselling to parents and ensure regular follow-up until the child has fully recovered.
- Under the National Child Health Programme, 104 identified surgical procedures are performed in Brihanmumbai Municipal Corporation hospitals. In addition, the Government of Maharashtra has entered into Memoranda of Understanding (MoUs) with selected private hospitals in Mumbai, where these surgeries are also carried out under the RBSK programme.
- The RBSK 2.0 Portal, developed by the Government of Maharashtra, is being implemented in Mumbai District. Through this portal, digital records of all children enrolled in Anganwadis, Municipal Balwadis, and Municipal Schools across Mumbai District will be maintained.

Epidemic Control Cell

The Epidemic Control Cell has been functioning under the Public Health Department since 25 April 2007. The functioning of the Epidemic Control Cell has been planned with all necessary facilities to control communicable diseases such as Dengue, Leptospirosis, Malaria, Gastroenteritis, Jaundice, H1N1 (Swine Flu), etc. In addition to other communicable diseases, the Epidemic Control Cell also undertakes collection of patient-related information, analysis of data, and preparation of various reports for controlling COVID-19.

Family Welfare and Maternal & Child Care

The Family Welfare Programme has been implemented in the Municipal Corporation of Greater Mumbai since 1964. The primary objectives of the Family Welfare Programme are to create awareness among eligible couples about the importance of a small family, reduce the birth rate, and maintain population control. Under the Family Welfare and Maternal & Child Care Programme, various national health programmes related to maternal and child health are implemented. These include the Reproductive and Child Health Project, Family Welfare Programme, Janani Suraksha Yojana, Janani Shishu Suraksha Karyakram, Pradhan Mantri Surakshit Matritva Abhiyan, Pradhan Mantri Matru Vandana Yojana, Expanded Immunization Programme, Vitamin ‘A’ supplementation and deworming campaign, Rashtriya Kishor Swasthya Karyakram, and National Urban Health Mission. Efforts are also undertaken to improve the quality

of health services provided to mothers and children and thereby reduce the maternal mortality rate and infant/child mortality rate. Through these initiatives, necessary health services are made available to improve the overall health status of the citizens of Mumbai.

The various Family Welfare and Maternal & Child Care Programmes mentioned above are implemented through the departments indicated below.

Bureau Offices	3
Health Centres	212
Medical Colleges and Hospitals	4
Specialty Hospitals	5
Suburban Hospitals	16
Maternity Homes	26
Mother and Child Hospitals	1

To provide primary healthcare services to the citizens of Mumbai at a location close to their place of residence, the Public Health Department of the Brihanmumbai Municipal Corporation (BMC) has established and made operational a total of 212 Health Centres at present. In addition, 36 new Health Centres have been started under the National Urban Health Mission (NUHM). Each Health Centre provides comprehensive primary healthcare services to an estimated population of 50,000–60,000 through 1 Assistant Medical Officer, 1 Public Health Nurse, 4 Auxiliary Nurse Midwives (ANMs), 2 Coordinators, and 20 Health Volunteers/ASHA workers.

- Through these Health Centres, various national health programmes are implemented, including complete immunization of children from 0 to 5 years of age; Pulse Polio campaigns; Vitamin A supplementation and deworming campaigns for children from 9 months to 6 years of age; healthcare services for adolescent boys and girls; antenatal check-ups of pregnant women and counselling to encourage institutional deliveries; postnatal visits to mothers and newborns; distribution of contraceptive methods to eligible couples; counselling and motivation of couples who have completed their families to undergo family planning surgeries; collection of detailed information regarding various health and family-related matters; maintenance of records; and regular updating of data.
- The “Maa-Mitra Helpdesk” initiative is being implemented in 38 health facilities under the Public Health Department of the Brihanmumbai Municipal Corporation, comprising 4 Medical Colleges, 7 Suburban Hospitals, and 25 Maternity Homes**.** Under this initiative**,** all pregnant women are provided counselling through voice calls and SMS.
- With the objective of increasing health awareness regarding anaemia among women of all age groups, particularly in Mumbai**,** the Public Health Department is launching the “Anaemia-Free Mumbai – Lal Rang Kamal Rang” campaign. A video featuring renowned actress Soha Ali Khan

has been prepared for creating awareness about anaemia and is being disseminated through various media platforms.

- Yuva Swasthya Sparsh Kendras (Adolescent Health Centres): A total of 34 Health Centres will be made operational for adolescent boys and girls in the 10–19 years age group. These centres will provide safe, confidential and comprehensive healthcare services, promote physical and mental health, and offer health education, guidance and counselling. In collaboration with the Mumbai District AIDS Control Society (MDACS), activities related to HIV prevention and awareness will also be undertaken. Under the National Adolescent Health Programme, clinics will be conducted by trained Medical Officers during the afternoon session on the second and fourth Saturdays of every month.

Environmental Pollution Research Center (EPRC): Seth G.S. Medical College & King Edward Memorial Hospital

Environmental Pollution Research Centre established the theme for World Environment Day 2026 focuses on a call for urgent climate action for a sustainable, resilient & cleaner future. Climate resilience is defined as the capacity to adopt & recover from climate-related events and requires cooperation and collaboration between the health sector and civil society.

The Environmental Pollution Research Centre (EPRC), a health survey unit focusing on LUNG HEALTH at the Department of Pulmonary Medicine at KEM Hospital has been carrying out community-based respiratory morbidity surveys, related to various issues reported by citizens & the health sector for the past 5 decades. The unit has identified the recent shift in challenges relating to environmental health, including the importance of indoor environment and has updated the methodology to include indoor air quality monitoring to cater to the changing dynamics of the megacity.

Human lungs, though located internally, are constantly exposed to the external environment. Lungs have a large surface area of 100 m^2, equivalent to approximately half a tennis court. The entire area is available for the particulates to penetrate- initiating airway, inertial & alveolar disorders. An average Mumbai citizen can spend up to 22 hours indoors in the workplace or home environment. Therefore, indoor air quality becomes vital as a determinant of respiratory morbidity. The respiratory morbidity surveys employ a community-based dynamics approach to estimating respiratory morbidity and identifying risk factors to enable informed decision making for policy and prevention. The findings of the surveys highlight the interplay between urbanization, climate change including unpredictable and heavy rainfall and temperature extremes and associated non-communicable disorder burden related to the ever-dynamic respiratory system.

Respiratory morbidity survey in four areas of Mumbai

Measuring respiratory morbidity enables us to estimate the disease burden of chronic respiratory symptoms in the general population and to determine the factors associated with the presence of these symptoms. These surveys allow us to gain information about the symptomatic subjects in the community- the metaphoric 'iceberg'- who have not yet reached the hospitals as 'patients'- the 'tip'. Questionnaire based studies for assessing respiratory morbidity were conducted in four areas. Of the four areas, two areas were within 1-kilometre radius of air quality monitoring stations- Sion and Kurla. Indoor air quality monitoring with portable air quality detector was also undertaken for CO2, HCHO & TVOC with temperature & humidity parameters. 465 subjects filled the questionnaire in total- 130 in Abhang CHS area in Parel, 70 in Kurla, 85 in Parel and 180 in Sion (Table 1).

The subjects in Kurla were younger and had more symptoms of cough and breathlessness. The houses were also located on higher floors in this area with no house located on the ground floor. Despite having a younger subject cohort, the symptoms were greater in Kurla. The AQI in Kurla was marginally higher than at Sion.

We analysed the indoor air quality monitoring data with respect to floor rise. The indoor pollutants, humidity and temperature uniformly dropped with floor rise (Table2 and Figure 1). This is consistent with other studies. However, subjects living on the floors higher than the ground floor were more symptomatic for breathlessness and choking sensation. The cause of this finding shall have to be investigated further.

Table 21.7: Baseline characteristics of participants in the respiratory disease survey

	All (n=465)	Abhang CHS (n=130)	Kurla (n= 70)	Parel (n=85)	Sion (n=180)	P value
Age (years)	46.5±18.9	43.8±19.19	41.6±14.5	48.7±18.9	49.3±19.8	0.006
Female (%)	253 (54.4)	72 (55.3)	33 (47.1)	45 (52.9)	103 (57.2)	0.53
Total housing area (sq. ft.)	248.2±117.5	160	266.9±17.8	339.1±229.9	261.8±30.6	<0.001
No. of family members in house	4.2±1.8	4.4±1.7	4.5±1.8	3.4±1.1	4.4±2.1	<0.001
Per capita housing area (m^2)£	53.8 (48.3)	40 (21.3)	67.25 (44.8)	112.5 (87.5)	62.5 (43.8)	0¥

Ground floor residence (%)	122 (26.2)	41 (31.5)	0	6 (7.06)	75 (41.7)	<0.01€
Respiratory symptoms (%)						
Cough (%)	28 (6.02)	7 (5.4)	8 (11.4)	7 (8.2)	6 (3.3)	0.08
Breathlessness (%)	35 (7.5)	7 (5.4)	12 (17.1)	11 (12.9)	5 (2.8)	<0.01
Choking sensation (%)	12 (2.6)	3 (2.3)	8 (11.4)	1 (1.2)	0	<0.01€
Rhinitis (%)	28 (6.02)	6 (4.6)	7 (10)	13 (15.3)	2 (1.1)	<0.01
Eye irritation (%)	15 (3.2)	3(2.3)	1 (1.4)	10 (11.8)	1 (0.6)	<0.01€

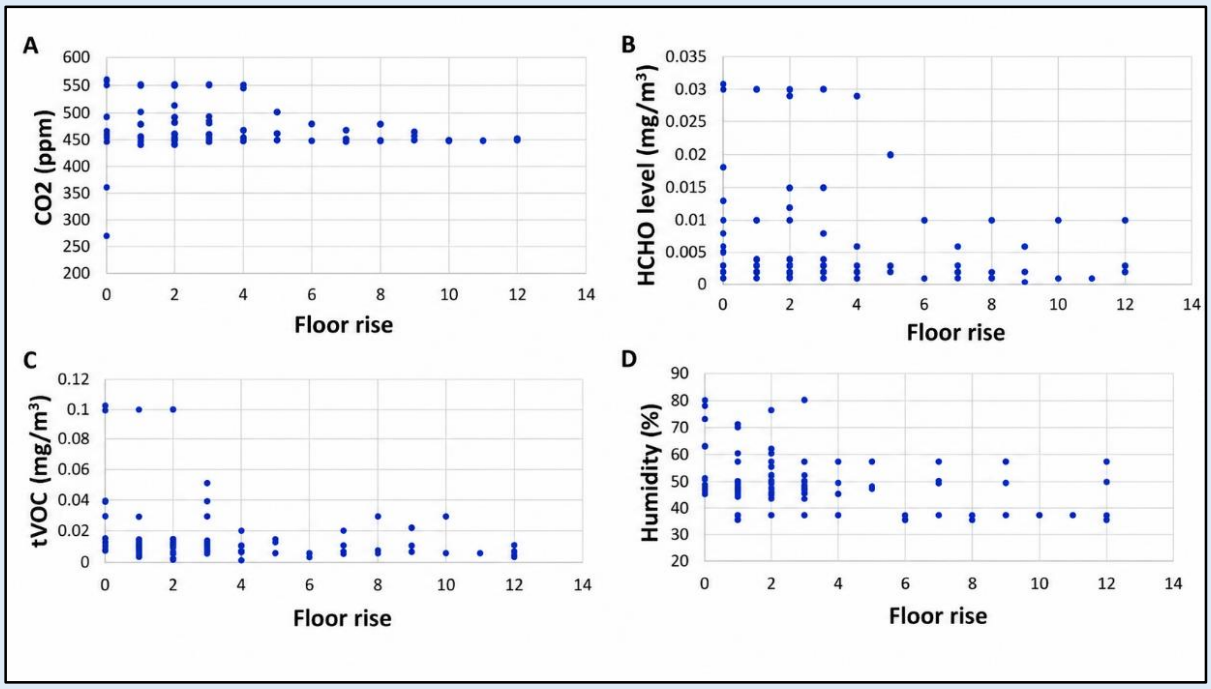
All values presented as mean±SD.
£ Median (IQR) values reported
¥ p<0.05, Kruskal Wallis test
€ p<0.05, Fisher's exact test

Table No. 21.8 : indoor air quality monitoring as a part of the survey in homes of 247 subjects

	Ground floor	Floors 1-3	Floors >3	P value
CO2 (ppm)	491.6±57.7	468.6±36.1	461.19±28.9	<0.01
HCHO (mg/m^3)	0.01±0.01	0.006±0.008	0.005±0.007	<0.01
tVOC (mg/m^3)	0.034±0.036	0.0197±0.027	0.009±0.007	<0.01
Temperature (^{o}C)	31.96±2.02	31.12±2.3	29.7±2.17	<0.01
Humidity (%)	50.57±8.67	48.7±9.88	43±7.58	<0.01

All values presented as mean±SD

Figure 1: Scatter plots depicting correlation of indoor air pollutants with floor rise



Study of PRISm: Lung Health initiative

We aimed to identify abnormalities in lung functions early, before subjects progressed to chronic obstructive pulmonary disease (COPD) - a leading cause of respiratory morbidity and mortality. Therefore, we determined the proportion of subjects with PRISm- Preserved Ratio with impaired spirometry in the population surveyed from Mumbai city by EPRC Team.

Preserved ratio impaired spirometry (PRISm) is defined by a forced expiratory volume in 1 second (FEV1) < 80% of the predicted value, while maintaining a normal FEV1/forced vital capacity (FVC) ratio (≥0.70). Though PRISm does not meet the standard diagnostic criteria for Chronic Obstructive Pulmonary Disease (COPD), it is increasingly recognized as a significant clinical entity often termed "pre-COPD". While PRISm is a highly dynamic and heterogeneous state, approximately 20% to 32.6% of individuals with PRISm progress to COPD within 4 to 5 years. Despite the absence of formal airflow obstruction, these patients may suffer from a symptom burden including dyspnea, chronic cough, and reduced exercise tolerance—that is often comparable to those with moderate COPD. Furthermore, PRISm is associated with increased risks of all-cause and cardiovascular mortality, alongside systemic comorbidities such as obesity, hypertension, and type 2 diabetes. Management currently focuses on monitoring and addressing modifiable risk factors like smoking cessation, as no standardized treatment guidelines currently exist for this specific phenotype.

We studied the pooled data of normal subjects who had performed spirometry (pulmonary function test) as a part of the health surveys conducted by Environmental Pollution Research Centre. These studies based in the community includes volunteers who wish to participate in the survey. The survey is conducted in the community and therefore, does not always include patients who have come to the hospital with respiratory disorders. In community-based surveys, history of respiratory symptoms is included as a part of the questionnaire. Pulmonary function tests are used for objective measurement of the subjects' lung functions.

We analyzed spirometry tests of total 993 subjects. 65 (6.5%) subjects had airflow limitation (FEV1/FVC <0.70). 162 (16.3%) subjects fit the definition of PRISm. 631 (63.5%) subjects had normal spirometry. In this study, we did not find a difference between the proportion of subjects with respiratory symptoms, body mass index (BMI), age or history of smoking on comparing the two groups (Table 3).

This finding further strengthens the need for objective evaluation of respiratory morbidity in the community using pulmonary function tests. The unit plans on a two-pronged strategy to address this finding. We aim to expand objective pulmonary function testing in the community and to conduct research on appropriate management strategies for preventing the progression of this condition to COPD. This study also provides us an opportunity to conduct health education for promotion of lung health targeted towards the PRISm group.

Table No. 21.9: Comparison between subjects with PRISm and normal subjects

	PRISm (n= 162)	Normal (n=631)	P value
Age (years)	44.57±18.07	42.01±15.19	0.066
Female (%)	74 (45.67)	238 (37.7)	0.0643
Smoking (%)	14 (8.6)	72 (11.4)	0.31
BMI (kg/m^2)	24.57±5.54	25.66±10.20	0.19
Respiratory symptoms (%)			
Cough (%)	34 (20.99)	107 (16.95)	0.23
Breathlessness (%)	34 (20.99)	516 (81.7)	0.42

All values presented as mean±SD.

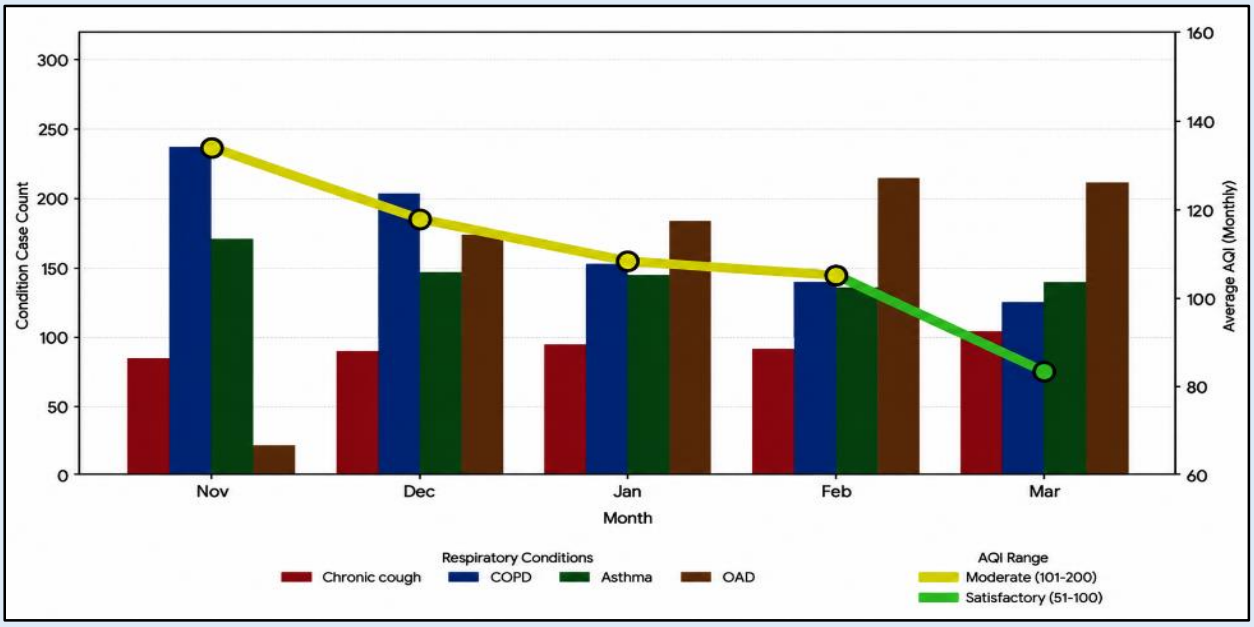
Health Management Information System (HMIS)

Health Management Information System (HMIS) was deployed at KEM Hospital from November 2026. The Department of Pulmonary Medicine at the hospital runs an outpatient department catering to patients with respiratory disorders. We analysed the data from our outpatient clinics and compared it with the air quality index (AQI). Data from the line listing clearly

demonstrates a fall in the cases of chronic obstructive pulmonary disease (COPD) requiring medical care with improving air quality (graph No 21.1).

The use of HMIS allows us to gather data easily. The unit plans to use this data for creating a real-time dashboard and prediction models in the future that can alert us regarding periods of increased respiratory disease burden along with an opportunity to initiate mitigation measures.

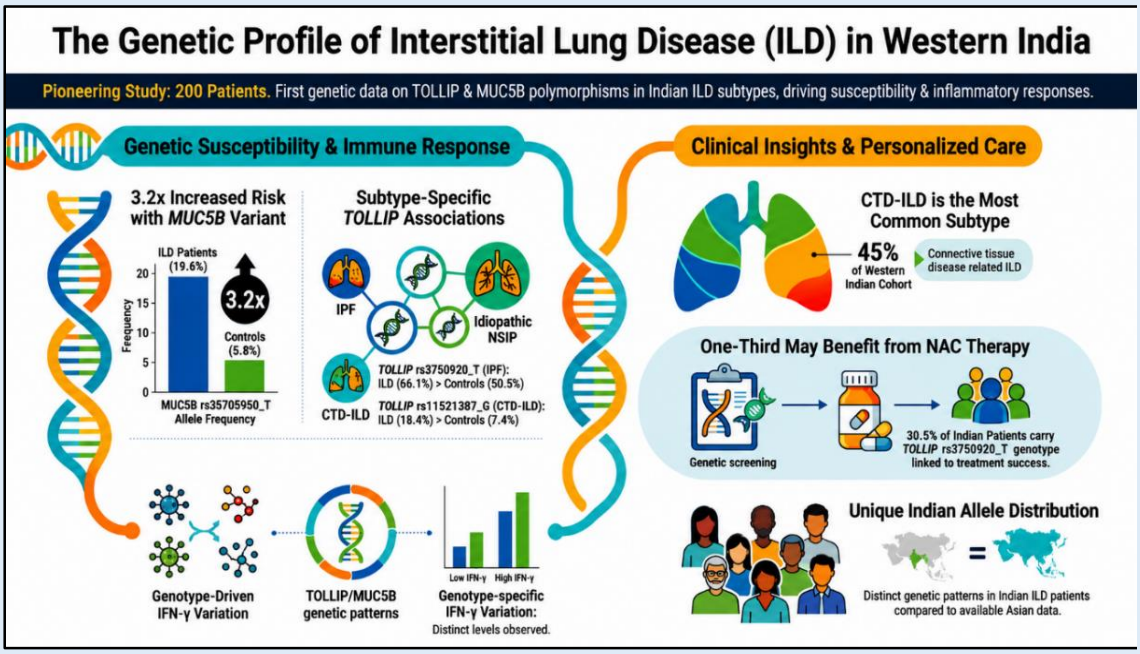
Graph No. 21.1: Respiratory conditions requiring outpatient care versus AQI - data availablity eased due to HMIS. Improvement of AQI shows association with falling number of cases of COPD



Marching towards precision medicine in chronic respiratory disease

The department undertook a study of diagnostic and prognostic markers in interstitial lung disease with Department of Clinical and Experimental Immunology, Indian Council of Medical Research, National Institute of Immunohaematology, Mumbai, India. This project was funded by 'Rajiv Gandhi Science and Technology Commission (RGSTC)' from Mumbai, Maharashtra, India. Genotypes of patients were studied in the study along with serum biomarkers. A summary of the study is shown in figure 2.

Figure 2: Foray by the department into precision medicine for chronic respiratory disease (interstitial lung disease) divulging differences in the population from Western India compared to other Asian cohorts



Interstitial lung disease is a heterogenous group of disorders linked by their common symptomatology and disability burden. Understanding the gene-environmental interplay in interstitial lung diseases establishes causal links.

Asthma Education service- achieving a reduction in hospital admissions due to asthma exacerbations by 33% over a decade

Asthma education is an essential component in asthma management. It is necessary that patients suffering from asthma understand the nature of the disease, how to assess its control, and the basic principles of treatment. Trigger factors leading to exacerbations have to be identified and control measures need be adopted at home and at the workplace. Under the ambit of the Asthma Education programme by EPRC, patients are taught the technique of using inhaled medication, identifying trigger factors responsible for exacerbations of asthma and appropriate mitigation measures like wet mopping instead of dry dusting, identification of fungal infestation over indoor walls and roofs and prevention from exposure to triggers. In the year 2025-26, 808 patients were imparted asthma education. It was observed that over a decade, the number of indoor admissions due to asthma have declined by 33%.

IEC activities by EPRC

Educational talks are conducted by faculty from the Pulmonary Medicine department all throughout the year. In the year 2025-26, four educational lectures on environment and lung health were conducted.

Mitigation measures for indoor air quality

Understanding of home and work place environment- related indoor air contaminants is of great value. Poor quality polishes and paints and dust gathering tapestry and dusty toys need to be taken into consideration for control of dust mites. Control strategies include the following:

- **Removal/ control of source:** Source control is considered the most cost-effective strategy and is useful for control of COPD, asthma exacerbations.
- **Appropriate mold control, cleaning measures**: Controlling humidity prevents mold growth and wet walls need definitive corrective measures.
- **Ventilation: Improving** air distribution and using effective local exhaust at the location of the source is useful.
- **Personal protective gear:** (use of respirator/ mask) at the workplace can control the exposure especially for people working in dusty environments.

Figure 3: Asthma education services by EPRC. Community development officer (CDO) imparting health education [A]; simple preventive measures [B]; education regarding identifying molds [C]; practical tips for mold control [D]. - From April 2025 to March 2026

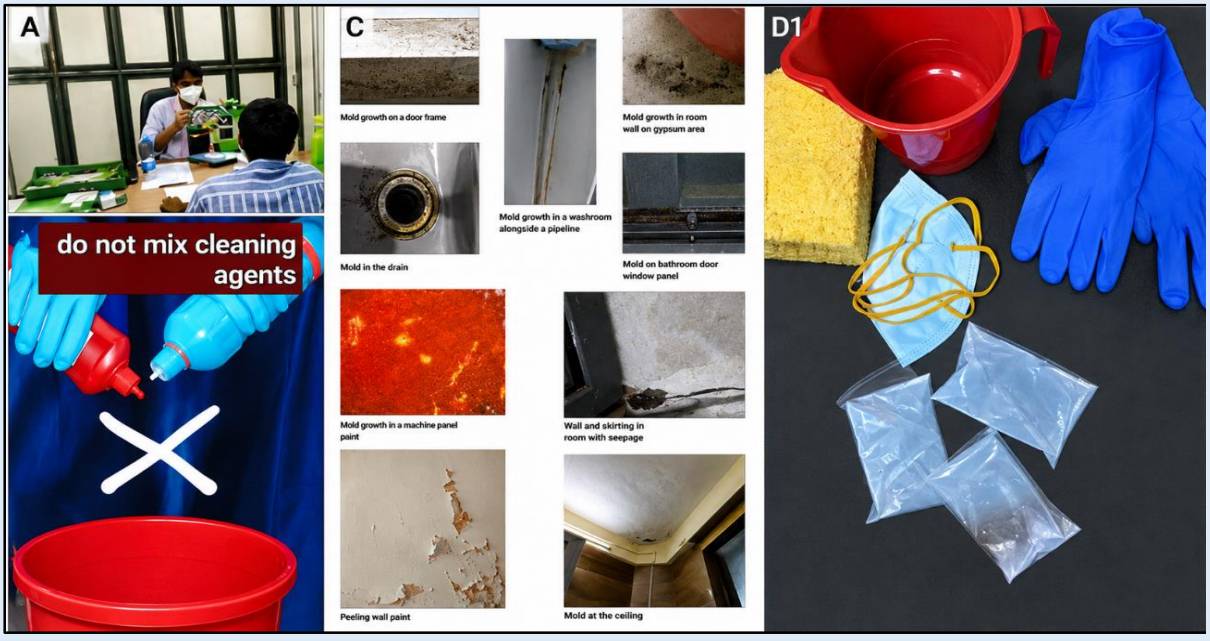


Table No. 21.10 : Details of survey conducted by EPRC in the past year			
Sr.No.	**Date**	**Area**	**Total**
1.	27.03.2026 TO TILL DATE	ABHANG BUILDING, PAREL VILLAGE, PAREL MEDICAL CAMP - 46 CENSUS - 35 QUESTIONNAIRE - 130	211
2.	07.03.2026 and 13.03.2026	RAKHANGI MAHAL CHS PAREL CENSUS - 87 QUESTIONNAIRE - 85	172
3.	28.01.2026 to 06.02.2026	SRA, HDIL COMPOUND, KURLA WEST MEDICAL CAMP -70 CENSUS - 183 QUESTIONNAIRE -70	323
4.	07.10.2025 to 19.10.2025	BMC COLONY AGARWADA, SION EAST MEDICAL CAMP - 180 CENSUS - 214 QUESTIONNAIRE – 180	574
5.	17.09.2025 to 02.10.2025	SWASTH NARI SASHKT PARIVAR ABHIYAN QUESTIONNAIRE - 49	49
6.	01.04.2025 to 31.03.2026	Asthma Education & Counselling	808
		Total	**2137**

Pulmonary Function Tests

Table No. 21.11: Workload of pulmonary function testing (PFT) laboratory from April 2024 to March 2025	
Test	**Number of patients**
Spirometry	2413
DLCO	237
RV/TLC	391
FOT	26
MEP/MIP	2
EBC	78
Total	**3147**

Arterial Blood Gas Laboratory

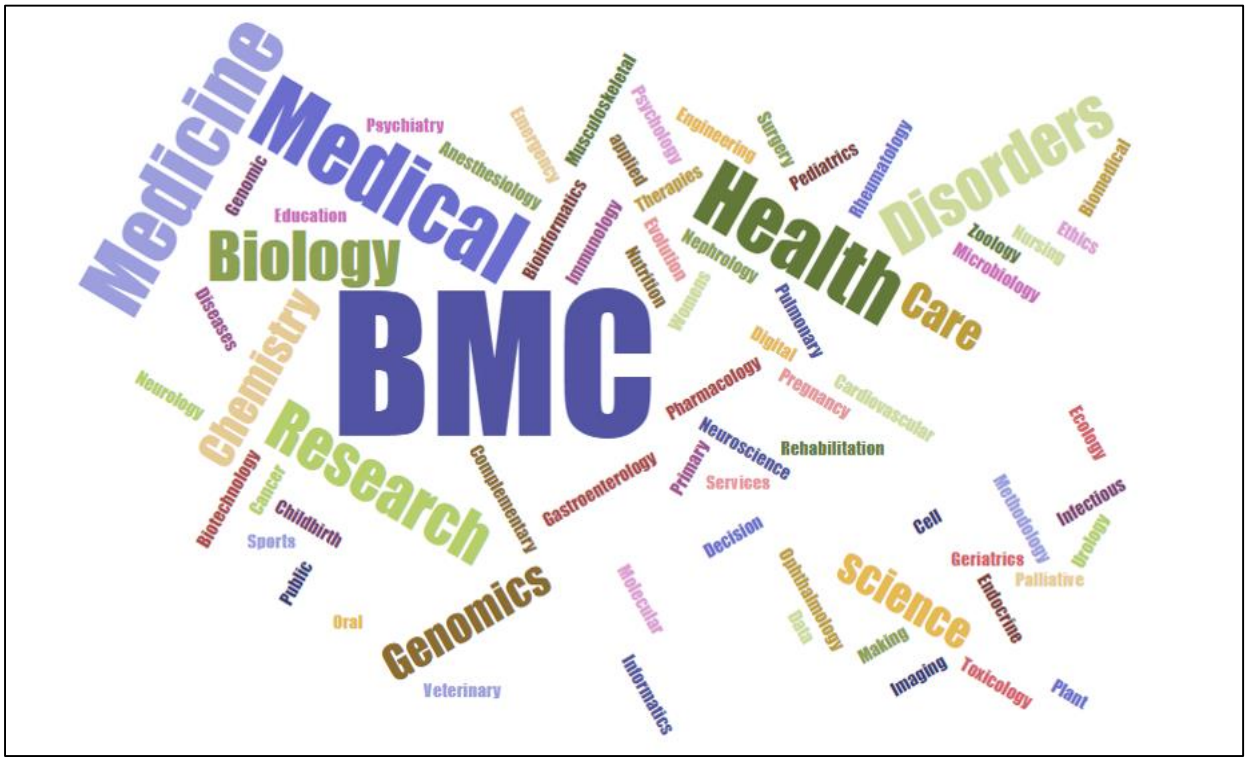
Table No. 21.12 : Arterial blood gas laboratory (ABG) workload from April 2025 to March 2026				
Month	**ABG**	**Electrolytes**	**COOX**	**Metabolites**
April	5096	906	906	906
May	6923	926	926	926
JUNE	8668	874	874	874
July	9373	970	970	970
August	9441	909	909	909
September	8922	923	923	923
October	8884	1116	1116	1116
November	8278	978	978	978
December	7768	1069	1069	1069
January	7928	900	900	900
February	6271	736	736	736
March	6122	793	793	793
Total Number of Arterial Blood Gas Analysis	93674	11100	11100	11100
Total	**126974**			

On 20th December, 2025, 2024, 4th Dr. S.R. Kamat Oration was delivered by Prof. Dr. S. K. Jindal on 'Environmental COPD' at Seth G.S. Medical College & K.E.M. Hospital at Main Lecture Theatre, organized by Department of Pulmonary Medicine & Environmental Pollution Research Centre and Staff Society. Feedback received regarding academic content is excellent. On the occasion of Bioethics Day, on 03.10.2025 a talk was delivered by Dr Amita Athavale, Professor and Head, Department of Pulmonary Medicine and EPRC, on 'Protection of the environment, the biosphere and biodiversity- Asserting the connection between human wellbeing and healthy environment'. The Dr M V Sant Oration was delivered by Dr Amita Athavale on 01.11.2025 at the All India Institute of Physical Medicine and Rehabilitation.

On 16.02.2026, Dr Amita Athavale participated as faculty in Mumbai Climate Week- Healthy Air Zones for Local Communities.

Lungs have a unique physiology- they act as the 'interface'- constantly exposed to the outdoors and yet are 'processors'- processing 10,000 liters of air every day while continuously

working and eternally interacting with environmental elements. We are rapidly moving from the concept of 'illness management' to 'wellness achievement'. Therefore, 'lung health' is not just a concept; it is a vision- a vision that envisages incorporation of 'healthy environments' in order to achieve wellness and one that we shall continue to pursue relentlessly.



22 DISASTER MANAGEMENT

Disaster Management and Central Complaint Registration Department:

The Disaster Management Department (DMD) was set up in 1999 at the Municipal Head Office managed disaster in Mumbai. Department is upgraded with modern equipments situated on second floor in Brihanmumbai Municipal Corporation Head Office.

District Disaster Management Authority:

The No.DMU-2017/C.R.No.344 (A)/DMU-1. - By sub-sections (1), (2) and (4) of section 25 of the Disaster Management Act, 2005 (53 of 2005) and Maharashtra District Disaster Management (Constitution of District Disaster Management Authority for the districts of Mumbai City and Mumbai Suburban) In exercise of the powers conferred by rule 3 of the Rules, 2018 and vide Government Notification Revenue and Forest Department No. DMU 2010/CR, The Government of Maharashtra 117/DM-1, the Government of Maharashtra has established the Brihanmumbai Disaster Management Authority for the districts of Mumbai City and Mumbai Suburban with effect from 6th June 2012.

Hon'ble Additional Municipal Commissioner (City) as the Chairperson of the District Disaster Management Authority for Mumbai City District and Hon'ble Additional Municipal Commissioner (Western Suburbs) (Senior Officer) has been appointed as the Chairman of the District Disaster Management Authority for Mumbai Suburban District.

Functions of Disaster Management Department:

1. Single –point source for all issues related to disaster management.
2. Hazard Vulnerability & Risk Assessment
3. Prevention & Preparedness
4. Coordinate with relevant agencies for reducing the severity of damage.
5. Response
6. Coordinate with relevant agencies for help and rehabilitation.
7. Command & Control agency between administration & field units.
8. Coordinate for early warning to citizens
9. Coordinate for arrangement of food and water during emergency situations.
10. Coordinate the transportation of stranded and injured people during disastrous situations.
11. Coordinate for the transportation of critically injured people on high priority.
12. Coordinate for setting up temporary shelters.
13. Coordinate with NGOs
14. Hazard Vulnerability and Risk Assessment
15. Prevention and Preparedness
16. Coordinate with relevant agencies for reducing the severity of damage.

Objectives of Disaster Management Department

1. Coordinate for rapid and effective response during any disaster.
2. Improve coordination among all the responding agencies.
3. To utilize social media through Public Relation Office for disseminating disaster related iformation among citizens.
4. To encourage preparedness on every level.
5. To encourage for helping disaster affected people.
6. Impart Training to the Citizens and stakeholders.

Emergency Operations Centre (EOC)

The Disaster Management Department works 365 days x 24 hours throughout the year. It serves as a Command and Control agency between the administration and field units. It is a single-point source for all issues related to disaster management. It coordinates with various stakeholders for quick and effective response during a disaster.

1. Direct telephone line facility.
2. '1916' helpline with 30 hunting lines is available for citizens to register complaints related to major / minor accidents, fire, earthquake, bomb blasts, etc.
3. Twenty-four administrative ward control rooms, a backup control room, 3 major and 2 peripheral hospitals, and 28 outside agencies are connected with 58 hotlines that provide regular updates about the situation in Mumbai City and suburbs.
4. For monitoring disaster management activities, a video wall measuring 6200 mm long and 1744 mm in height has been installed. The video wall receives feeds from more than 12,000 CCTV cameras installed by Mumbai Police.
5. DMR is an advanced communication system implemented by the DM department in January 2022. This system is installed in 24 ward control rooms, with 37 stakeholders and on vehicles of designated municipal officers. A total of 326 DMR sets have been installed. This system has advanced features like broadcast calls, emergency calls, pre-recorded messages, intelligent audio, Bluetooth/Wi-Fi, man down & lone worker alerts, secured encrypted voice communication, better spectrum efficiency, integrated voice & data (speech to text & text to speech), double capacity per frequency spectrum, longer battery life, facility for group calls, individual calls, enabling data applications viz. dispatcher, GPS location tracking, geo-fencing, data & voice logger, over-the-air programming, text messaging, etc.
6. In case of interruption in the communication system, HAM radio is used as an alternative communication system.
7. Television sets are tuned to major news channels to keep abreast of the latest news

The following types of complaints are registered in Disaster Management Department:

32 types of manmade and natural disasters are identified which are likely prone to Mumbai City and Suburbs which is categorized into 102 sub-major disasters like major/ minor accidents, landslides, felling of trees or unauthorized cutting of trees, water logging, house collapses, short circuits, floods, earthquakes, bomb explosions etc. On registration, these incidents are communicated to the concerned agencies for providing necessary assistance.

Automatic Weather Stations (AWS)

- 120 Automatic Weather Stations have been installed throughout Mumbai to get real time weather parameters.
- Weather Parameter data is refreshed after every 15 minutes.
- The data is monitored, analyzed and the warnings are issued accordingly.

Flow Level Sensors

- Flow Level Sensors are installed to monitor water level in rivers and lakes. It gives real time information in Disaster Control Room.
- This will help to initiate early evacuation action low lying areas in the vicinity. Flow Level Censors are installed at Dahisar, Poiser, Wakola, Mithi, Oshiwara rivers and Powai, Vihar Lake.

Disaster Management Website

The website 'dm.mcgm.gov.in' shows following information: High Tide-Low Tide time table, Weather forecast obtained from India Meteorological Department, Live weather parameters updated every 15 minutes, Traffic updates, Status of Local Trains, Status of Air Traffic etc.

Disaster Management Mobile App

Disaster Management Department, Brihanmumbai Municipal Corporation launched a new android phone application to aid in citizens response to disaster management and control. The app, Disaster Management Brihanmumbai Municipal Corporation, will provide real time information of whether parameters as well as help available at hand within a radius of 500 meters from the distressed person.

Though the application, on clicking on a landmark in the vicinity of the crisis, the app will automatically generate a list of police stations, hospitals, fire brigaded station and numbers of ward offices within a radius of 500 meters. The app will also allow the user to save emergency personal contacts in a separate list in the app and calls to numbers will be made through the app in the person chooses to notify the contacts of the disaster.

Emergency Support Functions (ESF)

- 14 Emergency Support Functions have been identified as an integral part to carry out emergency response activities, including preparedness, response during the event, and immediate recovery.

- In the events of major disaster or emergency where quick response is required, the lead agency will take action as per SOPs and work in coordination with the support agencies and other ESF's to mobilize and deploy resources to the affected area in Mumbai.
- In peace time, each ESF Plan and prepare for emergencies through review of the planning assumptions, drills, table top exercises and preparation and reviews of the Standard Operating Procedures.
- Preparedness and planning activities are essentials to ensure adequate response and to identify areas of actions that would ultimately reduce disaster risk.

GIS based Command and Control System

Disaster Management is shifting form reactive to proactive nature and approach. Therefore risk reduction before disaster is really very important aspect in modern days.

It has been also learned from the previous disasters that, prediction, early warning are also playing vital role in disaster management along with prevention, mitigation, preparedness, planning, relief and rehabilitation. GIS based technology provides best platform for development of such system. GIS has emerged as an effective tool in disaster management since GEO spatial data and socio economic information needs to be amalgamated for the decision making and in handling a disaster or to plan for tracking disasters in scientific manner.

Prime objective of developing GIS is to help DMD for:

1. Prediction and Early Warning
2. Risk reduction, planning and preparedness in pre-disaster phase
3. Decision Support System
4. Damage Assessment and Relief Management

GIS combines layer of information on various themes to enable DMD to take the most appropriate decisions under given circumstances.

1) DMD generate maps both at macro and micro level indicating vulnerability at different extends under different threats perception.
2) Locations likely to remain unaffected or remains comparatively safe could be identified.
3) Alternated routes to relief camps and important locations in the event of disruptions of normal surface communication could be worked out.
4) Smooth rescue and evacuations operation can be properly planned.

City Institute of Disaster Management and Research Centre (CIDM)

If main EOC at MHO is breaks down due to any reason, a backup control room has been setup at CIDM, Parel for continuous coordination. This backup control is equipped with Hotlines, Wireless communication, HAM Radio, Video Wall, ESF etc. similar to EOC at MHO. CIDM provides comprehensive training on disaster management and first responder to employee of Brihanmumbai Municipal Corporation/ Government/ Private companies, School and College students, Medical practitioners, Police etc to aware them about scientific methods of disaster management.

In case of any mishap happens at Brihanmumbai Municipal Corporation Head Office and Emergency Operations Center at 2nd Floor is not accessible or cannot be operated a backup control room has been setup at CIDM, Parel. This backup control is equipped with Hotlines, Wireless communication, HAM Radio, Video Wall, ESF etc. similar to EOC at MHO. CIDM provides comprehensive training on disaster management and first responder to employee of Brihanmumbai Municipal Corporation/ Government / Private companies, School and College students, Medical practitioners, Police etc to aware them about scientific methods of disaster management. 3D Auditorium and an Art gallery is developed to show realistic information about of various disasters. The major objective of these facilities is to make visitors aware of disaster and its preparedness. In this Art gallery has interactive dioramas, display, photographs and information boards for awareness generation of various disasters.

Post Graduate Diploma in Disaster, Fire and Industrial Safety Management (PGDDFISM)

Considering the importance of Disaster Management and ever increasing impacts of Disasters in future, CIDM has commenced a one year PGDDFISM course in coordination with GICED and Mumbai University. This course offers scientific learning of concepts of natural and manmade disaster and techniques of every stage in DM. The Primary aim of this course is to educate personal from Government agencies, industries regarding appropriate response to the impending disaster and reduce the impact on mortality and economy.

City Disaster Response Force (CDRF)

On the basis of National Disaster Response Force (NDRF) at National level and State Disaster Response Force (SDRF) at State level, a City Disaster Response Force (CDRF) is establish at City level for Mumbai. The objective of formulating CDRF for Mumbai is to develop self sustainability for responding disasters like major fire, collapse structure, Chemical-Biological-Radiological-Nuclear etc. The personnel appointed for CDRF are from existing Security Force, Mumbai Fire Brigade, Doctors and Paramedics of BrihanMumbai Municipal Corporation are trained by National Disaster Response Force (NDRF).

Central Complaint Registration System (CCRS)

On-line complaint management system (CPWM Module) has been started from year 2000 to register civic complaints. Central Complaint Registration System is working 24X7. Civic Complaints pertains to Brihanmumbai Municipal Corporation are registered on phone no.1916 in the central control room and sent to the concerned department through online system. Citizen can lodged their complaints on line on Brihanmumbai Municipal Corporation portal i.e. http://portal.mcgm.gov.in

Un-attempted complaints are automatically escalated to higher authorities such as Assistant Commissioner- Dy. Municipal Commissioner to Additional Municipal Commissioner and finally to Municipal Commissioner in a time bound manner.

DISASTER
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23 BRIHANMUMBAI MUNICIPAL CORPORATION PUBLIC RELATIONS DEPARTMENT

Brihanmumbai Municipal Corporation providing various essential civic services and amenities to the citizens of Mumbai, is also undertaking the development of necessary infrastructure with due consideration to future requirements. In this regard, the Public Relations Department has been consistently working towards effectively disseminating information about these services and projects to the public, while also strengthening the positive image of the Corporation among citizens.

Information pertaining to various initiatives, projects, programmes, events, and civic services undertaken by the Corporation is disseminated widely through multilingual newspapers, news channels, and social media platforms. For this purpose, multiple communication tools such as press releases, photographs, audio-visual films, interviews of senior officials, press conferences, print advertisements, radio messages, posters, and hoardings are effectively utilised.

The Public Relations Department has played a significant role in communicating environmental developments, the impact of climate change, information related to tides, rainfall patterns, as well as key environmental decisions and meetings to the public. During the year 2025–26, a total of 43 press releases related to environmental issues were issued. Notably, during the monsoon period, accurate and factual information regarding various incidents was effectively communicated to both the media and citizens. In addition, awareness initiatives were undertaken on subjects such as rainwater percolation and augmentation of groundwater levels.

The Public Relations Department ensured appropriate publicity for several initiatives undertaken by BMC, including ‘Sustainable Cities, Healthy Air Programme’, ‘Youth Engagement for Clean Air’, ‘Road Cleaning and Dust Control Drive’, ‘Tree Sanjeevani Campaign’, ‘Appointment of Flying Squads at Ward Level’, ‘Workshops on Air Pollution Control’, ‘Installation of Air Quality Monitoring Systems’, ‘Facilitation Camps for Environment-Friendly Transformation of Bakeries’, ‘Distribution of Eco-Friendly Colours to Idol Makers during Ganesh Festival’, ‘Eco-Friendly Holi and Rangpanchami’, and ‘Bamboo Plantation Initiative’. These innovative initiatives were also widely promoted through social media platforms to enhance public awareness.

Similarly, due publicity was given to various campaigns undertaken by the Horticulture Department for tree conservation, protection, and preservation. The environmental conservation efforts of the Municipal Corporation have received recognition at the international level, with due acknowledgment by an organisation under the aegis of the United Nations.

During the Public Ganesh Festival 2025, as per the directions of the Hon’ble Court, it was made mandatory to immerse Plaster of Paris idols up to six feet in height in artificial ponds. In this context, extensive public awareness was carried out by the Public Relations Department

regarding the use of clay idols, utilisation of artificial immersion facilities, and collection of ‘nirmalya’.

Furthermore, during the Holi festival period, citizens were appealed to celebrate the festival in an environmentally responsible manner by preserving traditional Holika Dahan practices, promoting the use of natural colours, conserving water, avoiding noise pollution, and ensuring a safe environment.

Continuous publicity was given through various media channels regarding the guidelines issued by the Corporation for air pollution control, their implementation, action against violators, and initiatives undertaken to curb pollution. The ‘Deep Clean Drive’ conducted across Mumbai received extensive coverage in print, electronic, and social media. As a result, public awareness regarding cleanliness has increased, leading to significant citizen participation in the campaign.

24 GUIDELINES FOR AIR POLLUTION MITIGATION IN MUMBAI

For control of Air Pollution level, the guidelines had been issued on 25.10.2023 by the Brihanmumbai Municipal Corporation due to large increase in construction, demolition and similar activities in the city. These guidelines are mandatory for all related stakeholders and must be followed strictly. Otherwise strict action can be taken by the Brihanmumbai Municipal Corporation.

To address the increasing air pollution and deteriorating air quality in Mumbai, the Brihanmumbai Municipal Corporation issued 'Revised 28- point Guidelines' on October 15, 2024. All Zonal Assistant Commissioner/Deputy Commissioner/all Assistant Commissioner /Chief Engender (DP)/Chief Engender (SWM) /concern Ward Officers and concerned department of State & Central Government is expected to strictly implement the Revised 28- point Guidelines

The guidelines are as follows

1. All the project proponents to ensure that at least 35 feet high tin / metal sheets shall be erected around the periphery of construction projects having height more than 70 mtr.
2. All construction layouts having area more than l(one) acre shall have tin / metal sheet erected of height 35 feet at least around periphery of the construction project sites and for construction sites, less than 1 (one) acre, the tin / metal sheet height shall be 25 feet at least.
3. All the buildings under construction shall be compulsorily enclosed by green cloth /jute sheet / tarpaulin from all sides.
4. All the structures under demolition shall be covered with tarpaulin / green cloth / jute sheet from top to bottom. There shall be continuous sprinkling / spraying of water during the process of demolishing of the structure.
5. It shall be ensured that water fogging shall be carried out during loading and unloading of materials at the construction sites (use of stationary/ mobile anti- smog guns).
6. The water sprinkling shall be done on debris I earth material etc. which are prone to generate air borne particulate matters at all construction sites without fail.
7. All vehicles carrying construction materials shall be fully covered (i.e. from top and all sides) so that construction material or debris does not become airborne during transportation and the vehicle shall not be overloaded to avoid any spillage from the vehicle.
8. All construction sites shall install CCTV cameras along the periphery of their work sites to ensure that vehicles are plying after cleaning tyres and are not overloaded.
9. All construction sites to deploy sensor based air pollution monitors at work sites and act immediately on observing pollution levels exceeding the limit. This monitoring shall be made available for inspection to BMC authorities as and when demanded.

10. All the work sites shalr ensure thathe grinding, cutting, drilling, sawing and trimming work is carried out in enclosed arca andwater sprinklgr / water fogging is continuously done while working to avoid escape of fugitive air.
11. All the construction sites shall ensure that c & D (Construction and Demolition) waste generated within the premises / site of work is transported to designated unloading site strictly as per BMC,s c &, D waste Management plan. After unloading the debris, the vehicle shall be washed and cleaned thoroughly.
12. All vehicles carrying materials shall have valid pUC certificates and the same shall be produced as and when asked for by competent authorities.
13. AII the construction personnel / managers shall mandatorily wear personal protective equipment such as masks, goggles, helmets, etc.
14. All the BMC worksites like bridges and flyovers shall have barricading of 25 feets.
15. All the metro works above ground shall be covered with barricading of 25 feet height. The construction site shall be covered with tarpaulin / green cloth / jute sheet' the smog guns / water sprinklers shall be used during the construction work.
16. The mitigation measures suggested as above shall be mandatorily observed by other agencies like SRA, MHADA, MIDC, MSRDC, MMRDA, Bpr, Airport Authority of India, Railways, Govt. or Semi Govt. authorities and private construction sites.
17. All Asstt. Commissioners in charge of Wards shall arrange to deploy special squads to prevent illegal C & D dumping at late night.
18. AII Asstt. Commissioners in charge of Wards shall deploy squads for air pollution mitigation enforcement comprising of :-
    - i) Two (Ward) engineers
    - ii) One Policeman
    - iii) One marshall
    - iv) Vehicle

Each squad shall be headed by one senior officer from the ward. The formation and deployment of these squads at Ward level shall be done immediately. The number of squads Ward-wise shall be as follows:

a) Smaller wards - 2 squads each ward
b) Middle size wards - 4 squads each ward
c) Larger size wards - 6 squads each ward.

19. The enforcement squad shall visit the premises and videograph the worksite. If it is observed that the worksite is not adhering to above stated provisions, stringent action such as issue of Stop Work notice and, lor sealing of worksite shall be taken immediately.
20. The timeline for procurement of sprinklers shall be 15 days and for procurement of smog guns shall be 30 days from issuance of this circular. All the project proponent / contractors shall abide by the above timelines without fail.

21. The vehicles carrying construction material or C & D material, if found not adhering to above stated provisions, shall be seized and impounded.
22. The Transport Commissioner shall take action against overloading of vehicle, uncovered vehicles, vehicles spilling construction materials on roads and the heavy duty diesel vehicles which are more than 8 years old shall be strictly prohibited in Mumbai jurisdiction.
23. MPCB shall monitor the air pollution emitted from the industries such as BpCL, HPCL, RCF, Tata Power, industries in nearby MIDC arca etc. daily for next one month and take appropriate action. The daily monitoring data shall be shared with AMC (City) and A.M.C. (W.S.).
24. All builders / Developers shall engage only those vehicles whioh possess vehicles tracking system installed on them'
25. The loose soil, sand, construction materials and debris of any kind and quantity shall be stored in demarcated / dedicated area and properly barricaded, fully covered / enclosed protected with tarpaulins. It shall be ensured that there is no dumping of construction material and debris on public roads, footpaths'Pavements and Open area.
26. Vehicle tyre washing facility shall be provided at all exit points of construction sites. It shall be ensured that daily cleaning is carried out of major roads for removal of dust by using vacuum sweeping or water sprinkling, brushing' brooming and sweeping. This work may be outsourced to ensure wide and fast coverage of all major roads in one month's time'
27. There shall be complete ban on open burning anywhere in the geographical area under BMC, especially.
28. The BMC administration has noticed that the wood and similar fuel are being widely used to prepare a meal for workers living in the construction site. Such fuel can spread a lot of smoke as well as the safety issue arrise. Considering this, the concerned developers should arrange the foods for workers in such places.So that they do not have to burn wood and similar matter as a fuel to make a meal and alternatively there would not be any smoke. As well as the location of the respective construction will remain safer.

Salient Features of Environment Status Report

- As per the Development Plan - 2034, the total area of Brihanmumbai is 476.24 sq. km. Except for the jurisdiction of Special Planning Authorities (MMRDA, SRA, MIDC, MbPT and MHADA), the Brihanmumbai Municipal Corporation functions as the Planning Authority for an area of 434.55 sq. km.
- The estimated population of Mumbai Metropolitan City is 13.15 million (131.53 lakh), and excluding the No-Development Zone, the population density is 27,219 persons per sq. km.
- Satellite-based mapping has been carried out through the Mangrove Cell for the protection and monitoring of mangrove areas. Further, in the year 2024, the Mangrove Suraksha App was launched for effective redressal of complaints received regarding encroachment, illegal activities, tree cutting, etc. in mangrove areas.
- The city and suburbs of Mumbai are supplied with 4,000 million litres per day (MLD) of treated water from seven water sources, namely Vihar, Tulsi, Tansa, Modak Sagar, Upper Vaitarna, Middle Vaitarna and Bhatsa.
- At the Municipal Analytical Laboratory, Dadar, testing of food and water samples for safety and quality is made available to the general public as well as various institutions at very reasonable rates.
- As per the Development Plan – 2034, implementation of a Rainwater Harvesting scheme has been made mandatory, with effect from dt.08.05.2019, for the development of all plots having an area of 500 sq.mts. or more. The Brihanmumbai Municipal Corporation is the first municipal corporation in Maharashtra to make such a provision mandatory.
- Under the “Jal Shakti Abhiyan: Catch the Rain – Jan Bhagidari – 2025”, an objective has been set to construct 10,000 groundwater recharge structures within the Municipal Corporation limits. A separate website has also been developed for this initiative.
- The Brihanmumbai Municipal Corporation has undertaken projects for construction of sewage treatment plants at Worli, Bandra, Dharavi, Versova, Malad, Bhandup and Ghatkopar. Upon completion of these projects, sewage will be treated at a capacity of 2,464 million litres per day, and treated water suitable for reuse for industrial and other non-potable purposes will be made available.
- At present, 28 Continuous Ambient Air Quality Monitoring Stations (CAAQMS) are operational within the Brihanmumbai Municipal Corporation area. The Air Quality Index (AQI) recorded through these stations is published daily on the website of the Central Pollution Control Board.
- In collaboration with the Indian Institute of Tropical Meteorology, Pune, the Brihanmumbai Municipal Corporation is developing an Advanced Air Quality Forecasting System. Through this system, air quality forecasts for the next 72 hours, identification of

potential emission sources and health-related advisories will be made available, thereby enabling more effective implementation of preventive measures.

- With the objective of reducing air pollution, the electric vehicle policy is being effectively implemented through the BEST initiative. Out of the total BEST bus fleet, 91 percent of buses are environmentally friendly (CNG and electric). By the year 2025–26, more than 50 percent of the total fleet is expected to be electric, while the objective has been set to make the entire bus fleet 100 percent electric by the year 2029.
- Under the 'Deep Cleaning' initiative implemented by the Municipal Corporation, roads, footpaths, spaces beneath parked vehicles and areas around junction boxes are regularly cleaned through mechanical sweeping, brushing and high-pressure water jets. This initiative promotes the use of modern cleaning technology, efficient utilization of resources, and improvement in urban cleanliness and air quality.
- The Brihanmumbai Municipal Corporation has decided not to permit the use of wood or coal for new commercial establishments such as bakeries, restaurants, furnaces, etc. The use of clean fuel (PNG or electricity) has been made mandatory under new permissions, and physical verification of the same is carried out before granting the final permission.
- To control air pollution caused by building construction, demolition and similar activities in Mumbai, the Brihanmumbai Municipal Corporation issued 27-point guidelines on 25 October 2023 and revised 28-point guidelines on 15 October 2024. These guidelines are mandatory for all concerned agencies and are being strictly implemented.
- In emergency situations, services such as immediate and effective response to citizens, coordination among various agencies, immediate availability of necessary information, public awareness, urgent assistance to affected persons, and alerts and advisories are provided through the Emergency Management Department of the Municipal Corporation.

बृहन्मुंबई महानगरपालिका व वृक्ष प्राधिकरण
TREE CITIES
OF THE WORLD
मुंबई पुष्पोत्सव
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Delisle Road Flyover (Lower Parel)