BEFORE THE NATIONAL GREEN TRIBUNAL WESTERN

ZONE BENCH, PUNE

INTERLOCUTORY APPLICATION NO 11 OF 2026

IN

ORIGINAL APPLICATION NO 131 OF 2025

Vandana Chavan and Ors)...Applicants

VERSUS

Pune Municipal Corporation and Ors.)...Respondents

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ADDITIONAL AFFIDAVIT OF THE APPLICANT NO.1

1. I, Vandana Chavan, Indian adult residing at C-801, Oakwood Hills CHS, Oppo Pancard Club, Baner, Pune 411045, the Applicant No.1 in OA No. 131/2026 and the Respondent No. 1 in IA No. 11 of 2026 do hereby state on solemn affirmation.

2. I say that I have read a copy of IA No. 11/2026 as well the subsequent IA filed by the Pune Municipal Corporation and am conversant with the contents of the said Application and have filed my Affidavit in Reply to said IA. I have also read the affidavit of the Respondent MoEFCC. Thus, I

am competent to depose by way of the present affidavit on behalf of the Respondent No. 1-3 in the said matter.

3. At the outset, I reiterate each and every averment, contention, allegation and/or submission made by the Pune Municipal Corporation. I say nothing should be deemed to have been admitted by me for lack of specific denial unless the same is specifically admitted by me hereinafter.

4. I say that I am filing the present Affidavit to put on record some additional documents necessary for this Hon'ble Tribunal to consider while adjudicating the present OA and IA.

5. In say that RTI replies received by the Applicant No. 2 confirm that a letter dated 14.01.2026 was once again issued by the Assistant Chief Engineer of the Water Resources Department to the Municipal Commissioners of the Respondent No. 1 and 2 stating,

"Water Resources Department has received complaints against the said project. Accordingly, it is stated that while implementing the said project, massive dumping is being done on the riverbed causing reduction in the cross-sectional area of the river leading to erosion of river's flood carrying capacity"...

"In Water Resources Dept's Gov. Circular Dt. 03/05/2018, at reference No. 3 above, details have been given at para 7 and 8 regarding use of Prohibitive and Restrictive Zones and in para 9, directions are given that said uses should not cause any obstruction to the flow of river and precautions should be taken that the cross-section of the river is not changed. While according environmental clearance to this project, government has mentioned in B. SEIAA Conditions at point No. 3 that, the conditions in the said circular must be strictly followed.

Therefore, in context of the complaints received regarding improper execution of the said project, you are requested to see to it that precautions need to be taken so that carrying capacity of the river is not reduced and cross-section of the river is not altered anywhere."

A copy of the letter dated 14.1.2026 which has been annexed hereto and marked as **Annexure A-1.** It is submitted that this letter confirms the averment of the Applicants that there is evident disturbance/alteration to the cross-sectional flow area of the rivers and their flood carrying capacity due to the ongoing construction work of the RFD project.

6. I also wish to bring on record a communication of MERI dated 6.1.2025 addressed to the Chief Engineer of the Water Resources Department reporting its findings on the accuracy of the existing flood lines of the

Mula, Mutha and Mula Mutha rivers in Pune. The said letter, after providing a technical explanation and citing relevant results of its hydrological analysis of the Mula, Mutha and Mula Mutha rivers has stated that the flood value of the Blue Line of the Mulla-Mutha river confluence should be doubled from 3343.96 CuMecs. (1,18,000 CuSecs.) to 6654.30 CuMecs. (2,34,963 CuSecs.) and the flood value of the Red Floodline should be almost tripled, from 4760.89 CuMecs. (1,68,000 CuSecs.) to 12,868.80 CuMecs. (4,54,108 CuSecs.). A copy of the communication submitted by MERI on 06.01.2025 to the Chief Engineer of the Water Resources Department, along with its English translation has been annexed hereto and marked as **Annexure A-2.**

7. It is pertinent to note that the term "flood value" is a hydrological measure of the quantity or volume of a flood, and the flood value shown by the blue line shows the level of a flood that may occur once in 25 years and demarcates the areas likely to be affected by a flood that may occur once in 25 years, while the Red flood line records the level of a flood that may occur once in 100 years and the areas likely to be affected by a flood that may occur once in 100 years.

8. It is therefore submitted that the corrections in flood value recommended by the MERI, if adopted by the Water Resources Department, will result

in the existing flood lines of Pune City being altered significantly. It is submitted that the said communication establishes and bears out the concerns and grievances of the Applicants regarding alterations in the flood carrying capacity of the rivers flowing through Pune City and the debilitating and permanent harm that will be caused if the RFD project reduces the cross sectional flow of the Mula, Mutha Mula-Mutha and Indrayani rivers in contravention of the circular of the Water Resources Department dated 3.5.2018. I therefore request that this communication should be closely considered by this Hon'ble Court while passing orders and directions in the present matter.

9. Lastly I say that Pune city witnessed debilitating pluvial floods on 2nd April 2026 due to heavy rainfall of 84 mm across only 2 hours. The floods inundated major arterial roads and submerged vehicles entirely, and there was destruction of property in terms of falling of trees and collapsing of walls reported at various locations across the city. Press coverings of the said flooding on 2nd April 2026 with pictures have been annexed hereto as **Annexure A-3**. It is submitted that the said incident confirms the inherent nature of Pune being flood prone city, not only due to its geographic location and its propensity to receive heavy rainfall, but also due to its multiple rivers flowing through the city.The rainfall on 2nd of April also proves the conclusion of The Energy and Resources Institute that, there

will 37.5% rise in annual rainfall with more occurrences of cloud bursts in Pune.

10. I say that this Hon'ble Tribunal should not entertain the present Interlocutory Application, which deserves to be dismissed *in limine* and should grant the Original Applicants the prayers and interim reliefs sought therein.

Solemnly Affirmed at Pune)

Dated this ____ Day of April 2026)

Deponent

Vandana Chavan

Identified by me

RONITA BHATTACHARYA

Advocate for the Respondents 1-3

in IA 11/2026

BEFORE ME

IDENTIFIED BY

ADVOCATE

BEFORE ME

SUNIL R. KOTLIKAR

NOTARY, GOVT. OF INDIA

PUNE DISTRICT (MAHARASHTRA)

NOTARIAL NOTARIAL NOTARIAL NOTARIAL NOTARIAL

Annexure A-1

महाराष्ट्र शासन
जलसंपदा विभाग
महाराष्ट्र कृष्णा खोरे विकास महामंडळ, पुणे
मुख्य अभियंता (जसं), जलसंपदा विभाग, पुणे
सिंचन भवन, बारणे रस्ता, मंगळवार पेठ, पुणे- ४११०११

दूरध्वनी क्र.०२०-२६१२०५०५, २६१२५०७४.
Email ID:
cewrdpune@gmail.com

जावक क्रमांक: मुअ(जसं)/काअ-२/उअ-५/प्रशा-६/0309/२०२६ दिनांक :-१४/०१/२०२६

प्रति,

१) आयुक्त,
पुणे महानगरपालिका
२) आयुक्त,
पिंपरी चिंचवड महानगरपालिका

विषय : पुणे व पिंपरी शहरातून वाहणा-या मुळा व मुठा नद्यांच्या नदी सुधार प्रकल्पाच्या (River Front Development) कामाबाबत

संदर्भ :
१. शासन जलसयंपदा विभाग परिपत्रक क्रमांक पूरनि-२०१८/ (१८२/२०१८)/ सिंव्य(महसूल) दिनांक ०३/०५/२०१८
२. या कार्यालयाचे पत्र जा. क्र. मुअ(जसं)/ काअ-२/ उअ-५/ प्रशा-६/ २०८०/ २०२५, दि.०५/०५/२०२५
३. सारंग यादवाडकर यांचे पत्र दिनांक १५/०४/२०२५ व ०५/०५/२०२५
४. या कार्यालयाचे पत्र जा. क्र. मुअ(जसं)/ काअ-२/ उअ-५/ प्रशा-६/ ३९४१/ २०२५, दि.०६/०८/२०२५

पुणे महानगरपालिका व पिंपरी चिंचवड महानगरपालिका यांचेमार्फत पुणे व पिंपरी शहरातून वाहणा-या मुळा व मुठा इ. नद्यांमध्ये नदी सुधार प्रकल्पाचे (River Front Development) काम प्रगतीत आहे. सदर कामाबाबत प्रत्यक्ष काम होत असल्याचे निरीक्षणानुसार व प्राप्त तक्रारीनुसार या कार्यालयाचे संदर्भ पत्र क्रमांक (०१) अन्वये आवश्यक दक्षता घेण्यास कळविले आहे.

या प्रकल्पाच्या कामाबाबत जलसंपदा विभागाकडे तक्रारी प्राप्त झाल्या आहेत. त्यानुसार या प्रकल्पाचे काम करताना नदीपात्रामध्ये मोठया प्रमाणात भराव टाकला जात असून त्यामुळे नदीचा काटछेद कमी होऊन वहन क्षमता कमी होत असल्याचे नमुद केले आहे.

त्यानुसार याबाबत या कार्यालयाचे संदर्भ पत्र क्रमांक (०३) अन्वये, सदर प्रकल्पांचे काम करताना नदीची वहन क्षमता कमी होणार नाही, काटछेदामध्ये कोणताही बदल होणार नाही, याची

माहितीचा अधिकार अधिनियम,२००५
अंतर्गत पुरवण्यात आलेली प्रमाणित प्रत
कक्ष माहिती अधिकारी तथा सहायक मुख्य अभियंता(प्रकल्प)
जल संपदा विभाग, पुणे -११
दि. 26/02/2026

दक्षता घेणेबाबत कळविण्यात आले आहे. तसेच प्रकल्पाचे काम करताना नदी नैसर्गिक काटछेदाची, नैसर्गिक बाजूची व जैवविधितेचे किमान नुकसान होईल अशा शास्त्र शुध्द पदधतीने काम करणेबाबत विनंती करण्यात आली आहे.

शासन जलसंपदा विभागाचे संदर्भ क्रमांक (०१) मध्ये नमूद दिनांक ०३/०५/२०१८ रोजीच्या परिपत्रकामधील परिच्छेद ७ व ८ मध्ये निषिध्द व नियंत्रक क्षेत्राच्या उपयोगाबाबत तपशील देण्यात आला असून परिच्छेद ९ मध्ये या उपयोगामुळे नदी प्रवाहात कोंणताही अडंथळा येणार नाही. नदीची वहन क्षमता कमी होणार नाही व नदीच्या काटछेद क्षेत्राात कोणताही बदल होणार नाही याची दक्षता घेणेबाबत सूचना देण्यात आल्या आहेत. केंद्र शासनाने या प्रकल्पाला पर्यावरण विषयक मान्यता देताना अट क्रमांक B. SEIAA Conditions मधील मुद्दा क्रमांक ३ मध्ये या परिपत्रकाचे काटेकोरपणे पालन करणेबाबत नमूद केले आहे.

त्यामुळे सदर प्रकल्पाचे काम योग्य पदधतीने होत नसलेबाबत पुन:श्च प्राप्त होणा-या तक्रारीच्या अनुषंगाने, सदर प्रकल्पांचे काम करताना नदीची वहन क्षमता कमी होणार नाही तसेच काटछेदामध्ये कोणताही बदल होणार नाही याची दक्षता घेणेबाबत पुन:श्च विनंती करण्यात येत आहे.

स्थळ प्रत मा.मु.अ.यांनी मान्य केली आहे.

(शि.दि.जाधव)
सहा.मुख्य अभियंता (जसं)
जलसंपदा विभाग, पुणे

प्रत- अधीक्षक अभियंता, पुणे पाटबंधारे मंडळ, पुणे यांना माहितीसाठी व कार्यवाहीसाठी

प्रत- कार्यकारी अभियंता, खडकवासला पाटबंधारे विभाग, पुणे/ पुणे पाटबंधारे विभाग, पुणे यांना माहितीसाठी व कार्यवाहीसाठी.

माहितीचा अधिकार अधिनियम,२००५
अंतर्गत देण्यात आलेली प्रमाणित प्रत
जल माहिती अधिकारी तथा सहाय्यक मुख्य अभियंता(प्रकल्प)
जल संपदा विभाग पुणे -११
दि. 26/02/2026

Government of Maharashtra
Water Resources Department
Maharashtra Krishna Valley Development Corporation, Pune
Chief Engineer (Irrigation) Water Resources Department, Pune
Sinchan Bhawan, Barne Road, Mangalwar Peth, Pune 411011
Phone Nos. 020-26120505, 26125074 Email ID:cewrdpune@gmail.com

Outward No.: मुअ(जसं)/काअ-२/उअ-५/प्रशा-६/0301/2026 Dt.: 14/01/2026

To,

1. **Commissioner,**
   Pune Municipal corporation.
2. **Commissioner,**
   Pimpri Chinchwad Municipal Corporation.

Subject:

Regarding River Front Development Project on Mula and Mutha Rivers flowing through Pune and Pimpri-Chinchwad Cities.

References:

1. Water Resources Dept. Gov. Circular No. पूरनि -२०१८/(१८२/२०१८)/सिंव्य (महसूल), Dt. 03/05/2018.
2. Letter from this office, vide outward No. मुअ(जसं)/काअ-२/उअ-५/प्रशा-६/२०८०/२०२५ Dt. 05/05/2025.
3. Letters from Mr. Sarang Yadwadkar Dt. 15/04/2025 and 05/05/2025.
4. Letter from this office, vide outward No. मुअ(जसं)/काअ-२/उअ-५/प्रशा-६//३९४१/२०२५ Dt. 06/08/2025.

The project of River Front Development on Rivers Mula, Mutha etc. is under progress by Pune Municipal Corporation and Pimpri Chinchwad Municipal Corporation. As per our observations of actual ongoing work and the complaints received, we have communicated to you to take certain precautions vide letter referred at Sr. No. 1 above.

Water Resources Department has received complaints against the said project. Accordingly, it is stated that while implementing the said project, massive dumping is being done on the riverbed causing reduction in the cross-sectional area of the river leading to erosion of river's flood carrying capacity.

In this context, it is already communicated to you that during implementation, precautions are to be taken that there is no reduction in the cross-section of river and carrying capacity of the river should not be reduced. It also has been communicated to you that the project should be executed scientifically so that natural cross-sections, natural riverbanks as well as biodiversity suffer minimal harm.

In Water Resources Dept's Gov. Circular Dt. 03/05/2018, at reference No. 3 above, details have been given at para 7 and 8 regarding use of Prohibitive and Restrictive Zones and in para 9, directions are given that said uses should not cause any obstruction to the flow of river and precautions should be taken that the cross-section of the river is not changed. While according environmental clearance to this project, government has mentioned in B. SEIAA Conditions at point No. 3 that, the conditions in the said circular must be strictly followed.

Therefore, in context of the complaints received regarding improper execution of the said project, you are requested to see to it that precautions need to be taken so that carrying capacity of the river is not reduced and cross-section of the river is not altered anywhere.

Original copy is approved by Hon. Chief Engineer.

S. D. Jadhav
Asst. Chief Engineer (WRD)
Water Resources Dept, Pune

Copy to: Superintending Engineer, Pune Irrigation Circle, Pune for information and further action.

Copy to: Executive Engineer, Khadakwasla Irrigation Division, Pune/Pune Irrigation Division for information and further action.

Annexure A-2

जलसंपदाविभाग
महासंचालक
(संकल्पन, प्रशिक्षण, जलविज्ञान, संशोधन व सुरक्षितता)
मेरी इमारत,दिंडोरी रोड, नाशिक ४२२ ००४
सत्यमेवजयते
Director General
(Design, Training, Hydrology, Research & Safety) M.ER.ICampus,
Dindori Road, Nashik422 004(M. S.)
Phone No.: 0253-2970619/ 2530628
Email:dgdthrs.nashikwrd@maharashtra.gov.in,patodgmeri@gmail.com
Web: www.merinashik.org

उत्सव निवडणुकीचा अभिमान देशाचा

जा.क्र.मसं/संप्रजसंसु/आ-६/ ०१ /सन२०२५ दि.०६ /०१/२०२५

प्रति,

मुख्य अभियंता (जसं),
जलसंपदा विभाग,
पुणे

२४२
०७/०१/२०२५

विषय —जनहीत याचिका क्र.३६/२०२१: श्री. सारंग यादवडकर विरुद्ध महाराष्ट्र शासन व ईतर च्या अनुषंगाने पुणे शहरातील पूर परिस्थितीमुळे सध्या अस्तित्वातील पूर रेषा (निळी व लाल) च्या पुनर्विलोकनाबाबत गठीत तज्ञ समितीच्या दि.१९/१२/२०२४ रोजीच्या मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली झालेल्या बैठकीतील चर्चेनुसार पुणे शहर परीसरातील नद्यांच्या महत्वाच्या स्थळी निळी व लाल रेषेसाठी घेण्यात आलेल्या पूर किमतींचे पुनर्विलोकन करणेसाठी **प्राथमिक पूर अभ्यास अहवाल** तयार करणे बाबत

संदर्भ -

१. मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली पुणे शहरातील पूर रेषांचे पुनर्विलोकन करणे बाबतची पहिली बैठक (दि.२६/०७/२०२४ रोजी ०३.०५PM वाजता व्ही.सी. द्वारे) याचे इतिवृत्त
२. मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली पुणे शहरातील पूर रेषांचे पुनर्विलोकन करणे बाबतची दुसरी बैठक (दि.१९/०८/२०२४ रोजी ०४.३० PM वाजता व्ही.सी. द्वारे) याचे इतिवृत्त दि.०४/०९/२०२४
३. मा.महासंचालक, मेरी, नाशिक या कार्यालयाचे पत्र मसं/संप्रजसंसु/ आ.६/९६/सन २०२४,दि.२३/०८/२०२४
४. मा.महासंचालक, मेरी, नाशिक या कार्यालयाचे पत्र मसं/संप्रजसंसु/आ.६/११२/सन२०२४,दि.१८/०९/२०२४
५. मा.महासंचालक, मेरी, नाशिक या कार्यालयाचे पत्र मसं/संप्रजसंसु/आ.६/१२४/सन२०२४, दि.०३/१०/२०२४
६. दि.२९/१०/२०२४ रोजी ०३.००PM वाजता व्ही.सी. द्वारे झालेल्या बैठकीचे प्रारूप इतिवृत्त
७. मा. महासंचालक, मेरी, नाशिक या कार्यालयाचे पत्र मसं/संप्रजसंसु/आ.६/१४०/सन २०२४, दि.०४/११/२०२४
८. अधीक्षक अभियंता, पुणे पाटबंधारे मंडळ, पुणे या कार्यालयाचा ई-मेल संदेश दि. ०४/११/२०२४
९. मा. महासंचालक, मेरी, नाशिक या कार्यालयाचे पत्र मसं/संप्रजसंसु/ आ.६/१४२/सन २०२४, दि.११/११/२०२४
१०. मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली पुणे शहरातील पूर रेषांचे पुनर्विलोकन करणे बाबतची तिसरी बैठक (दि.१३/११/२०२४ रोजी ०३.३० PM वाजता व्ही.सी. द्वारे) याचे इतिवृत्त दि.२९/११/२०२४
११. मुख्य अभियंता, जलसंपदा विभाग पुणे यांचे मा. महासंचालक मेरी नाशिक यांना पत्र क्र.५१८२, दि.२७/११/२०२४ आधार सामग्री सादर करणेसाठी

१२. मा. महासंचालक, मेरी, नाशिक या कार्यालयाचे पत्र मसं/संप्रजसंसु/ आ.६/१५६/सन २०२४, दि.०९/१२/२०२४

१३. मुख्य अभियंता, जलसंपदा विभाग पुणे यांचे मा. महासंचालक मेरी नाशिक यांना पत्र क्र.५५२३, दि.१८/१२/२०२४ आधार सामग्री सादर करणेसाठी

१४. मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली पुणे शहरातील पूर रेषांचे पुनर्विलोकन करणे बाबतची चौथी बैठक (दि.१९/१२/२०२४ रोजी ०३.०० PM वाजता व्ही.सी. द्वारे) याचे इतिवृत्त दि.२३/१२/२०२४

उपरोक्त विषयान्वये मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली पुणे शहरातील पूर रेषांचे पुनर्विलोकन करणे बाबतची चौथी बैठक (दि.१९/१२/२०२४ रोजी व्ही.सी. द्वारे) पार पडली. सदर बैठकीत झालेल्या चर्चेनुसार मुख्य अभियंता, जलसंपदा विभाग पुणे यांनी सादर केलेल्या माहितीच्या अनुषंगाने व सद्यस्थितीत भारतीय हवामान खाते, नवी दिल्ली यांच्याकडून पुणे शहरातील नद्यांच्या पाणलोट क्षेत्रासाठी मागविण्यात आलेली वादळी किंमत व त्याची विभागणी अद्याप अप्राप्त असल्याने PMP Atlas for Krishna Basin मध्ये उपलब्ध असणाऱ्या वादळी किमतींचा उपयोग करून पुणे शहरातील प्रकल्पांच्या निळी रेषा/लाल रेषा संबंधी पूर किमती परीगणित करण्याबाबत प्राथमिक पूर अभ्यास अहवाल सादर करण्याबाबत मा. अपर मुख्य सचिव, जलसंपदा विभाग यांनी निर्देश दिले.

उपरोक्त निर्देशानुसार, आपण पुरविलेल्या माहितीनुसार व पुणे शहरातील नद्यांच्या पाणलोट क्षेत्राच्या विंभागणीनुसार निळी रेषा व लाल रेषा संबंधीच्या पुरांचे परिगणन करण्यात आले आहे.

निळी रेषा व लाल रेषेसाठी पूर किमतीचे परिगणन करतांना महासंचालक, मेरी नाशिक यांच्या परिपत्रकातील मार्गदर्शक सूचनांचा अवलंब करण्यात आला आहे. सदर परिपत्रकानुसार निळी रेषा व लाल रेषा यांचे परिगणन पद्धती काही बाबतीत भिन्नता असल्याने निळी रेषेसाठी १:२५ वारंवारतेचा पूर परीगणित करण्यासाठी व लाल रेषा १: १०० वारंवारतेचा पूर परीगणित करण्यासाठी, असे दोन स्वतंत्र प्राथमिक पूर अभ्यास अहवाल तयार करण्यात आले आहेत.

निळी रेषेसाठीचा प्राथमिक पूर अभ्यास अहवाल:

निळी रेषेसाठीचा प्राथमिक पूर अभ्यास अहवाल पत्रासोबत जोडण्यात येत आहे. महासंचालक मेरी, नाशिक यांच्या परिपत्रकानुसार निळी रेषेसाठीचा १:२५ वारंवारतेचा पूर परीगणित करण्यासाठी जर पूर अभ्यासाचे पाणलोट क्षेत्र ५००० चौ.कि.मी. पेक्षा कमी असेल तर ऊर्ध्व भागात असलेल्या धरणांचा विचार न करता पुराचे परिगणन करावयाचे आहे. सदर अभ्यास पाणलोट क्षेत्राचे Outlet मुंढवा के.टी. वियर येथे एकूण पाणलोट क्षेत्र २१४५ चौ.कि.मी. हे ५००० चौ.कि.मी. पेक्षा कमी असल्याने ऊर्ध्व भागातील धरणांचा विचार न करता पुराचे परिगणन करण्यात आले आहे. आपण क्षेत्रीय स्तरावरून पुरविलेल्या माहितीनुसार सदर अभ्यास पाणलोट क्षेत्राचे दहा भाग करून पुराचे परिगणन करण्यात आले आहे. सदर पाणलोट क्षेत्राचे ARC-GIS संगणक प्रणाली नुसार 'Delineation' करून दहा भाग (10 Sub Basins) करण्यात आलेले आहेत. नंतर त्यांचे 'Physiographic Parameters' ARC-GIS संगणक प्रणालीच्या सहाय्याने परीगणित करण्यात आले आहेत व सदर 'Physiographic Parameters' च्या सहाय्याने केंद्रीय जल आयोग, नवी दिल्ली (Central Water Commission) यांनी प्रकाशित केलेल्या 'Flood Estimation Report (३h)' अनुसार एकांक जलमानाभीलेख (Synthetic Unit Hydrograph) तयार करून वापरण्यात आला आहे.

वादळी किंमत व त्याची विभागणी उपरोक्तपणे संदर्भ क्र.१४ च्या बैठकीत दिलेल्या सूचनेनुसार 'PMP Atlas for Krishna Basin' मधून घेण्यात आलेले आहे.

उपरोक्त माहिती 'HEC-HMS' संगणक प्रणालीमध्ये भरून 'Quasi-distributed Hydrological Model' तयार करण्यात आले. तसेच त्यामध्ये 'Muskingham Channel Routing' पद्धत अवलंबण्यात आली. उपरोक्तपणे तयार करण्यात आलेल्या 'Quasi-distributed Hydrological Model'चे RUN घेण्यात येऊन निष्कर्ष काढण्यात आले आहेत. ते खाली दिलेल्या तक्त्यात नमूद केल्याप्रमाणे आहेत. भारतीय हवामान खाते, नवी दिल्ली यांच्याकडून पुणे शहरातील नद्यांच्या पाणलोट क्षेत्रासाठी मागविण्यात आलेली वादळी किंमत व त्याची विभागणी प्राप्त झाल्यावर सदर पुराच्या किंमतींमध्ये बदल संभवतो.

१:२५ वारंवारतेचा पूर

Sr. No.	Locations-Dam/Confluence	Joint No	Discharge from Elements	Discharging Reach	Discharge in Cumecs					Catchment Area in Sq.Km			Remark
					Final @Joint	Lumped Self Catchment	Reach	Reach	Reach	Total	Free	Intercepted	
(1)	(2)	(3)	(4)	(5)	(6)					(7)			(8)
1	Panshet Dam	JNA	SBA	-	1029.00	1029.00	0	0	0	119.21	119.21	0	
2	Warasgaon Dam	JNB	SBB	-	1027.30	1027.30	0	0	0	131.08	131.08	0	
3	Temghar Dam	JNC	SBC	-	362.60	362.60	0	0	0	36.61	36.61	0	
4	Khadakwasla Dam	JND	SBD + (R1+R2+R3)	R1, R2 & R3	3023.20	1299.50	820.10	828.60	247.40	551.04	264.14	286.90	*1299+820+828+247= 3195 but due to different Peak Periods @joint flood value is 3023.20*
5	Mutha pre-Confluence with Mula river	JNG	SBG+ (R4)	R4	3050.80	676.40	2751.00	0	0	736.43	185.39	551.04	Before Confluence of Mutha River with Mula river
6	Mulshi Dam	JNE	SBE	-	1947.40	1947.40	0	0	0	249.57	249.57	0	
7	Mula pre-Confluence with Pawana river	JNH	SBH+ (R5)	R5	2796.80	1457.10	1384.00	0	0	729.60	479.90	249.70	Before Confluence of Mula River with Pawana river
8	Pawana Dam	JNF	SBF	-	1123.50	1123.50	0	0	0	113.86	113.86	0	
9	Pawana pre-Confluence with Mula river	JNI	SBI + (R6)	R6	1737.80	1102.20	657.70	0	0	501.39	387.53	113.86	Before Confluence of Pawana River with Mula river
10	**Mundhwa KT Weir**	JNJ (Mundhwa KT Weir)	SBJ + (R7+R8+R9)	R7, R8 & R9	6654.00	491.70	2954.10	2483.80	1568.60	**2144.88**	177.59	1967.29	
												2144.88	

महासंचालक, मेरी नाशिक यांच्या परिपत्रकातील निळी रेषा बाबतच्या पुराच्या मार्गदर्शक सूचनानुसार उपरोक्तपणे निळ्या रेषेसाठी परीगणित केलेली पूर किंमत ही '1.5 times the flood carrying capacity of the established river channels' शी तुलना करून महत्तम किंमतीसाठी निळी पूर रेषा अंतिम करणे अपेक्षित आहे. त्यानुसार आपण क्षेत्रीय स्तरावर उपरोक्तपणे नमूद केलेल्या पूर किंमतीशी दिडपट विसर्गाशी तुलना करून निळ्या रेषेसाठी पूर किंमत अंतिम करणे आवश्यक आहे.

लाल रेषेसाठीचा प्राथमिक पूर अभ्यास अहवाल :

लाल रेषेसाठीचा प्राथमिक पूर अभ्यास अहवाल सोबत जोडला आहे. महासंचालक मेरी, नाशिक यांच्या परिपत्रकानुसार लाल रेषेसाठी १:१०० वारंवारतेचा पूर परीगणित करावयाचा आहे. त्यासाठी "For Rivers with dams :- Spillway Design flood plus १०० years return period flood from free catchment area below dam upto point of study" घ्यावयाचे आहे. सदर अभ्यास पाणलोट क्षेत्रात पानशेत, वरसगाव, टेमघर, खडकवासला, मुळशी, पवना ही महत्वाची धरणे ऊर्ध्व भागात आहेत. त्यांचे IS ११२२३-१९८५ नुसार व प्राप्त झालेल्या माहितीनुसार वर्गीकरण खालील प्रमाणे आहे.

Sr. No.	Dam	Lowest RBL	FRL	Hydraulic Head (m)	Gross Storage (MCM)	Type of Design Flood
1	2	3	4	5	6	7
1	Panshet Dam	580.32	636.27	55.95	310.61	PMF
2	Warasgaon Dam	579.43	639.5	60.07	375.36	PMF
3	Temghar Dam	641.56	706.5	64.94	107.96	PMF
4	Khadakwasla Dam	554.45	582.47	28.02	86.00	PMF
5	Mulshi Dam	N.A.	607.1	N.A.	747.00	PMF
6	Pawana Dam	579.42	614.47	35.05	305.00	PMF

वरील तक्त्यानुसार सर्व धरणांची क्षमता ६० दलघमी पेक्षा जास्त असल्याने सर्व धरणें अंदाजित महत्तम पुरासाठी (Probable Maximum Flood) पात्र ठरत आहेत. म्हणून सदर अभ्यास पाणलोट क्षेत्रातील धरणांचे पाणलोट क्षेत्र PMP Storm Depth व धरणाखालील मुक्त पाणलोट क्षेत्र १:१०० वारंवारितेच्या पुरासाठी अभ्यासण्यात आला आहे.

आपण क्षेत्रीय स्तरावरून पुरविलेल्या माहितीनुसार दहा भागात विभागलेल्या पाणलोट क्षेत्रातील पुराचे परिगणन करण्यात आले आहे. सदर पाणलोट क्षेत्राचे ARC-GIS संगणक प्रणाली नुसार 'Delineation' करून दहा भाग (10 Sub Basins) करण्यात आलेले आहेत. नंतर त्यांचे 'Physiographic Parameters' ARC-GIS संगणक प्रणालीच्या सहाय्याने परीगणित करण्यात आले आहेत व सदर 'Physiographic Parameters' च्या सहाय्याने केंद्रीय जल आयोग नवी दिल्ली (Central Water Commission) यांनी प्रकाशित केलेल्या 'Flood Estimation Report (3h)' अनुसार एकांक जलमानाभीलेख (Synthetic Unit Hydrograph) तयार करून वापरण्यात आला आहे.

वादळी किंमत व त्याची विभागणी उपरोक्तपणे संदर्भ क्र.१४ च्या बैठकीत दिलेल्या सूचनेनुसार 'PMP Atlas for Krishna Basin' मधून घेण्यात आलेले आहे.

उपरोक्त माहिती 'HEC-HMS' संगणक प्रणालीमध्ये भरून 'Quasi-distributed Hydrological Model' तयार करण्यात आले. तसेच त्यामध्ये 'Muskingham Channel Routing' पद्धत अवलंबण्यात आली. उपरोक्तपणे तयार करण्यात आलेल्या 'Quasi-distributed Hydrological Model'चे RUN घेण्यात येऊन निष्कर्ष काढण्यात आले आहेत. ते खाली दिलेल्या तक्त्यात नमूद केल्याप्रमाणे आहेत. भारतीय हवामान खाते, नवी दिल्ली यांच्याकडून पुणे शहरातील नद्यांच्या पाणलोट क्षेत्रासाठी मागविण्यात आलेली वादळी किंमत व त्याची विभागणी प्राप्त झाल्यावर सदर पुराच्या किंमतींमध्ये बदल होईल.

१:१०० वारंवारतेचा पूर

Sr. No.	Locations-Dam/Confluence	Joint No	Reaches Discharging	Discharge from Elements	Discharge in Cumecs					Catchment Area in Sq.Km			Remark
					Final @Joint	Lumped Self Catchment	Reach	Reach	Reach	Total	Free	Intercepted	
(1)	(2)	(3)	(4)	(5)	(6)					(7)			(8)
1	Panshet Dam	JNA	-	SBA	**2036.00**	2036.00	0	0	0	119.21	119.21	0	
2	Warasgaon Dam	JNB	-	SBB	**2041.00**	2041.00	0	0	0	131.08	131.08	0	
3	Temghar Dam	JNC	-	SBC	**713.80**	713.80	0	0	0	36.61	36.61	0	
4	Khadakwasla Dam	JND	R1, R2 & R3	SBD + (R1+R2+R3)	**7410.00**	4014.00	1639.90	1663.70	495.20	551.04	264.14	286.90	*4014+1639+1663-495 = 7812 but due to different Peak Periods @joint flood value is 7410*
5	Mutha pre-Confluence with Mula river	JNG	R4	SBG+ (R4)	**7213.80**	984.40	6764.20	0	0	736.43	185.39	551.04	Before Confluence of Mutha River with Mula river- i.e.Mutha Free Catchment
6	Mulshi Dam	JNE	-	SBE	**3870.70**	3870.70	0	0	0	249.57	249.57	0	
7	Mula pre-Confluence with Pawana river	JNH	R5	SBH+ (R5)	**4517.60**	1801.40	2798.60	0	0	729.60	479.90	249.70	Before Confluence of Mula River with Pawana river - i.e.Mula Free Catchment
8	Pawana Dam	JNF	-	SBF	**2336.10**	2336.10	0	0	0	113.86	113.86	0	
9	Pawana pre-Confluence with Mula river	JNI	R6	SBI + (R6)	**2720.10**	1364.70	1402.80	0	0	501.39	387.53	113.86	Before Confluence of Pawana River with Mula river - i.e.Pawana Free Catchment
10	**Mundhwa KT Weir**	JNJ (Mundhwa KT Weir)	R7, R8 & R9	SBJ + (R7+R8+R9)	**12868.00**	693.90	6981.20	4069.50	2482.70	**2144.88**	177.59	1967.29	

21+155

मुख्य अभियंता, जलसंपदा विभाग, पुणे यांनी उपरोक्तपणे नमूद केल्यानुसार लाल रेषेसाठी पूर किंमत अंतिम करणे आवश्यक आहे

आपण क्षेत्रीय स्तरावरून पुरविलेल्या माहितीनुसार संदर्भ क्र.२ च्या बैठकीच्या इतिवृत्तातील 'Annexure-C' नुसार सद्यस्थितीतील अभ्यास क्षेत्रात आखण्यात आलेल्या निळी रेषा व लाल रेषा बाबतची माहिती देण्यात आली आहे.

उपरोक्त तक्त्यात मुढवा के.टी. वियर च्या स्थानी निळी रेषेसाठी पुराची सद्याची किंमत **३३४३.९६ Cumecs (१,१८,००० Cusecs)** एवढी आहे. ती या कार्यालयातील अभ्यासानुसार **६६५४.३० Cumecs (२,३४,८१४ Cusecs)** एवढी येते. तसेच लाल रेषेसाठी पुराची सद्याची किंमत **४७६०.८९ Cumecs (१,६८,००० Cusecs)** एवढी आहे. ती या कार्यालयातील अभ्यासानुसार **१२८६८.८० Cumecs (४,५४,१०८ Cusecs)** एवढी येते.

तथापि या कार्यालयातील अभ्यासानुसार प्राप्त निळी रेषेसाठीच्या पूर किमतीस मुख्य अभियंता, जलसंपदा विभाग पुणे यांनी मा. महासंचालक, मेरी नाशिक यांच्या परिपत्रकानुसार '1.5 times the flood carrying capacity of the established river channels' शी तुलना करून महत्तम किंमतीसाठी निळी पूर रेषा अंतिम करणे अजून बाकी आहे. तसेच सदर प्राथमिक पूर अभ्यास अहवालांचे 'National Institute of Hydrology, Roorkee' यांच्याकडून तपासणी बाकी आहे. त्यामुळे उपरोक्त किंमतींची तुलना सद्यस्थितीत योग्य नाही.

सदर पत्रासोबत जोडलेल्या निळी रेषा व लाल रेषासाठींचा प्राथमिक पूर अभ्यास अहवाल मुख्य अभियंता, जलसंपदा विभाग पुणे यांनी तपासून मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली पुणे शहरातील पूर रेषांचे पुनर्विलोकन करणे बाबतची दुसरी बैठकीतील (दि.१९/०८/२०२४ रोजी ०४.३० PM वाजता व्ही.सी. द्वारे) निर्णयानुसार 'National Institute of Hydrology, Roorkee' यांचेकडे अंतिम तपासणीसाठी व पुढील कार्यवाहीसाठी पाठवावा.

सोबत: वरीलप्रमाणे

(प्र. गो. मांदाडे)
महासंचालक,
संकल्पन, प्रशिक्षण, जलविज्ञान, संशोधन व सुरक्षितता, नाशिक

प्रत:- कार्यकारी संचालक, महाराष्ट्र कृष्णा खोरे विकास महामंडळ, पुणे यांना माहितीसाठी व पूढील कार्यवाहीसाठी सस्नेह अग्रेषित

प्रत: - मुख्य अभियंता व सहसचिव, जलसंपदा विभाग मंत्रालय, मुंबई यांना माहितीसाठी व पूढील कार्यवाहीसाठी (लक्षवेध श्रीमती नमीता बसेर, उपसचिव, मंत्रालय, मुंबई)

प्रत:- मुख्य अभियंता, जलविज्ञान व धरण सुरक्षितता, नाशिक यांना माहितीसाठी व पूढील कार्यवाहीसाठी.

प्रत:- अधीक्षक अभियंता, आधार सामग्री पृथ:करण मंडळ, नाशिक यांना माहितीसाठी व पूढील कार्यवाहीसाठी.

प्रत:- अधीक्षक अभियंता, पुणे पाटबंधारे मंडळ, पुणे यांना माहितीसाठी व पूढील कार्यवाहीसाठी.

प्रत:- कार्यकारी अभियंता, जलनियोजन विभाग (पूर) यांना माहितीसाठी व पूढील कार्यवाहीसाठी.

Department of Water Resources
Director General
(Design, Training, Hydrology, Research and Safety)
MERI Campus, Dindori Road, Nashik 422 004 (M. S.)
Phone No.: 0253-2970619/2530628
Email: dgdthrs.nashikwrd@maharashtra.gov.in/patodgmeri@gmail.com
Web: www.merinashik.org

Outward No.: मसं/संप्रजसंसु/आ-६/०१/सन २०२५ **Dt.:** 06/01/2025

To,
Chief Engineer (Water Resources),
Department of Water Resources,
Pune.

Sub.: Regarding flood study report to review the flood values of the rivers in Pune as discussed in the meeting of the Expert Committee held under the chairmanship of Additional Chief Secretary in light of the PIL No. 36/2021: Mr. Sarang Yadwadkar Vs. State Gov. of Maharashtra and Others to redefine the flood lines (Blue and Red) in Pune.

Ref.:

1. Minutes of the first meeting (Dt. 26/07/2024 at 03.05 pm by VC) to review Pune flood lines held under chairmanship of Additional Chief Secretary (Water Resources).
2. Minutes Dt. 04.09.2024 of the second meeting (Dt. 19/08/2024 at 03.05 pm by VC) to review Pune flood lines held under chairmanship of Additional Chief Secretary (Water Resources).
3. Letter from the office of the Director General, MERI Nashik, मसं/संप्रजसंसु/आ-६/९६/सन २०२४ Dt. 23/08/2024.
4. Letter from the office of the Director General, MERI Nashik, मसं/संप्रजसंसु/आ-६/११२/सन २०२४ Dt. 18/09/2024.
5. Letter from the office of the Director General, MERI Nashik, मसं/संप्रजसंसु/आ-६/१२४/सन २०२४ Dt. 03/10/2024.
6. Minutes of the meeting held through VC on 29/10/2024 at 3 pm.

7. Letter from the office of the Director General, MERI Nashik, मसं/संप्रजसंसु/आ-६/१४०/सन २०२४ Dt. 04/11/2024.
8. Email Dt. 04/11/2024 from the office of the Superintending Engineer Pune Irrigation Circle, Pune.
9. Letter from the office of the Director General, MERI Nashik, मसं/संप्रजसंसु/आ-६/१४२/सन २०२४ Dt. 11/11/2024.
10. Minutes Dt. 29/11/2024 of the meeting (Dt. 13/11/2024 at 03.30 pm by VC) to review Pune flood lines held under chairmanship of Additional Chief Secretary (Water Resources).
11. Letter No. 5182, Dr. 27/11/2024 from the Chief Engineer, Water Resources to the Director General MERI, Nashik, to provide supporting system.
12. Letter from the office of the Director General, MERI Nashik, मसं/संप्रजसंसु/आ-६/१५६/सन २०२४ Dt. 09/12/2024.
13. Letter No. 55523, Dr. 18/12/2024 from the Chief Engineer, Water Resources to the Director General MERI, Nashik, to provide supporting system.
14. Minutes Dt. 23/12/2024 of the meeting (Dt. 19/12/2024 at 03.00 pm by VC) to review Pune flood lines held under chairmanship of Additional Chief Secretary (Water Resources).

As stated above, the fourth meeting to review the Pune flood lines was convened under the chairmanship of the Additional Chief Secretary (Water Resources) on Dt. 19/12/2024 through VC. As per the discussions in the meeting and according to the information provided by the Chief Engineer, WRD Pune, storm values and their divisions are not yet available from the Indian Meteorological Dept. for the catchment areas of Pune rivers. Therefore, the Chief Additional Secretary- Water Resources directed to consider the storm values available in PMP Atlas for Krishna Basin for computation of flood values to present the primary flood studies.

As per these directions, according to the information provided by you and the divisions of the catchment areas of the rivers in Pune city, computation of the flood has been done for Blue Line and Red Line.

While computing the flood values for Blue and Red Lines, the directions in the circular issued by the Director General, MERI are followed. As per the said circular, as there is some difference in the computation methods for Blue and

Red Lines, two separate primary study reports are prepared to compute the flood of 1 in 25 yrs frequency for Blue Line and 1 in 100 yrs frequence for Red Line.

Primary Flood Study Report for Blue Line:

The Primary Flood Study Report for Blue Line is attached with the letter. As per the circular of the Director General, MERI Nashik, while calculating the flood for 1:25 frequency for Blue Line, if the study catchment area is less than 5000 Sq. Km., the flood calculation is to be done without considering the upstream dams. For the said study, as the total catchment area is 2145 2145 Sq. Km., which is less than 500 Sq. Km., the floods are calculated without considering the upstream dams. According to the information provided by you at regional level, said catchment area is divided in 10 parts for flood calculations. After delineation as per the ARC-GIS computer system said catchment is divided in to 10 parts. Thereafter it's Physiographic Parameters are calculated with ARC-GIC computer system and with the help of the Physiographic Parameters, Synthetic Unit Hydrograph is prepared as per the Flood Estimation Report (3h) published by the Central Water Commission.

Storm values and its division has been taken as per the instructions given in the meeting at reference 14 from PMP Atlas for Krishna Basin.

Quasi-distributed Hydrological Model was prepared after filling in the above data in 'HEC-RAS' computer system. Muskingham Channel Routing method was also adopted in it. The conclusions have been drawn after running the above mentioned Quasi-distributed Hydrological Model. The conclusions are as mentioned in the chart below. The flood values may be revised after receiving the storm values and their divisions for catchment areas Pune City from the Indian Meteorological Dept., New Delhi.

1:25 FREQUENCY FLOOD

Sr. No.	Locations-Dam/Confluence	Joint No	Discharge from Elements	Discharging Reach	Discharge in Cumecs					Catchment Area in Sq.Km			Remark
					Final @Joint	Lumped Self Catchment	Reach	Reach	Reach	Total	Free	Intercepted	
(1)	(2)	(3)	(4)	(5)	(6)					(7)			(8)
1	Panshet Dam	JNA	SBA	-	1029.00	1029.00	0	0	0	119.21	119.21	0	
2	Warasgaon Dam	JNB	SBB	-	1027.30	1027.30	0	0	0	131.08	131.08	0	
3	Temghar Dam	JNC	SBC	-	362.60	362.60	0	0	0	36.61	36.61	0	
4	Khadakwasla Dam	JND	SBD + (R1+R2+R3)	R1, R2 & R3	3023.20	1299.50	820.10	828.60	247.40	551.04	264.14	286.90	*1299+820+828+247= 3195 but due to different Peak Periods @joint flood value is 3023.20*
5	Mutha pre-Confluence with Mula river	JNG	SBG+ (R4)	R4	3050.80	676.40	2751.00	0	0	736.43	185.39	551.04	Before Confluence of Mutha River with Mula river
6	Mulshi Dam	JNE	SBE	-	1947.40	1947.40	0	0	0	249.57	249.57	0	
7	Mula pre-Confluence with Pawana river	JNH	SBH+ (R5)	R5	2796.80	1457.10	1384.00	0	0	729.60	479.90	249.70	Before Confluence of Mula River with Pawana river
8	Pawana Dam	JNF	SBF	-	1123.50	1123.50	0	0	0	113.86	113.86	0	
9	Pawana pre-Confluence with Mula river	JNI	SBI + (R6)	R6	1737.80	1102.20	657.70	0	0	501.39	387.53	113.86	Before Confluence of Pawana River with Mula river
10	**Mundhwa KT Weir**	JNJ (Mundhwa KT Weir)	SBJ + (R7+R8+R9)	R7, R8 & R9	6654.00	491.70	2954.10	2483.80	1568.60	**2144.88**	177.59	1967.29	
												2144.88	

As per the guidelines in the circular from Director General, MERI Nashik, regarding flood for Blue Line, the calculated flood value is to be compared with '1.5 times the flood carrying capacity of the established river channel' and the Blue Line is to be finalised for the highest value. Accordingly, the flood value for the Blue Line is to be finalised after comparing with the 1.5 times flood values mentioned by you at the regional level.

Primary Flood Study Report for Red Line:

The Primary Flood Study Report for Red Line is attached with the letter. The flood for 100 yr frequency is to be calculated as per the circular of the Director General, MERI Nashik. To do that, we need to consider, *"For Rivers with Dams:- Spillway Design Flood plus 100 years return period flood from free catchment area below dam up to point of study"*. Panshet, Warasgaon, Temghar, Khadakwasla, Mulshi and Pawan are the important dams on the upstream in the said catchment area. Their classification as per the information received and according to IS 11223-1985 is as under:

Sr. No.	Dam	Lowest RBL	FRL	Hydraulic Head (m)	Gross Storage (MCM)	Type of Design Flood
1	2	3	4	5	6	7
1	Panshet Dam	580.32	636.27	55.95	310.61	PMF
2	Warasgaon Dam	579.43	639.5	60.07	375.36	PMF
3	Temghar Dam	641.56	706.5	64.94	107.96	PMF
4	Khadakwasla Dam	554.45	582.47	28.02	86.00	PMF
5	Mulshi Dam	N.A.	607.1	N.A.	747.00	PMF
6	Pawana Dam	579.42	614.47	35.05	305.00	PMF

As according to the chart, the storage capacity of ell these dams is more than 60 million Cu. M., all dams are to be considered for 'Probable Maximum Flood' and the study for the free catchment area on the downstream of the dams is done for the flood at 1:100 frequency.

As per the information provided by you at the regional level, the calculation for the floods is done from the catchment area divided in ten parts. Said catchment area is divided in ten parts after 'Delineation' as per ARC-GIS programme. Thereafter their 'Physiographic Parameters' are calculated with the help of ARC-GIS. With the help of these 'Physiographic Parameters' and as per the

‘Flood Estimation report (3h)’ published by Central Water Commission, New Delhi, a Synthetic Unit Hydrograph has been prepared and used.

Storm values and their division has been taken from ‘PMP Atlas for Krishna Basin’ as instructed in the meeting referred above at Sr. No. 14.

After feeding all above information in ‘HEC-HMS’ computer programme, ‘Quasi-distributed Hydrological Model’ is prepared. Muskingham Channel Routing method was adopted in it. The conclusions have been drawn after running the ‘Quasi-distributed Hydrological Model’ which are given in the chart below. The flood values may change after getting the storm values and their divisions from the Indian Meteorological Dept., New Delhi.

1:100 FREQUENCY FLOOD

१:१०० वारवारतचा पूर

Sr. No.	Locations-Dam/Confluence	Joint No	Reaches Discharging	Discharge from Elements	Discharge in Cumecs					Catchment Area in Sq.Km			Remark
					Final @Joint	Lumped Self Catchment	Reach	Reach	Reach	Total	Free	Intercepted	
(1)	(2)	(3)	(4)	(5)	(6)					(7)			(8)
1	Panshet Dam	JNA	-	SBA	**2036.00**	2036.00	0	0	0	119.21	119.21	0	
2	Warasgaon Dam	JNB	-	SBB	**2041.00**	2041.00	0	0	0	131.08	131.08	0	
3	Temghar Dam	JNC	-	SBC	**713.80**	713.80	0	0	0	36.61	36.61	0	
4	Khadakwasla Dam	JND	R1, R2 & R3	SBD + (R1+R2+R3)	**7410.00**	4014.00	1639.90	1663.70	495.20	551.04	264.14	286.90	*4014+1639+1663+495 = 7812 but due to different Peak Periods @joint flood value is 7410*
5	Mutha pre-Confluence with Mula river	JNG	R4	SBG+ (R4)	**7213.80**	984.40	6764.20	0	0	736.43	185.39	551.04	Before Confluence of Mutha River with Mula river- i.e.Mutha Free Catchment
6	Mulshi Dam	JNE	-	SBE	**3870.70**	3870.70	0	0	0	249.57	249.57	0	
7	Mula pre-Confluence with Pawana river	JNH	R5	SBH+ (R5)	**4517.60**	1801.40	2798.60	0	0	729.60	479.90	249.70	Before Confluence of Mula River with Pawana river - i.e.Mula Free Catchment
8	Pawana Dam	JNF	-	SBF	**2336.10**	2336.10	0	0	0	113.86	113.86	0	
9	Pawana pre-Confluence with Mula river	JNI	R6	SBI + (R6)	**2720.10**	1364.70	1402.80	0	0	501.39	387.53	113.86	Before Confluence of Pawana River with Mula river - i.e.Pawana Free Catchment
10	**Mundhwa KT Weir**	JNJ (Mundhwa KT Weir)	R7, R8 & R9	SBJ + (R7+R8+R9)	**12868.00**	693.90	6981.20	4069.50	2482.70	**2144.88**	177.59	1967.29	
											2144.88		

The values for Red Flood Line need to be finalised as mentioned above by the Chief Engineer, Water resources, Pune.

According to the information provided by you, as per 'Annexure-C' from the minutes of the meeting at reference No. 2 above, the information regarding Blue and Red lines is given as per the markings in the present study area.

In the above table, the present flood value of Blue Line at Mundhwa KT Wier is **3343.96 CuMecs (1,18,000 CuSecs.)**. This value should be **6654.30 CuMecs. (2,34,814 CuSecs.)**. Current flood value for Red Line is **4760.89 CuMecs. (1,68,000 CuSecs.)** as per study, it is **12,868.80 CuMecs. (4,54,108 CuSecs.)**.

It is still pending to finalise the Blue Flood Line for the Highest Flood Value as per the study of this office after comparing with '1.5 times the flood carrying capacity of the established river channels' as per the circular from the Director General of MERI, Nashik. The verification of this primary study from 'the 'National Institute of Hydrology, Roorkee' is pending. Therefore, comparison of the values could not be correct.

The Primary Study of the Blue and Red Lines attached with this letter should be sent to 'National Institute of Hydrology, Roorkee' by the Chief Engineer, Water Resources, Pune after verification as decided in the meeting (Dt. 19.08.2024 at 04.30 pm on VC) for further action of finalization.

Attached: As above.

P. G. Mandade
Director General,
Planning. Training, Hydrology, Research and Safety, Nashik

Copies to:

Managing Director, Maharashtra Krisha Valley Development Corporation, Pune for information and further action.

Chief Engineer and Joint Secretary, Water Resources Dept., Mantralaya for information and further action.

Chief Engineer, Hydrology & Dam Safety, Nashik for information & further action.

Superintending Engineer, Support Analysis Circle, Nashik for information and further action.

Superintending Engineer, Pune Irrigation Circle, Nashik for information and further action.

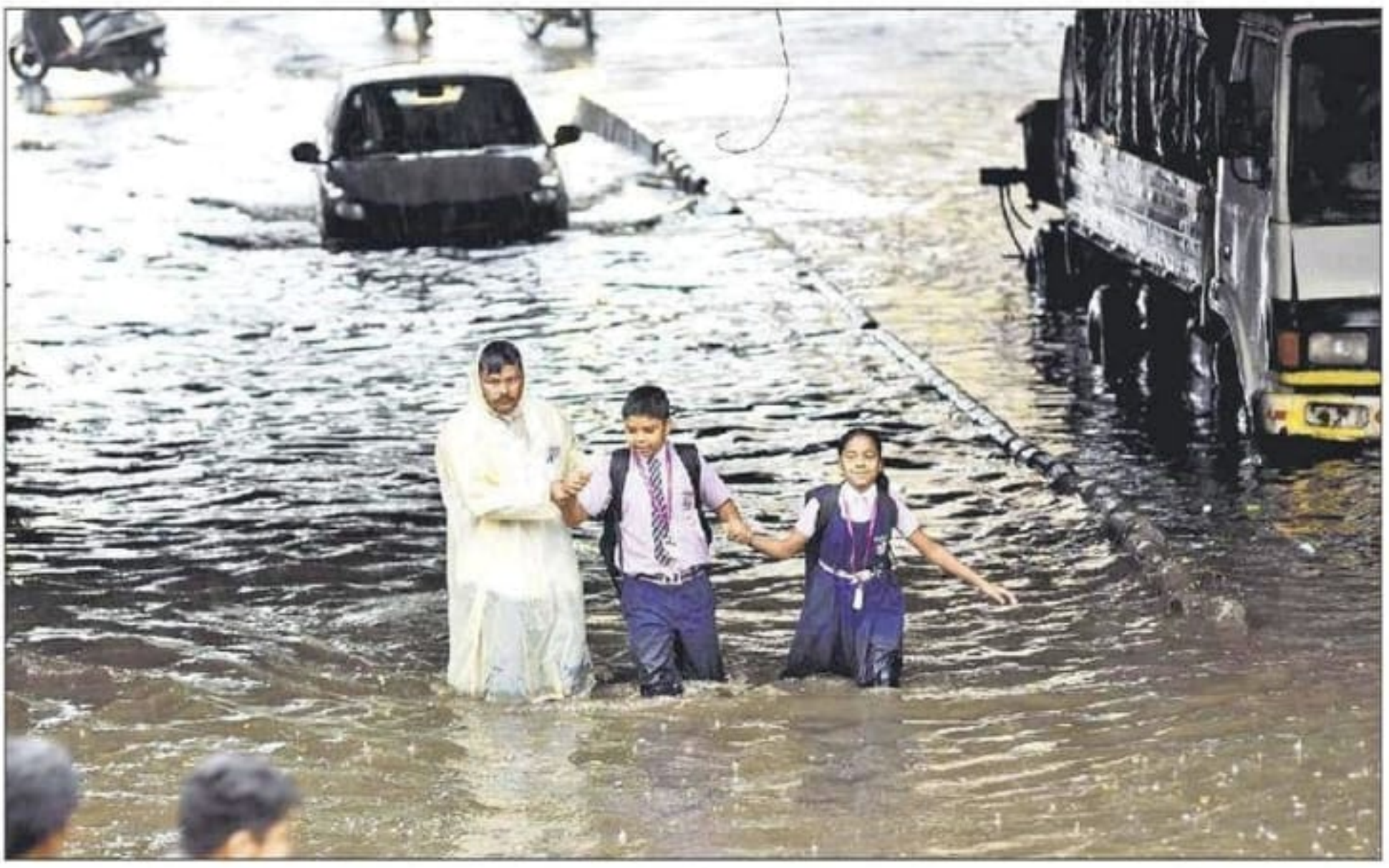
Executive Engineer, Hydraulic Planning Division (Floods), for information and further action.

COMPARISON BETWEEN CURRENT AND NEW FLOOD VALUES

RIVER	FLOOD VALUE FOR RED LINE		FLOOD VALUE FOR BLUE LINE	
	CURRENT CuMecs.	NEW CuMecs.	CURRENT CuMecs.	NEW CuMecs.
MUTHA	2835	**7213.80**	1700	3050.80
MULA (Up to Pawana)	1670	**4517.60**	1536	2796.80
MULA-MUTHA	4762	**12868.00**	3345	6654.00

Annexure A-3

Times
FIRST VOICE. LAST WORD.



School children wade through water-logged Kartaj Road on Thursday. MEHENDRA KOLHE/HT

{ ONE RAIN-RELATED DEATH REPORTED }

Pune records wettest April day in 130 years

Gayatri Vajpeyee
puneletters@hindustantimes.com

PUNE: A woman was killed and two other persons were injured after a tree collapsed on Sinhagad road as Pune witnessed its highest-ever single-day rainfall for April, with the unseasonal downpour crippling normal life across the city on Wednesday.

The woman, Ranjana Navnath Giri, died near Navshya Maruti temple after a tree in the vicinity got uprooted by strong winds and heavy rain. Two other persons suffered injuries and were rushed to a nearby hospital. According to the India Meteorological Department (IMD), Shivajinagar recorded 65 mm rainfall — the highest-ever for a single day in April — surpassing the previous record of 51.1 mm set on April 4, 1896.

The intense spell, accompanied by gusty winds and thunderstorms, caused widespread disruption with waterlogging, trees falling and traffic snarls reported across Pune and Pimpri-Chinchwad. As per civic data, some areas witnessed over 100 mm rainfall within an hour, with Khadakwasla (104.2 mm) and Sinhagad road (100.2 mm) recording 'cloudburst-like' conditions. Emergency services were stretched as the fire brigade responded to over 80 incidents of treefall in Pune and additional calls from Pimpri-Chinchwad. The IMD has issued a yellow alert for April 3, forecasting light to moderate rainfall with thunderstorms, although the intensity is expected to reduce from April 4. →P3

Over 145 locations waterlogged

PUNE: Intense unseasonal rain brought Pune to a standstill on Wednesday, exposing gaps in the Pune Municipal Corporation's pre-monsoon preparedness as waterlogging, falling trees and traffic snarls were reported across the city. The rain paralysed traffic and inundated roads, causing water to enter homes and shops. Waterlogging was reported at 145 locations whereas 82 incidents of treefall fall were recorded. →P3

84mm rain in 2 hours: 1 killed, city roads waterlogged, flights delayed

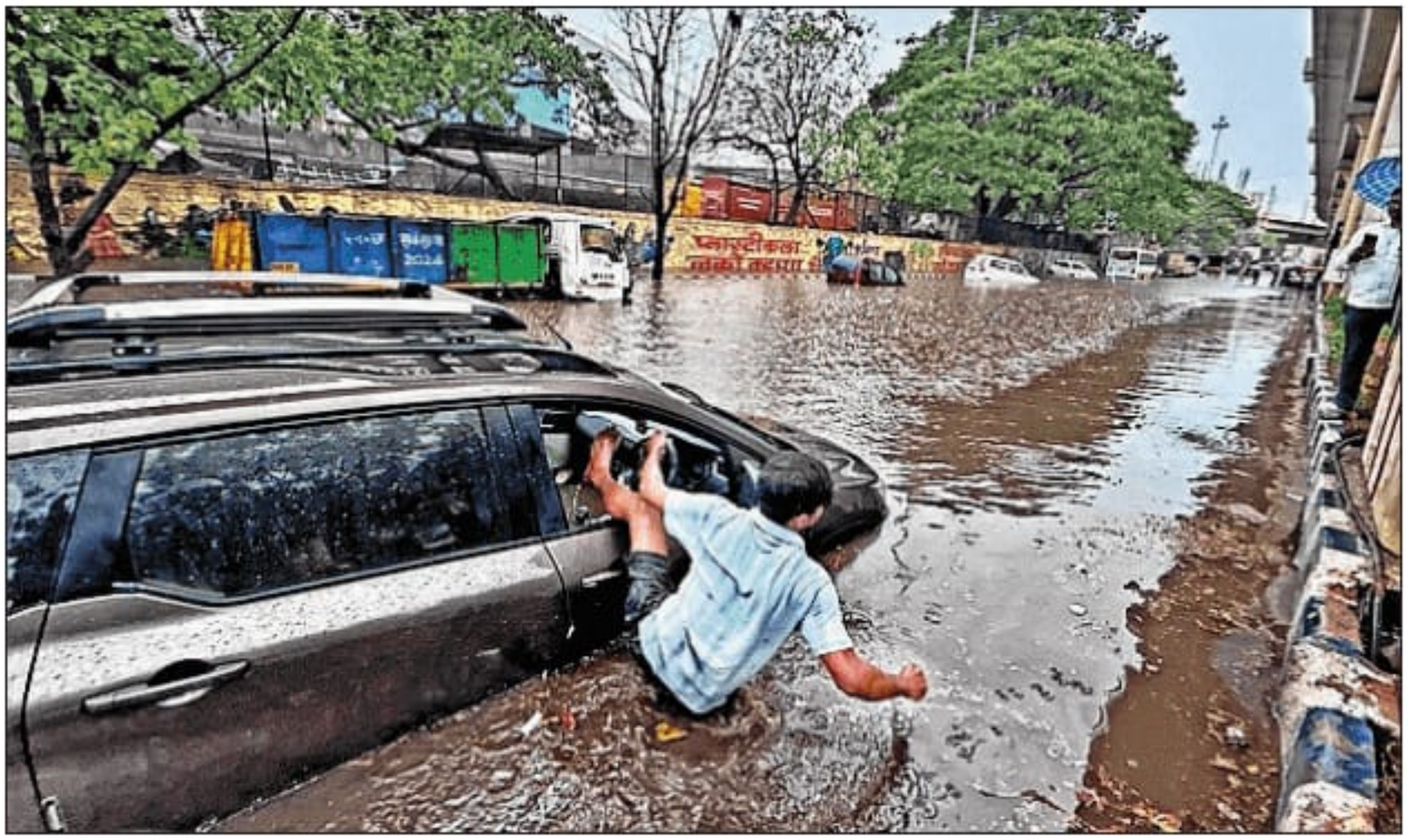
TIMES NEWS NETWORK

Pune: A sharp, intense spell of rain lasting nearly two hours on Thursday afternoon threw life out of gear across the city, dumping 84mm rain over NDA and 65mm in Shivajinagar, catching people off guard and triggering widespread waterlogging, traffic snarls and power outage.

The sudden downpour turned fatal in the Parvati area, where a 60-year-old flower vendor, Ranjana Navnath Giri, died after a tree fell on her around 3.30pm near Navshya Maruti Mandir. Two others sustained minor injuries in the accident.

▶ **Marathwada lightning death toll rises to four, P 3**

Mandar Deshpande



A man climbs out of the driver's side car window on waterlogged Paud Road after a thunderstorm on Thursday afternoon

Flight operations in the city were also hit, with an IndiGo Ahmedabad-Pune flight (6E-522) diverted to Goa. Several flights were delayed.

Emergency teams were pressed into action across multiple locations as strong winds and heavy rain battered the city during peak afternoon hours, compounding traffic congestion and affecting power supply in several areas. The heavy downpour in NDA affected locations such as Pashan, Bavdhan and Kothrud.

Thursday's intense spell of rain pushed Shivajinagar into the record books, with the observatory logging its highest April rainfall in over a century.

▶**Record downpour, P 3**

Total Turmoil In Barely Two Hours Of Rain

Blocked stormwater channels & drains leave several roads knee-deep in water

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Pics: Mansoor Deshpande, Shyam Sonar & Mansi Singh

FLOODED STREETS PUSH PEOPLE TO BRINK

Paud Road

Pune-B'luru Highway

Alka Talkies Chowk

Pune: Choked stormwater channels and drainage chambers turned city roads into shallow ponds within an hour of intense rainfall on Thursday afternoon, laying bare Pune Municipal Corporation's glaring lack of preparedness.

Activists and residents squarely blamed the waterlogging on construction debris and garbage dumped along roadsides, which were swept straight into stormwater and drainage lines, blocking the flow and worsening waterlogging across large parts of the city. The situation turned so dire that the PMC's disaster management cell was inundated with over 180 waterlogging complaints.

Activist Sandeep Khardekar from Karvenagar said incomplete drainage works were a major reason behind the chaos. "Drainage line works remain unfinished everywhere. The administration is simply failing to fast-track these projects," he said.

Across the city, citizens found themselves trudging through knee-deep water. Traffic slowed to a crawl at critical junctions like the CoEP flyover, JM Road and parts of old Mumbai-Pune road. The road leading towards Sangamwadi was completely submerged, while similar scenes unfolded in Bavdhan, Warje Malwadi, and along the service roads of Katraj-Dehu Road Bypass.

Kushal Pradhan, who was on way to his workplace, said, "The autorickshaw driver, after driving for a while, said he won't go further as it was risky. While on way back, his autorickshaw stopped at the start of the Lullanagar flyover. We got stuck for 20-25 minutes and got drenched," he told TOI.

Vivek Velankar of Sajag Nagrik Manch said the city had no coherent plan to deal with mounting construction waste. "In heavy downpours, all the debris dumped on roadsides inevitably flows into stormwater channels, which are meant only for rainwater. Pre-monsoon cleaning works must undergo third-party inspection, and responsibility must be fixed," he said.

PMC officials attributed the flash flooding to the high intensity of rainfall, saying response teams were deployed swiftly and that waterlogging at several locations was cleared within an hour after the rain stopped.

Anil Kadam of Shivajinagar questioned PMC's maintenance works. "Why are stormwater drains cleaned only ahead of the monsoon? This should be a year-round exercise. Many drainage chambers are packed with waste, silt and debris," he said.

Additional municipal commissioner Omprakash Divte said many areas recorded over 60mm of rainfall within an hour, leading to widespread waterlogging. "Pre-monsoon works are still in the initial stages. Cleaning has begun in some areas, and work in the remaining parts will start by next week. We will take corrective measures at all locations that experienced waterlogging," he said.

At Pune airport, flyers faced major issues getting cabs and pre-paid autorickshaws. Prakash Rajguru, an autorickshaw driver, said, "No autorickshaw was available at the airport as all are stuck in traffic in different places because of the rain." Sources at AeroMall said cab movements were minimal because of the same reason.

Cabs and autorickshaws were unavailable in different parts of the city too. Mansoor Shaikh, who had to go to Camp from Yamunanagar, said he tried booking cabs and autorickshaws for 45 minutes, but none of them accepted rides.

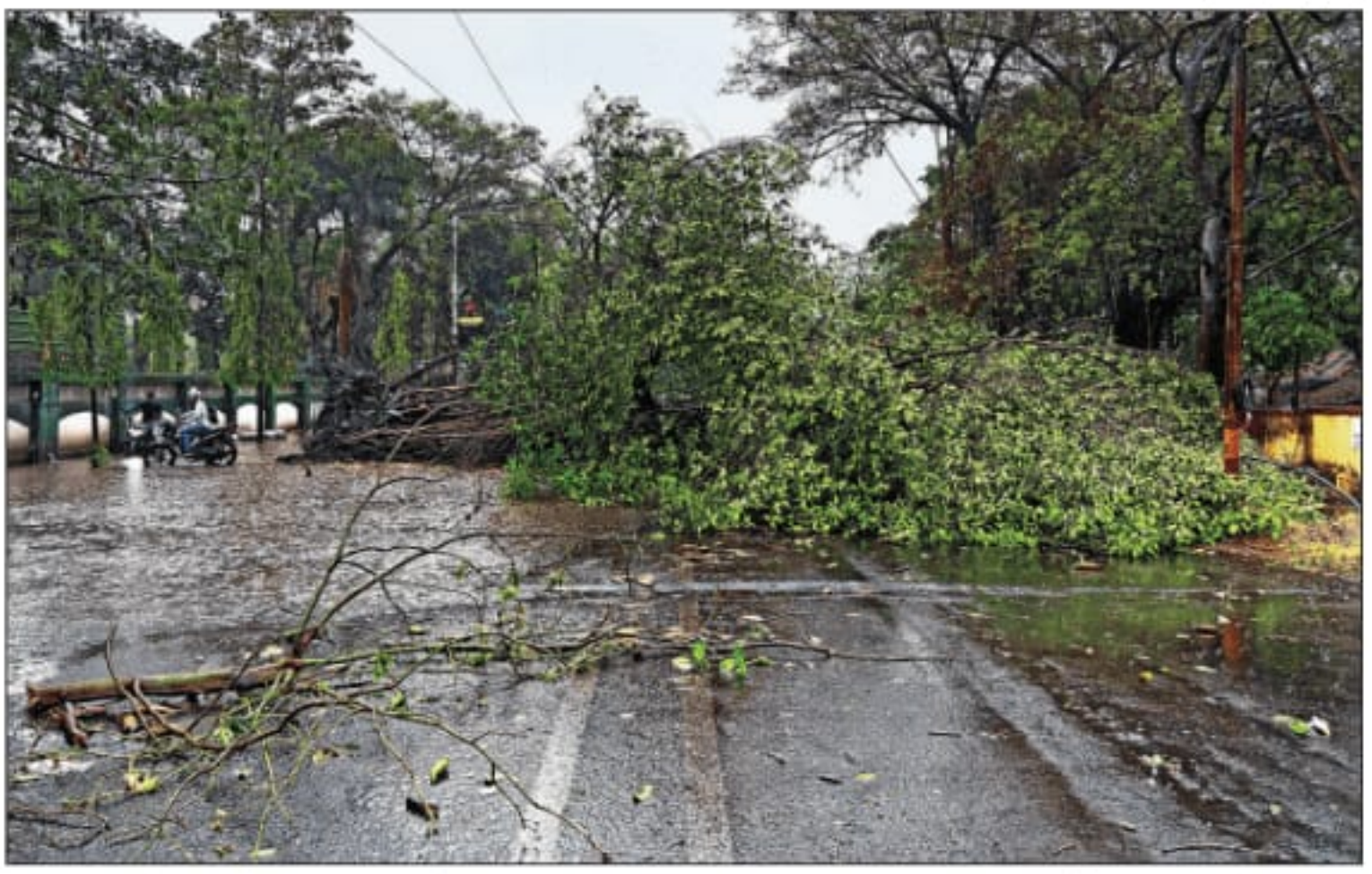
CONCRETE PLAN

- According to PMC, existing stormwater channels are designed to handle **50-60mm** of rainfall, while newly merged areas are being planned with systems capable of managing rainfall up to **120mm**
- PMC commissioner Naval Kishore Ram said the administration was considering reducing concreting of smaller roads. **"A new policy on road concreting is being drafted and will soon be communicated to ward offices overseeing such works,"** he said

For emergencies call on 020-25501269 and 020-25506800

Branches snap, traffic crawls & areas plunge into darkness

Saket Tiwari



Several roads across the city were blocked due to tree falling incidents

Prasad Kulkarni, Sarang Dastane & Shashank Didmishe | TNN

Pune: Thursday's sharp rain spell, lashing the city with fierce winds, uprooted trees and snapped branches, bringing traffic to a halt and endangering lives. Commuters were stranded, vehicles damaged, and several neighbourhoods plunged into darkness — an outcome residents say reflects years of neglect in tree upkeep and safety audits.

The residents said the absence of regular trimming and systematic checks of aging and dangerous trees had been a ticking time bomb. On Thursday, that bomb went off. The civic administration received over 100 complaints related to uprooted and fallen trees. While PMC's disaster management cell reported 21 cases, the fire brigade alone attended to 82 complaints from across the city.

Kothrud resident Gauri Kulkarni said, "When residents request tree cutting or trimming, PMC officials do not treat these demands with urgency. To make matters worse, private contractors charge exorbitant fees."

Responding, PMC additional commissioner Omprakash Diwate said, "We have issued instructions to the ward offices and the garden department to identify and trim dangerous trees."

In Pimpri Chinchwad too, at least 17 tree-fall cases were recorded. Fire officer Rushikant Chipade said multiple four-wheelers suffered damage after trees collapsed in parking lots. "We pressed 10 fire tenders, two rescue vans and around 80 firemen into action to control the situation," he said. A retaining wall collapsed in Ravet and a fire broke out at an MSEDCL substation, though officials confirmed there were no casualties.

As the rain raged on, large parts of Pune and its suburbs were left without electricity. MSEDCL said the disruptions were caused by tripping of extra high voltage (EHV) and high-voltage lines, fallen trees, submerged feeder boxes and lightning strikes.

In Kothrud, a lightning strike damaged the lightning protection system of the Kundannagari feeder, though power was restored through an alternative route. A tripping incident on the Nanded City EHV line plunged areas in the Kothrud division into darkness for half an hour. Resident Sudhir Khare said, "There was an outage soon after rain started around 2.30pm. Professionals working from home had a harrowing time."

Power disruptions were also reported from Shivajinagar, Ganeshkhind, Khadki, Bavdhan and Baner, Kondhwa and Yewalewadi. In Pimpri and Bhosari, the Ravet 22 kV line tripped, affecting 58 transformers. A tree collapse at the old Parvati power substation worsened the situation, while waterlogging led to supply interruptions on Sinhagad Road and in Dhayari.

Kondhwa resident Fiza Shaikh said, "Power went off as soon as the rain began. MSEDCL did not provide any update." Som Deshmukh of Warje said there was no power in his area for more than three hours. MSEDCL officials said patrolling was intensified along the Khadakwasla and Shravan feeder lines to detect and address faults immediately. Supply in Vadachiwadi, under Bund Garden , was hit too.

Lightning death toll this week rises to four in Marathwada

Chhatrapati Sambhajinagar: Lightning-related deaths in Marathwada during the week rose to four, with Beed reporting two more incidents, as unseasonal rain and hailstorms continued in the region during evening and night hours.

The fresh spell of extreme weather events has also killed 77 cattle since March 30, and ravaged crops on over 5,345 hectares, according to initial official assessment data. The data shows that a minimum of around 8,780 farmers from 209 villages in the region have been impacted.

Govind Lahane (21) and Aditya Bedre (20) are the two youths killed in lightning strikes on March 30. Official details of the two deaths from Beed district are awaited. TNN

Falling tree kills vendor; surge in calls to fire brigade

TIMES NEWS NETWORK

Pune: A 60-year-old flower vendor, Ranjana Navnath Giri of Ganeshmala off Sinhagad Road, died after a tree collapsed on her around 3.30pm on Thursday. Giri had taken shelter beneath the tree sudden heavy rainfall lashed the city.

Senior inspector Rajendra Sahane of the Parvati police said Giri was selling flowers on the footpath when it began raining heavily. "She then moved with the flowers under the tree on Navshya Maruti Mandir Lane. The tree was already leaning. Within minutes, strong winds and heavy rainfall uprooted the tree, trapping Giri beneath it," the officer said.

Residents immediately alerted the police and fire brigade. "Personnel from the fire brigade carried out the rescue. Giri, who suffered grievous injuries, was shifted to a private hospital in Erandwane, where doctors declared her dead," Sahane said.

Police have started the process to register an accidental death report. Sahane said Giri would walk daily to the area to sell flowers. The falling tree also crushed a nearby fruit cart.

Pune mayor Manjusha Nagpure visited the accident spot later in the day. "There was cloudburst-like rain accompanied by strong winds, which caused several trees and branches to collapse. Given the severity of the rainfall, very little could have been done at that moment," she said.

Overall, the city fire brigade received a total of 84 calls related to tree falls on Thursday, along with six reports of water entering houses and hutments. "We started receiving calls around 2.30pm, and they continued till 7.30pm," city fire brigade chief Devendra Potphode said.

A car was also damaged after a tree fell on it in Hadapsar's Gadital area.

At 65mm, Shivajinagar logs highest single-day rain for April since 1896

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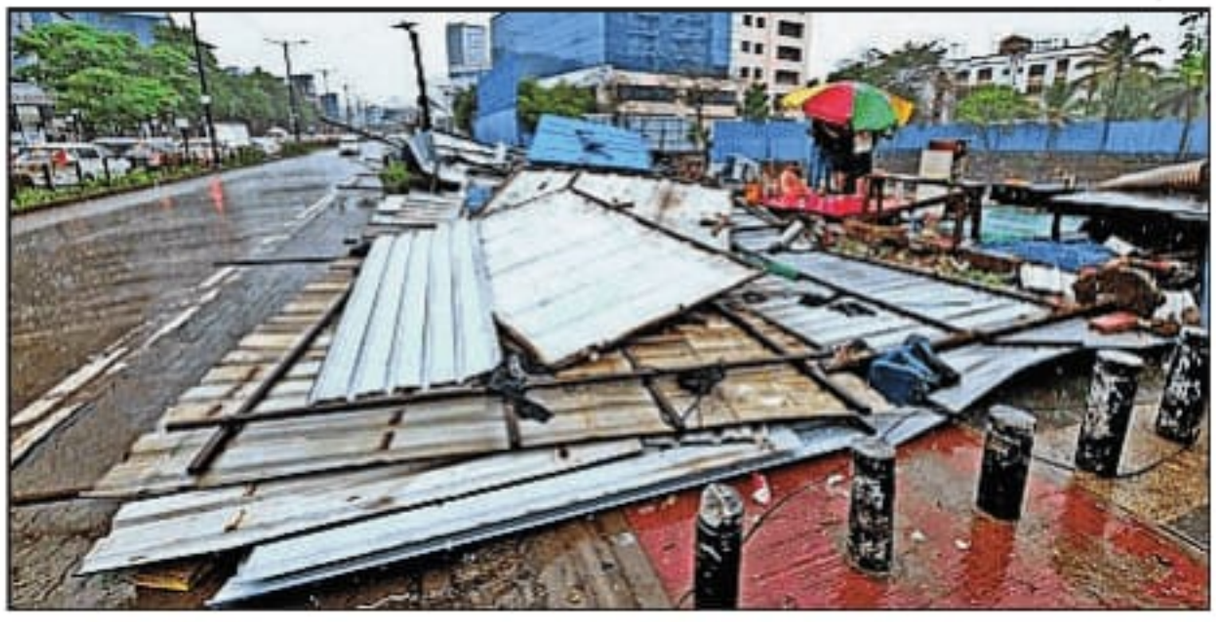
Pune: India Meteorological Department data showed that Shivajinagar recorded 65mm rainfall in nearly two hours on Thursday, making it the highest April daily rainfall since 1896. The previous highest for April, as per IMD records, was 51.1 mm on April 4, 1896.

Ashish Gupta



A makeshift wall collapsed in Baner on Thursday

"Thursday's record-breaking April rainfall over Pune was driven by lower-level wind convergence, further enhanced by upper-level divergence ahead of an approaching southward-dipping western disturbance trough. This set-up promoted rapid uplift of warm air, while moisture incursion from the Arabian Sea provided the necessary fuel, resulting in intense convective activity," said independent forecaster Abhijit Modak.

Rainfall was intense in parts of the city and nearby areas, with NDA recording the highest at 84mm, followed by Shivajinagar (65mm) and Hadapsar (42.5mm). Areas such as Pashan (36.3mm), Dapodi (29mm) and Chinchwad (28.5mm) also received significant showers, indicating a fairly widespread weather event.

Several parts of the city witnessed severe flooding. In some areas, motorists were seen pushing stalled cars as roads turned into streams within minutes of the sudden downpour.

At Pune airport, flyers faced major issues getting cabs and pre-paid autorickshaws. Prakash Rajguru, an autorickshaw driver, said, "No autorickshaw was available at the airport as all were stuck in traffic in different places because of the rain." Sources at AeroMall said cab movements were minimal because of the same reason.

Cabs and autorickshaws in different parts of the city were unavailable. Emergency response teams were deployed across the city, with around 20 fire engines, two rescue vans and nearly 100 personnel engaged in clearing uprooted trees and handling related incidents.

Hindusta

My I

Woman killed as record

City logs highest-ever single-day April downpour, surpasses previous record set on April 4, 1896

Gayatri Vajpeyee
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PUNE: A woman was killed and two other persons were injured after a tree collapsed on Sinhagad road as Pune witnessed its highest-ever single-day rainfall for April, with the unseasonal heavy downpour crippling normal life across the city on Wednesday.

The woman, identified as Ranjana Navnath Giri, died near Navshya Maruti temple after a tree in the vicinity got uprooted by strong winds and heavy rain. Two other persons suffered injuries and were rushed to a nearby hospital.

According to the India Meteorological Department (IMD), Shivajinagar recorded 65 mm rainfall — the highest-ever for a single day in April — surpassing the previous record of 51.1 mm set on April 4, 1896.

The intense spell, accompanied by gusty winds and thunderstorms, caused widespread disruption with waterlogging, trees falling and traffic snarls reported across Pune and Pimpri-Chinchwad.

As per civic data, some areas witnessed over 100 mm rainfall within an hour, with Khadakwasla with 104.2 mm and Sinhagad road with 100.2 mm recording 'cloudburst-like' conditions.

Emergency services were stretched as the fire brigade responded to over 80 incidents of treefall in Pune and additional calls from Pimpri-Chinchwad.

Several roads were blocked, vehicles damaged, and power supply disturbed in parts of the city.

Mayor Manjusha Nagpure, who visited the affected areas, said that the intensity of rainfall caught the administration off guard.

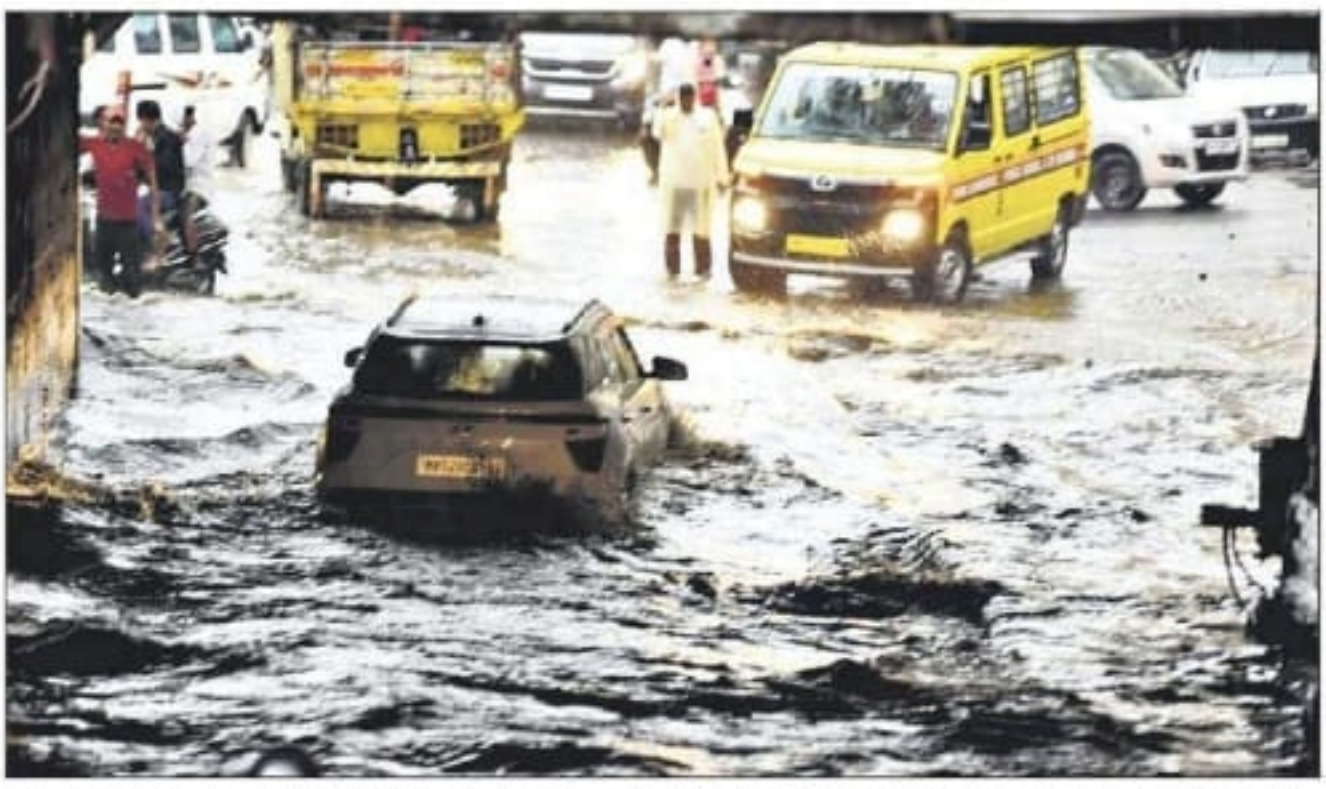
"Pre-monsoon works have begun but such heavy rainfall is usually expected only in June. This was an extreme and early weather event," she said.

Residents flagged recurring civic issues. Ravindra Sable from Hadapsar said that he was stuck in traffic for over an hour on a routine 15-minute stretch. "Vehicles were breaking down in waterlogged patches. It was complete chaos," he said.

Sonali Shelke, a resident of Samata Nagar, said, "This happens every year. Despite repeated complaints, there is no long-term solution to flooding in our area."

Meteorologists attributed the unseasonal rain to multiple active weather systems, including a western disturbance and troughs extending across parts of the country, leading to heavy moisture inflow from the Arabian Sea and Bay of Bengal. Weather expert S D Sanap said that the southward shift of the jet stream had intensified rainfall activity over Pune, particularly in the southern and western parts.

The IMD has issued a yellow alert for April 3, forecasting light to moderate rainfall with thunderstorms, although the intensity is expected to reduce from April 4.



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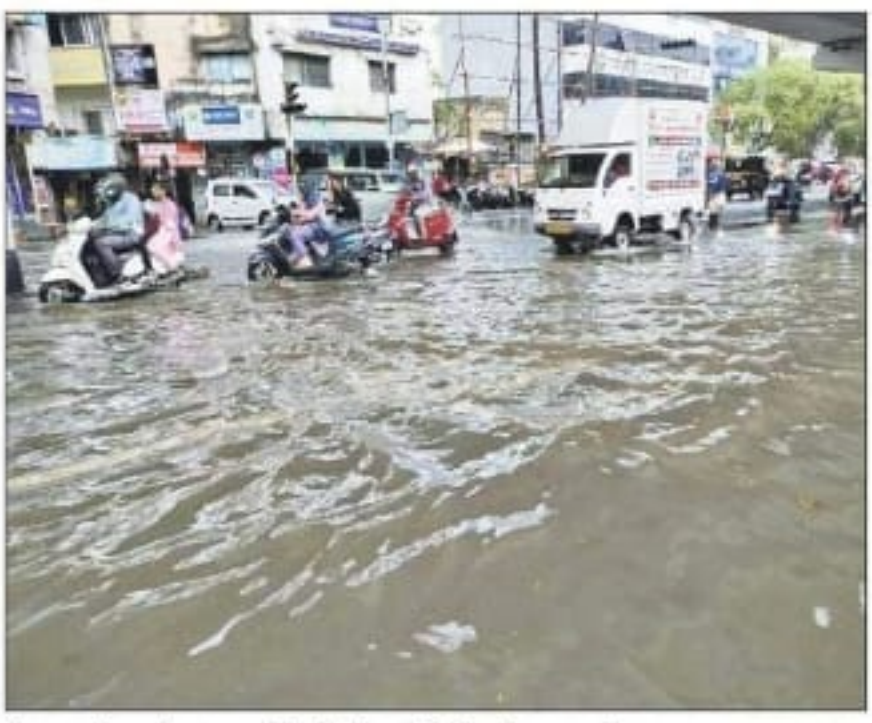

Several roads were blocked, vehicles damaged. MAHENDRA KOLHE/HT

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>
> **MANJUSHA NAGPURE,** mayor, Pune

Ahmedabad-Pune flight diverted to Goa

Dheeraj Bengrut
dheeraj.bengrut@htlive.com

PUNE: An IndiGo flight from Ahmedabad to Pune was diverted to Goa on Thursday due to heavy rainfall and poor visibility at the Pune airport.

According to the Airports Authority of India (AAI) Pune authorities, IndiGo flight 6E522, operating on the Ahmedabad–Pune route, was forced to change course mid-air because low visibility made landing unsafe. The flight departed from Ahmedabad around 1:40 pm and was scheduled to land in Pune at 3:35 pm. The flight was subsequently diverted to Manohar International Airport, where it landed safely at approximately 4:20 pm.

The sudden change in plans caused inconvenience to passengers, who were left waiting for further arrangements to reach Pune.

"Due to continuous rainfall and poor visibility, the flight could not land safely in Pune. Passenger safety is our top priority, and therefore the aircraft was diverted as per standard protocol," said Santosh Dhoke, director, Pune airport.

INDIGO FLIGHT 6E522 FORCED TO CHANGE COURSE MID-AIR AS LOW VISIBILITY MADE LANDING UNSAFE

Rainfall Recorded on April 2

AREA	IN MM
NDA	84.0
Shivajinagar	65.0
Hadapsar	42.5
Pashan	36.3
Dapodi	29.0
Chinchwad	28.5
Malin	18.5
Dudulgaon	13.5
Nimgiri	13.0
Narayangoan	12.0
Talegaon	6.5
Rajgurunagar	4.5
Kurvande	2.5

Source: IMD