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BEFORE THE NATIONAL GREEN TRIBUNAL

WESTERN ZONAL BENCH AT PUNE

APPEAL NO. 12 OF 2020

IN THE MATTER OF:

SARANG YADWADKAR AND ANR. ... APPELLANTS

VERSUS

M/s PUNE MUNICIPAL CORPORATION & ORS. ... RESPONDENTS

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THROUGH

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REJOINDER ON BEHALF OF APPELLANT NO.1 IN REPUDIATION TO THE REPLY AFFIDAVIT FILED BY THE RESPONDENT NO.1 PUNE MUNICIPAL CORPORATION DATED 27.10.2020

1. The Appellants have filed the present Appeal under Sections 18(1) read with Section 16 of the National Green Tribunal Act, 2010 challenging the legality and correctness of the Environment Clearance dated 16th November, 2019 granted to M/s Pune Municipal Corporation by the Maharashtra State Level Environmental Impact Assessment Authority for Mula, Mutha, and Mula-Mutha River Rejuvenation Project (hereinafter referred to as 'the impugned project').
2. That the instant rejoinder is being filed in response to the Reply of the project proponent Respondent No.1, i.e., M/s Pune Municipal Corporation. That at the outset, the Appellant denies each and every statement made by the said Respondent unless specifically admitted or is part of the record. The Appellant reiterates all the facts and submissions made in the Appeal to be true and correct and the same may be read as part of the instant rejoinder and are not all being repeated for the sake of brevity.
3. That the Respondent No.1, Pune Municipal Corporation ('PMC') has raised *inter alia* the following objections in their Reply Affidavit that are being responded to contention wise–

i. PMC has alleged as on **Para 20 k. Pg 227,** that the Terms of Reference granted for the impugned project have been adhered to based on scientific analysis and suggestions of experts.

ii. PMC has alleged as on **Para 15. a. Pg 221**, that the impacts of impounding of rivers through construction of barrages are discussed in detail in EIA Report Chapter 4, Section 4.3.2.

iii. PMC has alleged as on **Para 20 l. Pg 227,** that the impact of barrages has been vetted by the CWPRS.

iv. PMC has alleged as on **Para 15. b. Pg 222,** that the barrages will ensure steady state of flow of water.

v. PMC has alleged as on **Para 20. o**. and **Para 20. q. Pgs 228-229**, that the construction of embankments within 'Prohibitive Zone' of the river does not contravene the Circular of Government of Maharashtra dated 3.5.2018 and the judgment of this Hon'ble Tribunal in *Sarang Yadwadkar and Ors. v. The Commissioner, Pune Municipal Corporation and Ors. 2013 SCC OnLine NGT 4485.*

vi. PMC has alleged as on **Para 20 ee Pgs 234-235**, that certain species of flora and fauna were not detailed in the EIA Report owing to seasonal variation in river biodiversity.

VIOLATIONS OF TERMS OF REFERENCE ('ToR') 4(XXIV) MANDATING STUDY OF IMPACTS OF BARRAGES

Impacts of Barrages Not Assessed in EIA Report

4. The Appellants have submitted on **Para A. iv. Pg 22**, that the EIA Report dated June 2018 prepared for the impugned project provides only a perfunctory mention of the generic impacts of barrages, and no detailed study of the specific impacts of the barrages proposed for the impugned project have been provided, despite the fact that ToR Para 4(xxiv) specifically mandated that *"the impacts of impounding the rivers through the construction of barrages shall be studied in detail and presented".*

5. PMC has alleged, on **Para 20 k. Pg 227** that the Terms of Reference have been adhered to based on scientific analysis and suggestions of experts. However, the Appellants have previously submitted that no such detailed study of construction of barrages has been undertaken in the EIA Report dated June 2018 whatsoever.
6. In response, PMC has alleged as on **Para 15. a. Pg 221**, that the impacts of impounding of rivers through construction of barrages are discussed in detail in EIA Report Chapter 4, Section 4.3.2
7. However, the Appellant submits that the impacts of barrages on the impounding of rivers are considered and presented in only 6 Points in the EIA Report at Section 4.3.2. **Pg 994.** Accordingly, Section 4.3.2. has been reproduced by the Appellant on **Pg29-30,** and evidently provides very generic statements regarding Barrages, without addressing the impacts of the specific barrages proposed in the impugned project.
8. That it is submitted that generic statements regarding barrages provided in Section 4.3.2. of the EIA Report do not provide a detailed assessment of impacts of impounding of barrages to be constructed for the impugned project on the rivers of Pune city. The Appellant submits that notwithstanding the fact that the barrages will lead to stagnation of river water and intensification of floods, it is submitted that the construction of three barrages for the impugned project is estimated to cost Rs. 2,34,58,00,000 and therefore, a comprehensive assessment of the impacts thereof was to be undertaken and detailed in the EIA Report, which has evidently not been done.

No Study Undertaken by CWPRS for Impugned Project

9. PMC has submitted as on **Para 20 l.Pg 227,** that *"the impact of barrages has also been vetted by the CWPRS".* The Appellant denies these submissions of the PMC as being false and misleading. The Appellant submits that vide letter dated 5.04.2021, Central Water Power Research Station, Pune ('CWPRS') has written letter to the Appellant No.1 wherein CWPRS has explicitly mentioned that no study for the impugned project was conducted by them. Accordingly, letter dated 5.04.2021 states as follows:

> *"In particular case of RFD work of PMC, CWPRS was requested by PMC to examine hydrology and hydraulics report prepared by the HCPDPM. The PMC requested to verify that the prepared report is in line and to suggest if anything more is needed. The same is indicated in the letter issued by CWPRS.* ***CWPRS did not conduct any study for RFD of PMC but suggested to take care of some issues in the matter*** *(Ref. letter 1 & 2 under reference above). The same is clear from the letter submitted by CWPRS. Moreover, CWPRS is not clearing authority in the matter as indicated in your letter.*
>
> ***As CWPRS has not conducted or undertook the study for RFD work of PMC, there is no way it can ask PMC to review the study that it did not conduct at the first instance.*** *PMC may take decision in this regard, if it finds it necessary or warranting, detailed study in this regard may be referred to CWPRS..."*
>
> *(emphasis supplied)*

A copy of Letter dated 5.04.2021 written by CWPRS to the Appellant No.1 is annexed and marked herewith as **ANNEXURE A-16.**

10. It is further submitted that the CWPRS itself came out with a report titled 'Mathematical Model Studies of River Mutha for Maha-Metro Rail Corporation Ltd., Pune' dated January 21 which observes that the water surface elevation in Mutha river is already 0.74 m (2 Ft. 5 Inch.) above the red line and about 1.5 m (5 ft.) above the blue line, in certain areas of Pune city. The Appellant has also previously submitted that the said CWPRS Report find that the afflux is far above the permissible levels of water surface elevation, and therefore any construction in the form of barrages, etc. will only increase the likelihood of floods, as both the Red line and Blue Line are being breached without any construction present. The Appellant has previously annexed the said CWPRS Report as ANNEXURE A-4 in I.A. 16 of 2021 in the present Appeal.

11. That therefore, it is patently clear that PMC is attempting to mislead this Hon'ble Tribunal by stating that the impugned project has been 'vetted' by CWPRS. PMC has merely reiterated that, *"the barrages will ensure a steady state of flow and thus ensure water availability..."* throughout their Affidavit in Reply, such as on **Para 15.b. Pg 221-222,** but has however failed to point to any Chapter in the EIA Report that contains the detailed study on the impacts of impounding of rivers through construction of barrages.

Stagnation of Water and Disruption to the Flow of River Likely to be Caused Due to Construction of Barrages

12. The Appellants have previously submitted on **Para C.ii.a., Pg 29**, that the construction of proposed barrages is likely to lead to stagnation of water as the barrages will act as water retention mechanisms leading to certain impediment in natural flow of water, even when fully opened.

13. In response, PMC has alleged, as on **Para 20. m. Pg 228**, that existing barrage system has been vetted by CWPRS and the Hydrology and Hydraulics study does not show adverse impact or backflow. The Appellant however, denies these statements made by the PMC. The Appellant has previously submitted that CWPRS has not undertaken any study for the impugned project, and any submission to the contrary by PMC is an attempt to mislead this Hon'ble Tribunal. The Appellant reiterates that the proposed barrages are likely to lead to stagnation of water and impediment to the flow of water.

14. That such stagnation of water and impediment to flow of the water is evident in the EIA Report and the Hydrology and Hydraulics Report itself, which notes that *"the proposed reservoirs that is barrages shall store around 57122478 m3 of water in river"* as per EIA Report, on **Pg 889**, and that *"The proposed barrages help retain water throughout the length of river (stretch 3,4 and 5) attaining a minimum of 2m depth"*, as per Hydrology and Hydraulics Report, on **Pg. 664.**

15. That therefore, it is patently evident that the EIA Report and the Hydrology and Hydraulics Report themselves envision that there will be water retention of 57122478 m3 in the river, at a minimum of 2 meters depth along various stretches of the river. The Appellants reiterate that such water retention is likely to cause an impediment to the flow of river leading to stagnation of river causing increase in levels of water pollution and reduction in environmental flow of the river.

16. PMC has submitted as on **Para 20.y. Pg 232**, that *"Any minor impediment to the natural flow on account of crest level etc. is being taken care of as wider waterway is provided at that location."* That no further details have been

provided as to what is meant by *"wider waterway",* or how PMC proposes to increase the dimensions of river cross sections. The Appellant rejects the veracity of such statements and submits that such statements by the PMC are bereft of scientific validity and have been furthered by PMC in an attempt to mislead this Hon'ble Tribunal.

17. It is submitted that all such matters ought to have been appraised in a detailed manner by the appraising authority, i.e., State Expert Appraisal Committee, but such 'detailed scrutiny' has not been carried out whatsoever.

SEAC-III Has Admittedly Not Appraised Impact of Barrages

18. The Appellant submits that it is pertinent to note that the State Expert Appraisal Committee-III ('SEAC-III'), while recommending the impugned project for grant of EC, has clearly stated that the impacts of the four barrages proposed in the impugned project have not been assessed by them.

19. The Appellants have submitted on **Para D Pg 43**, that SEAC-III while recommending for grant of impugned EC had clearly observed *"As the Committee has no expert working in the field, the Committee has not gone into this aspect. Proper appraisal from proper authority in this regard is solicited."* That such is a direct indication that the EC has been granted to the impugned project without assessing the impacts of barrages proposed for the impugned project. That PMC have not offered any relevant submissions in negation of the abovementioned observation of the SEAC-III. That it is patently evident that SEAC-III has not appraised the impacts of barrages on flooding, biodiversity, or various other aspects related to the river.

Barrage Likely to Have Adverse Impact on Biodiversity

20. That the Appellant had submitted as in Annexure-11, a paper titled *'The Impact of the Farakka Barrage on Biodiversity: A Case Study of Kushtia District, Bangladesh'*, which mentioned the adverse impacts of the Farakka Barrage on crop, floral and faunal biodiversity.

21. In response, PMC has merely submitted on,**Para 20.aa. pg 233**, that matter at hand is different from Farakka barrage *"as the Farakka barrage was used to*

divert water to the Farakka Super Thermal Power station and there are close to 60 small canals on the river which can divert some water to other destinations for drinking purposes etc. In the case at hand the answering Respondent has not contemplated diverting water flowing of the rivers through canals".

22. However, such does not factor in the submissions made by the Appellant which clearly state the effect of barrages on crop, floral and faunal biodiversity. The effects stated by the Appellant in **Para C(ii)(g), Pg 32,** are not due to existence of canals but due to construction of barrages itself, and therefore, the PMC has failed to adequately respond to the aforementioned research paper. The Appellant reiterates that the proposed barrages are likely to lead to stagnation of water, disruption of natural/Environmental flow of water, and adverse impacts on river biodiversity.

VIOLATION OF ToR 4(XXVI) MANDATING DETAILED IMPACT ON HYDROBIOLOGY

23. The Appellant had previously submitted that ToR 4(xxvi) specifically mandated that *"the impact of the project on the hydro biology of the river will be presented with the consent status with respect to the entire spectrum of aquatic life".* However, no such impact analysis has been presented whatsoever.

24. In response, PMC has submitted on **Para 20.n Pg 228**, that *"It is clarified that a steady flow of water will only assist the hydrobiology of the river".* No further statement has been offered by PMC in response to the Appellant's submissions of violation of ToR 4(xxvi) mandating detailed study of impact of project on hydrobiology.

25. The Appellant reiterates that no impact assessment of the impugned project on the hydro biology of the river is presented in the EIA Report in any manner whatsoever.

EMBANKMENTS CONSTRUCTED WITHIN PROHIBITIVE ZONE OF RIVER

26. The Appellants have previously submitted, as on **Para B.e. Pg 25**, that the embankments proposed by the impugned project obstruct the natural flow of the river, reduces carrying capacity of the river, as well as alters the cross section of

the river. The impugned project envisions the construction of *inter alia* embankments within the 'Prohibitive Zone' of the river, and accordingly, is in violation of Circular of Water Resources Department, Government of Maharashtra dated 3.05.2018 and order of this Hon'ble Tribunal in *Sarang Yadwadkar and Ors. v. The Commissioner, PMC and Ors* reported in *2013 SCC OnLine NGT 4485.*

27. That PMC has submitted, as on **Para 20.o. Pg 228**, that *"the proposed embankments will concur with the redefined 25 year and 100 year flood as defined by Irrigation Department is contained within the river prism."*

28. It is submitted that such statements by PMC are bereft of any meaning and are liable to be rejected in their entirety. That PMC have submitted that they have planned only permitted activities of playground and gardens in the 'Prohibitive Zone'. It is pertinent to note that PMC in their Affidavit in Reply have nowhere denied that there will be construction of embankments undertaken within 'Prohibitive Zone' of the river.

29. However, the Appellants have already submitted that the proposed embankments which are to be constructed within Blue Flood Line, ie., Prohibitive Zone of the river are likely to substantially reduce the river cross sections, and are therefore likely to reduce the flood carrying capacity. That the Appellant have previously annexed illustrations of Cross Sections of River along with Embankments as on **Annexure-7 Pg 141-144**, which clearly highlight the substantial decrease in river cross sections due to the impugned project. The Appellants have also submitted a research paper detailing how embankments worsen flooding in India, as on **Annexure-8 Pg 145-151**. That PMC have not provided any response to either of the Annexures abovementioned.

30. It is submitted that the embankments proposed in the impugned project are also designed in violation to the 'IS 12094(2000):Guidelines for Planning and Design of River Embankments', which specifically mandate as on Para 3.3.1 therein, that embankments should be aligned on the ridge of the natural banks of the river. However, such Indian Standard Guidelines have not been adhered to by the PMC. A copy of the relevant extracts of 'IS 12094(2000):Guidelines for Planning

and Design of River Embankments' is annexed and marked herewith as **ANNEXURE A-17.**

31. That PMC has provided vague submissions with regards to mitigation measures against flooding due to embankments, as on **Para 20.t. Pg 230**, wherein PMC has stated that *"in order to further reduce the risk of flooding the answering Respondent plans safeguards by increasing designed flood discharge by 20%."* However, no details or modalities of the proposed increase in designed flood discharge are given whatsoever. The Appellant accordingly denies the veracity of such statement and submits that such statement is an attempt by the PMC to mislead this Hon'ble Tribunal. The Appellant reiterates that the impugned project plans to construct embankments within prohibitive zone of the river, in violation of the Water Resources Dept. Circular dated 3.05.2018 and order of this Hon'ble Tribunal in *Sarang Yadwadkar and Ors. v. The Commissioner, PMC and Ors.*

IMPUGNED PROJECT WILL LEAD TO INCREASE IN LIKELIHOOD OF AND DAMAGE CAUSED BY FLOODS

32. The Appellants have previously submitted that various lacunae were present in the EIA Report with regards to the adverse effect of the construction of embankments and barrages on likelihood of floods and river biodiversity. In response, PMC has submitted on **Para 20.s. Pg 229-230**, that *"embankments are proposed parallel to the river along the entire length of 44 kms of the river project area and not across the river. As the embankments are proposed parallel to the river they will not affect the flow of the river and thus there is also very little risk of these embankments getting damaged and causing floods."*

33. However, such is incompatible with the evidence adduced on record by the Appellant (Annexure-7) which clearly shows that the cross sectional area reduction and proportionate reduction in the flood carrying capacity of the river. The Appellant have also annexed Research Paper by Chate and Nimbalkar at **Annexure-9 Pg 152-157**, which clearly mentions that four bridges will get submerged if 100% spillway capacity flood is released in the future. That such

Research Paper does not include the proposed barrages and embankments, indicating an even worse scenario of flooding if the impugned project is allowed.

34. It is submitted that the abovementioned evidence regarding increase in likelihood and intensity of flooding due to impugned project has not been refuted by the PMC, and instead, PMC has merely stated as on **Para 20.s. Pg 229-230,**that *"flood carrying capacity is not only related to cross sectional area and gradient but is also dependent on Rugosity Coefficient"* and that *"the project proposes to reduce the Rugosity Coefficient by removal of obstructions like low level bridges, causeways, weirs and check dams, infrastructure elements like manholes, pipelines, etc. within the river bed and by streamlining the river."*

35. The Appellant submits that these statements are contradictory in nature. The Appellant admits that flood carrying capacity is related to cross sectional area, gradient, as well as Rugosity Coefficient. However, if obstructions such as weirs and check dams are proposed to be removed by the impugned project to reduce the Rugosity Coefficient, it is unclear why the same project proposes to construct barrages – which are akin to weirs and check dams- and thereby increase the Rugosity Coefficient.

36. The Appellant submits that removal of obstructions can be done without construction of embankments and barrages, and such removal is in no way related to or dependent on construction of embankments or barrages. In fact, this Hon'ble Tribunal in OA No. 49/2019 *Sarang Yadwadkar and Ors. vs Pune Municipal Corporation and Ors.* vide order dated 26.09.2019, has categorically directed that, *"We, therefore, direct the Pune Municipal Corporation (PMC), the Pimpri Chinchawad Municipal Corporation (PCMC) and the PuneMetropolitan Regional Development Authority (PMRDA) to immediately act in terms of the recommendations for removal of all unauthorized constructions raised within the prohibited areas and restore the rivers to its original form."* It is thus obligatory upon the Respondent to immediately remove all obstructions impeding the natural flow of the rivers.

37. It is submitted that constructions within Blue Line proposed by the impugned project are in violation of orders of this Hon'ble Tribunal, as well as prior undertakings and assurances of the PMC themselves. That this Hon'ble Tribunal has passed an order dated 11.07.2013 in *O.A. 2 of 2013 titled Sarang Yadwadkar and Ors. v. The Commissioner, PMC and Ors.,* wherein this Hon'ble Tribunal explicitly directed PMC to ensure no future construction within the Blue Line of the river. This Hon'ble Tribunal accordingly ordered as follows:

> *"38.(g) As already noticed and highlighted during the course of the hearing, a large number of structures have come up at and even inside the blue line of the river Mutha. Respondent No.1 itself has issued notice to some of such structures for demolition. Thus, in the peculiar facts and circumstances of the case, we further direct that Respondents No. 1, 3 and 4 shall take appropriate steps against unauthorized constructions, if any, raised on and inside the blue line and pass order of demolition or such order as is permissible in accordance with law. We also direct the said authorities to ensure that no encroachment is permitted and no construction in future is permitted on and inside the blue line of the river Mutha."*

A copy of the relevant extracts of the order dated 11.07.2013 in O.A. 2 of 2013 is annexed and marked herewith as **ANNEXURE A-18.**

38. It is pertinent to note that in the same *O.A. 2 of 2013*, the PMC has filed Affidavit in Reply wherein the Commissioner, PMC has unconditionally assured that no future construction will be undertaken by PMC within the Blue Line. Accordingly, the PMC had submitted before this Hon'ble Tribunal as follows:

> *"1.1 That Respondent No.1 undertakes not to permit in future any building construction activities within the blue line."*

A copy of the Affidavit in Reply filed by the PMC in O.A. 2 of 2013 is annexed and marked herewith as **ANNEXURE A-19.**

39. However, in the present matter, with respect to increased likelihood of floods due to construction within Blue Line of river, PMC has merely stated on **Para 20.u. Pgs 230-231,** that *"The proposed project ensures that there is no change in any parameters at the point of commencement of the project or at the end point of the project. Therefore, there will be no adverse impacts upstream or downstream of the project area."*

40. However, there is no clarity on what is meant by '*no change in any parameters*'. That the Appellant denies that there will be no adverse impacts upstream or downstream of the project. The Appellant has previously submitted that the impugned project is likely to lead to increase in likelihood and intensification of floods, as well as cause stagnation of river water and damage to river floodplains due to construction thereon. The Appellant reiterates that construction of embankments in the prohibitive zone of the river is in violation of the Water Resources Department Circular dated 3.05.2018, as well as orders of this Hon'ble Tribunal in *Sarang Yadwadkar and Ors. v. The Commissioner, Pune Municipal Corporation and Ors. 2013 SCC OnLine NGT 4485,* wherein this Hon'ble Tribunal had directed that no construction can be raised inside Blue line, i.e, prohibitive zone of River Mutha.

41. In this context, it is pertinent to note that The Chief Engineer, Water Resources Department has sent a letter to the Secretary, Water Resources Department on 15.11.2019 with a copy sent to the Project Proponent. The letter highlights the precautions to be taken in the River Front Development project as under:

> *"While implementing riverfront development project inside flood lines, precautions should be taken so that* ***river flow should not get disturbed inside flood*** *lines and no impact shall happen to flood carrying capacity of the river."*
>
> *"****The flood lines*** *and flood data for Mula, Mutha and Mula-Mutha Rivers inside PMC limits,* ***defined earlier by Water Resources Department will not be changed****."*
>
> *"****Flood carrying capacity (Cross-Section)*** *of rivers* ***should not be reduced*** *while implementing riverfront development project for Mula, Mutha and Mula-Mutha Rivers."*
>
> *(emphasis supplied)*

A copy of the Chief Engineer, Water Resources Department letter to the Secretary, Water Resources Department dated 15.11.2019 is annexed and marked herewith as **ANNEXURE A-20.**

42. That furthermore, the Water Resources Department, Pune has written letter dated 23.07.2021 to the PMC stating that there were discrepancies in the flood lines as per the Water Resources Department and the flood lines prepared by the

PMC for the impugned project. Accordingly, the Water Resources Department has directed the PMC as follows:

> *"1. Therefore, no change is permissible in the flood discharges and flood lines which are already finalized by Water Resources Dept. for Mula, Mutha and Mula-Mutha rivers.*
> ...
> *3. While implementing the River Front Development Project, precautions should be taken so that Flood Carrying Areas (Cross-Sections) of Mula, Mutha and Mula-Mutha Rivers are not reduced."*

A copy of the Water Resources Department, Pune letter dated 23.07.2021 to the PMC is annexed and marked herewith as **ANNEXURE A-21.**

43. The Appellant therefore submits that PMC are not permitted to undertake any form of construction within the Blue Line of the river, or reduce the cross section of the river in any manner. Despite such, PMC have not provided any valid justification or permissions for construction of embankments within prohibitive zone of the river. It is submitted that in light of the Circular dated 3.05.2018, order of this Hon'ble Tribunal in *Sarang Yadwadkar and Ors. v. The Commissioner, Pune Municipal Corporation and Ors. 2013 SCC OnLine NGT 4485,*as well as Letter of Water Resources Department dated 15.11.2019, that PMC cannot be permitted to proceed with the construction of embankments within prohibitive zone of the river.

44. It is further submitted that the impugned project has not been planned in line with the provisions of the National Disaster Management Guidelines for Management of Floods. That as per the Guidelines, Para 6.3 states that there is a prohibition on the construction of structures obstructing the natural drainage of a river; and Para 6.7 states that state governments have a responsibility to prohibit reclamation of wetlands/natural depressions. That these Guidelines note *inter alia* in Para XX that flooding in cities has increased due to indiscriminate encroachment of waterways, and in Para 1.4 that areas within the Western Ghats of Maharashtra are more vulnerable to flash floods caused by cloud bursts. Relevant extracts of the National Disaster Management Guidelines for Management of Floods are annexed and marked herewith as **ANNEXURE A-22.**

ON SEWAGE MANAGEMENT AND CLEANING OF RIVER

45. The Appellant has submitted as on **Para C.iv.c. Pg 35**, that the impugned project will not set up any new STPs or outflow mechanisms, and accordingly, does not further cleaning of river in any manner whatsoever. As above submitted, the impugned project is in fact likely to lead to greater stagnation of river water. However, PMC has repeatedly and falsely claimed 'curbing of sewage' and 'making the river pollution free' as one of the Project Benefits.

46. PMC has submitted on **Para 20.cc. Pg 233-234**, that since PMC is the proponent for varioussewage management projects (NRCD, JICA, and impugned project) that *"thus various projects have to be seen collectively to get a better picture of the efforts undertaken by answering Respondent to reduce and curb inlet of sewage directly into the river".* PMC further states that *"various projects of the answering Respondent collectively aim to carry out a comprehensive and holistic solution to curb the discharge of untreated sewage into the river".*It is submitted that such is an irrelevant submission as the impugned project does not envisage installation of treatment facilities for sewage, whatsoever.

47. Not only has the PMC failed to provide any detailed information as to how the impugned project achieves the stated benefits of 'pollution free river', it has also tacitlyadmitted to the fact that the impugned project by itself will not cause greater sewage treatment, and the PMC is reliant on JICA and NRCD for such purposes. Therefore, the fact that the EIA Report includes curbing of sewage as one of the 'Project Benefits' is misleading and untrue.

48. That the Appellant had previously submitted that the impugned project does not envision the construction of any Sewage Treatment Plant, yet it seeks to claim curbing of sewage as one of the project benefits. PMC has not denied this claim, and it is clear that no new STPs will be set up under the impugned project.

49. It is submitted that the PMC is at complete liberty to enforce stronger sewage treatment regime as is the mandate under NRCD and JICA project, and cannot claim that all the projects undertaken by PMC need to be collectively viewed, as

they are completely distinct projects under law. All such projects have been independently appraised, and permission has been sought accordingly.

50. PMC has stated on **Para 14.c. Pg 220**, *"for the sewage outfalls that have not been curbed by either the existing sewage network or JICA proposal or wherever augmentation is needed, the project proposes to lay an interceptor sewer, which will divert sewage to the nearest STP".*

51. PMC cites Pg 223-224 of Hydrology and Hydraulics report in support of their submissions on interceptor sewer, however such Pgs 223-224 of the report simply provide general information on Interceptor Lines. The Appellant reiterates that the claim that the stated project benefits of making the river "pollution free" is not furthered by the impugned project in any tangible way. The Appellant denies that the impugned project will help in ensuring the river is pollution free, and submits that the impugned project is likely to have the opposite effect of increasing pollution due to stagnation of water caused by construction of barrages.

ON LACUNAE IN DETERMINING IMPACT OF FLORAL, FAUNAL, AND OTHER BIODIVERSITY

52. The Appellants have previously submitted as on **Para C.v. Pg 38,** that the EIA Report miserably fails in scientifically and holistically addressing the aspects of biodiversity, as the flora list in the EIA Report is incomplete and evidently copied from some external source. It is submitted that the PMC on **Para 14.d. Pg 220** and **Para 20.ee Pg 234-235**have accepted that the complete and true list of biodiversity has not been analysed in the EIA Report. PMC has submitted thus:

> *"20.ee....However, present conditions of the river is in extremely bad shape and thus in non rainy seasons the floral and faunal varieties found are largely different from those found in the selective span of the year when the river basin carries sizeable amount of water.* ***There is a possibility that certain species of flora and fauna may not have been recorded*** *in the season in which the noting were taken and at the specific location where the baseline monitoring was carried out.* ***The list of trees, shrubs, climbers, and grass given is only indicative."***
>
> *(emphasis supplied)*

53. That such is a clear admission that the EIA Report has provided false information regarding biodiversity of the river. Furthermore, PMC goes on to state on **Para**

20.ff. pg 235,that *"no trees are proposed to be felled by way of the said project. Only invasive shrubs, grass, climbers shall be removed."* However, in the very next line PMC states, *"in case the trees are required to be removed then they will be transplanted or if not possible then the answering Respondent will undertake plantation of 10 times new trees and ensure appropriate maintenance and speedy growth".*

54. It is submitted that the PMC is attempting to make a mockery of environmental norms by such statements. That no project proponent is allowed to unilaterally decide the terms of compensatory afforestation. That an exhaustive list of biodiversity, flora and fauna likely to be impacted due to any project is to be assessed prior to grant of Environmental Clearance. That such statements by PMC are indicative of the lack of seriousness and knowledge of environmental safeguards.

55. It is submitted that any project proponent desirous of obtaining Environmental Clearance has to submit complete and true information which is vital for appraisal thereof. That deliberate concealment of any information that is material to appraisal of a project makes the EC granted liable to be quashed, as per Para 8(vi) of the EIA Notification, 2006.

56. Furthermore, the Appellant had submitted that there is widespread fraud and misrepresentation in the biodiversity analysis of the EIA Report. That the list of floral and faunal biodiversity has no relevance to the on-ground situation, and the details included therein are completely false and fabricated, ostensibly taken from an entirely different project.

57. PMC has completely failed in responding to submissions regarding illegal information of biodiversity analysed in the EIA Report as has been submitted by the Appellants in**Para C. V. (c)(d)(e), Pgs 39-40,** whatsoever. This is undeniable proof that the PMC has not undertaken any sort of assessment of floral and faunal biodiversity on the river and solely based on submission of such false and fabricated information, the impugned EC is liable to be quashed. That the Appellant No. 1 has previously detailed all the various infirmities with the

impugned project in Guest Article titled 'Pune River Front Development Project' published by South Asia Network on Dams, Rivers and People ('SANDRP') dated 5.08.2021. A copy of the Article titled 'Pune River Front Development Project' published by SANDRP dated 5.08.2021 is annexed and marked herewith as **ANNEXURE A-23.**

ON INCOMPLETE ENVIRONMENT MANAGEMENT PLAN

58. The Appellants have submitted as on **Para C. vi. a. Pg 41**, that the Environment Management Plan in the EIA Report makes ineffective statements regarding management of environmental issues. In response, PMC submits on **Para 20.kk. Pg 236-237** that *"The Environment Management Plan (EMP) provided in the EMP report is a broader level framework or skeleton that will be followed by a detailed EMP as per the detailed design, phasing and executing strategy of the project components. This detailed design and execution stage is still pending and shall be taken up along with detailed EMP and submitted to relevant authority."* This is therefore a tacit admission by PMC that the EMP present in the EIA Report is incomplete and ineffective.

59. That the EIA Report makes provision of Rs 171.197 crores of taxpayer money for the EMP, without any justification of reasons for allocation of such amounts of funds or where such funds will be spent. That the SEAC-III should have taken such incomplete and ineffective EMP into consideration while carrying out detailed scrutiny of the project, and it clear that failure to do so constitutes a failure on the part of the SEAC-III in appraising the impugned project by carrying out 'detailed scrutiny' as is the prescribed manner as per Para 7.IV (i) of the EIA Notification, 2006.

INFIRMITIES EVIDENT IN THE APPRAISAL PROCESS

60. The Appellant has submitted on **Para D.f. Pg 45**, that the impugned project has not been appraised as per the EIA Notification, 2006, whatsoever, owing to various infirmities apparent on the face of the record. That the Appellant has previously submitted that the appraisal of impact of barrages has admittedly not been done by SEAC-III.

61. It is further submitted that Minutes of 178 Meeting of SEIAA dated 11.10.2019, wherein the impugned project was appraised by the SEIAA, clearly reveal the vital information regarding the impugned project has not been appraised by the authorities, and the impact of barrages has not been appraised by SEIAA either, as is highlighted in the following paragraphs.

62. That as per Para 18 of the Minutes of 178 Meeting of SEIAA, the 'Built-Up Area' for the impugned project is 00 sq. m., meaning that the impugned project does not propose any area within the impugned project to be 'Built-Up Area'. However, as per the Detailed Project Report, **Pgs 801, 803-804**, indicate the following Built Up Area proposed for the impugned project:

Particulars	**Total Built Up Area**
Detailed Project Report Page No. 801:	
Lower level Retaining Wall	19,338 rmt
Upper level Retaining Wall	19,338 rmt
Middle level anchor Slab-Type 1	1,16,028 sqm
Lower level Pitching and Toe Wall	2,83,800 sqm
Lower level Retaining Wall	1,985 rmt
Middel level Pitching	1,05,582 sqm
Middel level anchor Slab with Key	1,17,018 sqm
Upper level Pitching	1,40,776 sqm
Upper level Retaining Wall	19,503 rmt
Lower level Guide Wall	15,612 rmt
Lower level Toe Wall	32,649 rmt
Pitching	30,800 rmt
Detailed Project Report Page 803:	
Lower Promenade (having anchor slab base)	1,16,028 sqm
Upper Promenade	1,16,028 sqm
Lower Promenade (having anchor slab base)	1,17,018 sqm
Stone Pitching - Slanting (UR-1,3 - Upper level)	1,40,776 sqm

Stone Pitching - Slanting (UR-1,2 -Lower level)	2,83,800 sqm
Upper Promenade	2,22,600 sqm
Lower Promenade having Pitching base	1,05,582 sqm
Upper Promenade	1,95,894 sqm
Finishing on Sloped Embankment	3,91,788 rmt
Access Type-1 - Two Stairs	300 rmt
Access Type-1A - Single Stair	180 rmt
Access Type-2 Parallel Stair and Ramp	4,380 rmt
Access Type-3 having one perpendicular stair	150 rmt
Access Type-4 having one perpendicular stair	150 rmt
Access Type-5 having two stairs and Steps	600 rmt
Access Type-6 having only ramp	2,670 rmt
Ghat Type-1	312 rmt
Ghat Type-2	936 rmt
Detailed Project Report Page No. 804:	
Toilet Blocks	4,770 sqm
Food Courts	27,884sqm
Parking Spaces	67,543sqm
Plaza	77,633 sqm
Dhobi Ghat	1,200 sqm
Bridges	10,000 sqm
Pedestrian Bridges	6,300 sqm
Summary:	
FSI	
Toilets and Food Courts	32,654 Sq. M.
TOTAL:	
NON FSI BUILT-UP	**1,53,271 R. M.**
	17,99,030 SQ. M.
FSI	**32,654 SQ. M.**

63. It is submitted that therefore, as per the Detailed Project Report annexed by the PMC themselves, the Total Built Up Area to be constructed for the impugned project is amounting to **18,31,684 Sq. M**. or **453 Acres** and **1,53,271 R.M.** or **153.27 KM** in length. That therefore, it is patently evident that there is a gross misrepresentation and concealment of vital information during appraisal process as undertaken by SEIAA for the impugned project, which has observed the Built Up Area as 00 Sq. M.

64. The said SEIAA Minutes of 178 Meeting also reveal that SEIAA has not appraised the existing structures within the project area, or the demolition involved. Accordingly, the SEIAA Minutes of 178 Meeting state on Point No. 29 that *"There are no existing structures"* within the impugned project and on Point No. 30 that *"There will be no demolition"* for the impugned project. It is submitted that both these statements are patently untrue, and contradictory to the submissions made by the PMC as highlighted above on Para 34 of the present Rejoinder.

65. The Appellant submits that the PMC has submitted on numerous occasions in Affidavit in Reply that the impugned project envisions removal of obstructions like low level bridges, causeways, weirs and check dams, infrastructure elements like manholes, pipelines, etc. within the river bed.

66. It is pertinent to mention that the SEIAA Minutes of 178 Meeting state, with regards to appraisal of impact of barrages proposed for the impugned project that *"As the Committee has no expert working in this field, the Committee as not gone into this aspect. Proper appraisal from proper authority in this regard is solicited".* It is evident that such statements are exactly identical to the statements made by SEAC-III while recommending the impugned project for grant of EC. Therefore, it is evident that neither SEIAA nor SEAC-III have undertaken 'detailed scrutiny' of the project as is mandated by Para 7.IV(i) of the EIA Notification, 2006.

67. Despite observing that proper appraisal of impacts of barrages has not been done, SEIAA recommended the impugned project for grant of EC during 178 Meeting dated 11.10.2019. Therefore, in this context, it cannot be said that

SEIAA has undertaken appraisal of the impugned project with complete information on all vital aspects of the impugned project. That therefore the Appellant submits that there are major lapses in the appraisal process undertaken by SEIAA as well as SEAC-III.

A copy of the Minutes of 178 Meeting of SEIAA dated 11.10.2019 are annexed and marked herewith as **ANNEXURE A-24.**

68. It is therefore patently evident that there are various infirmities in the entire appraisal process, and that both the SEIAA and the SEAC-III have miserably failed in their duty to carry out detailed scrutiny of the project, as per the provisions of the EIA Notification, 2006.

PRAYER

In light of the issues raised and arguments advanced, the Appellant humbly prays that this Hon'ble Tribunal may be pleased to order as follows:

1. Quash and set aside the prior Environmental Clearance granted by Respondent No. 3 Maharashtra State Environmental Impact Assessment Authority received by Respondent No. 1 M/S. Pune Municipal Corporation dated 16.11.2019 for the proposed Mula, Mutha and Mula-Mutha River Rejuvenation Project;
2. Direct Respondent No.1 PMC not to proceed with the impugned project in its entirety until the plans are revised and fresh and scientifically rigorous Environmental Impact Assessment of the same is undertaken;
3. Direct the Respondent No. 1 PMC to pay compensation for any damage caused to the environment by virtue of undertaking of the impugned project;
4. Direct CWPRS to prepare submergence maps of the rivers in Pune for discharge of 60,000 CuSecs and 100,000 CuSecs to detail the submergence levels of the river in scenarios with and without the impugned project or any similar project planned in the future.
5. Appoint CWPRS for comprehensive appraisal of any similar project in the future, along with all other projects proposed on the riverbed before any further steps are taken by the Project Proponent;
6. Direct the Respondents to collectively bear all costs incurred by the Appellants.

Pass any such Order deemed fit by this Hon'ble Tribunal in the facts and circumstances of the case.

APPELLANT NO.1

THROUGH

RITWICK DUTTA RAHUL CHOUDHARY MAITREYA GHORPADE

COUNSEL FOR THE APPELLANTS

N-71, Lower Ground Floor,

Greater Kailash-I, New Delhi - 110048

Email:litigation.life@gmail.com

Ph: 93124 07881

VERIFICATION

I, Sarang Yadwadkar, r/o A-9, Pradnyangad Apartments, S. No. 119/3 Sinhagad Road, Pune – 411030 do hereby solemnly affirm and state as under:

1. That I am the Appellant No.1 in the above titled Appeal and I am conversant with the facts and the circumstances of the case and competent to swear this affidavit.

2. That that the contents of the present Rejoinder are true to my knowledge and/ or based on information, and/or the contents are based on the legal submission and/or inferences of facts, which I believe to be true.

Date:

Place:

APPELLANT NO.1

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

WESTERN ZONAL BENCH AT PUNE

APPEAL NO. 12 OF 2020

NOTARY SUNIL R. KOTLIKAR DISTRICT (MAHARASHTRA) REGD. No. 9054 GOVERNMENT OF INDIA

IN THE MATTER OF:

Sarang Yadwadkar and Anr. ...APPELLANTS

VERSUS

M/s Pune Municipal Corporation and Ors. ...RESPONDENTS

AFFIDAVIT

I, Sarang Yadwadkar, r/o A-9, Pradnyangad Apartments, S. No. 119/3 Sinhagad Road, Pune – 411030 do hereby solemnly affirm and state as under:

1. That I am the Appellant No.1 in the above titled Appeal and am conversant with the facts and circumstances described in the present case and as such, I am competent to swear this affidavit.

2. That the contents of the accompanying Rejoinder are true and correct and nothing material has been concealed therefrom.

DEPONENT

BEFORE ME
16/9/21
SUNIL R. KOTLIK
NOTARY, GOVT. OF INDIA
PUNE DISTRICT (MAHARASHTRA)
REGD. NO. 9054

VERIFICATION

Verified on this ___ of _____ 2021 that the contents of the above mentioned affidavit are true and correct and nothing material has been concealed therefrom.

DEPONENT

NOTARIAL NOTARIAL NOTARIAL NOTARIAL NOTARIAL

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100 years and beyond ...

1916-2016

सत्यमेव जयते

Annexure A-16

भारत सरकार / Government of India
जल शक्ति मंत्रालय / Ministry of Jal Shakti
जल संसाधन, नदी विकास और गंगा संरक्षण विभाग
Department of Water Resources, River Development an Ganga Rejuvenation
केन्द्रीय जल और विद्युत अनुसंधान शाला
खडकवासला, पुणे - 411 024
CENTRAL WATER & POWER RESEARCH STATION
Khadakwasla, Pune – 411 024

150 YEARS OF CELEBRATING THE MAHATMA

संख्या: TC/2021/ 183

दिनांक: 05th April 2021

05 APR 2021

Shri S. V. Yadwadkar
A-10, Pradnyangad,
S.No. 119/3 Sinhagad Road
Pune - 411030
yadwadkarsarang@gmail.com

Sub.: Impact of the proposed River Front development (RFD) project on flood levels in Pune.

Ref.: 1. Letter to CE(Projects), PMC, No. 520/RFD-PMC/2017/HMET/213 dated 06.04.2017
2. Letter to CE(Projects), PMC, No. 520/Riverfront/PMC/HMET/2017/441 dt -27.07.2017
3. Letter to Shri Srinivas Bonala, CE, PMC, No. 520/Mula-Mutha- D/HMET/2017/725 dt-26.12.2017
4. Your letters No. nil dated 25.2.2021 and 22.3.2021

Dear Sir,

Central Water and Power Research Station undertakes various studies based on the facts in the form of data submitted by the project authorities or in some cases collected from local and central agencies (Viz. IMD). Studies suggest / recommend practically feasible, economically optimal and environmental friendly solutions to the problem. The input data given or submitted, define the ri during the study. The study results are unbiased and based only on the facts in the form of input data needed for the studies. If some project is delayed and input conditions change over the period, CWPRS may not be able to change its recommendations on its own as the facts may not have come to the knowledge of CWPRS. Moreover, the completed studies in respect of the same cannot again be reopened by CWPRS. The working pattern of CWPRS is as per the guidelines issued by the MoJS, DoWR, New Delhi. The concerned project authorities have to approach CWPRS for reassessment in such cases where there is a major variation over the time in the input facts / data and when they suspect the optimal solution could be different from the one suggested due to old data.

In particular case of RFD work of PMC, CWPRS was requested by PMC to examine hydrology and hydraulics report prepared by the HCPDPM. The PMC requested to verify that the prepared report is in line and to suggest if anything more is needed. The same is indicated in the letter issued by CWPRS. CWPRS did not conduct any study for RFD of PMC but suggested to take care of some

टेलीफोन : 020-24103378
फैक्स : 020-24381004
ई-मेल : cro_tc@cwprs.gov.in
वेबसाइट : www.mowr.gov.in, www.cwprs.gov.in

d/c

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issues in the matter (Ref. letter 1 & 2 under reference above). The same is clear from the letter submitted by CWPRS. Moreover, CWPRS is not clearing authority in the matter as indicated in your letter.

As CWPRS has not conducted or undertook the study for RFD work of PMC, there is no way it can ask PMC to review the study that it did not conduct at the first instance. PMC may take decision in this regard, if it finds it necessary or warranting, detailed study in this regard may be referred to CWPRS. In view of the same your concerns may be addressed to PMC at appropriate level.

Thanking you,

निदेशक, के.ज.और वि.अ.शाला के अनुमोदन से यह [illegible] जारी किया गया है।

धन्यवाद,

भवदीय,

5/4/21

(एस. जी. मंजुनाथ / S. G. Manjunatha)
वैज्ञानिक 'ई' (तकनीकी समन्वय)
Scientist 'E' (Technical Co-ordination)
For Director, CWPRS

Encl.: 1. Letter to CE(Projects), PMC, No. 520/RFD-PMC/2017/HMET/213 dated 6.4.2017
2. Letter to CE(Projects), PMC, No. 520/Riverfront/PMC/HMET/2017/441 dated 27.7.2017
3. Letter to Sri Srinivas Bonala, CE, PMC, No. 520/Mula-Mutha-RFD/HMET/2017/725 dated 26.12.2017
4. Your letters No. nil dated 25.2.2021 and 22.3.2021

Copy to: Chief Engineer (Projects), Pune Municipal Corpoation, Savarkar Bhavan, Shivajinagar, Pune - 411005 for kind information along with all enclosures as above.

d/c

टेलीफोन : 020-24103378
फैक्स : 020-24381004
ई-मेल : cro_tc@cwprs.gov.in
वेबसाइट : www.mowr.gov.in, www.cwprs.gov.in

IS 12094 (2000): Guidelines for Planning and Design of River Embankments (Levees) [WRD 22: River Training and Diversion Works]

8) Cross-section and L-sections of the river particularly in the reaches where works are proposed.

9) Rainfall data for the basin for the past years.

c) *History of past floods*

A brief history of the past floods indicating duration of floods, flood discharges and corresponding water levels, stage of the river at which the damage was most pronounced, extent of damage and their effect on the river regime, measures adopted earlier for the protection against floods and their effect on the river courses, river sections, bed levels, etc, as well as the present condition of the existing flood control works.

3.1.3 After determining the type of the area to be protected and degree of protection to be given, the extent of area to be protected economically should be decided upon. For economic viability, the benefit-cost ratio (B.C. ratio) should be more than unity.

3.2 Degree of Protection

The height of the embankment and the corresponding cost and B.C. ratio should be worked out for various flood frequencies taking into account the damage likely to occur. The degree of protection which gives the maximum benefit cost ratio should be adopted.

However, till such time as the details of all relevant parameters are available, embankment schemes should be prepared for a flood of 25 years frequency in the case of predominantly agricultural areas and for flood of 100 years frequency for works pertaining to protection of town, important industrial and other vital installations. In certain special cases, where damage potential justifies, the maximum observed flood may also be considered.

3.3 Alignment and Spacing of Embankments

3.3.1 As far as possible, embankments should be aligned on the ridge of the natural banks of the river, where land is high and soil suitable for the construction of embankments.

The alignment should be determined in such a way that the high velocity flow which can erode the embankment material is sufficiently distant from them. Hydraulic models are useful guides in this regard.

3.3.1.1 Embankments should be aligned so that important towns and properties along the river bank are left outside the embankment. Where it is not possible to set back embankments to avoid the high velocity flow, some form of protection is necessary. Protrusions and sudden changes in the alignments and forming kinks should be avoided as far as possible.

3.3.1.2 The spacing between the embankments in jacketted reach of river should not be less than 3 times Lacey's wetted perimeter for the design flood discharge. In no case should an embankment be placed at a distance less than Lacey's wetted perimeter from the river bank or one and a half times the Lacey's wetted perimeter from the midstream of the river. This should also be ensured in case of embankment on only one bank of the river. Alignment of embankments should also be planned so that land acquisition for embankment construction is feasible and is not prolonged.

3.3.1.3 In the tidal reach of a river, embankments should be constructed with due regard to their effect on the navigation requirements in the channel as embankments in such cases may substantially reduce the tidal influx causing a reduction in the available navigation depth. As such no recommendation on spacing and alignment of levee can be generalized in view of the fact that each river is unique in its behaviour. Thorough knowledge of the river behaviour and studies of the effects of the embankments along different alignments are prerequisites for taking decision on spacing and alignment. Vulnerability to river attack, rise of high flood level on account of reduction in flow area, increase in discharge due to cut off in valley storage, as well as optimization of benefit, etc, should reflect in the decision making.

3.3.2 *Length of the Embankment*

Length of embankment directly depends upon the alignment. However, it is to be ensured that both ends of the bund are tied up to some high-ground or existing highway or railway or any other embankment nearby conforming to the design height of the embankment.

4 DESIGN OF EMBANKMENT

4.1 Types

Embankments can be classified into two types as given below:

a) *Homogeneous Embankment*— It consists of practically uniform material throughout. There is no designed plan of material distribution other than the coarsest or most pervious material being placed at the outer slopes (*see* Fig. 1).

b) *Zoned Embankment*— It essentially consists of an inner or impervious section supported by two or more outer sections of relatively pervious materials (*see* Fig.2).

4.1.1 The essential requirements for design of the embankment are the determination of the design high flood level (HFL), hydraulic gradient, free board, side slopes, top width, etc. The stability of the structure should be checked under all stages of construction, condition of saturation and drawdown. The embankment

Annexure A-18

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH
NEW DELHI

.....

APPLICATION NO. 02 of 2013

In the matter of :

1. Sarang Yadwadkar,
   A-90, Pradnyangad Apartments,
   S.No.119/3, Behind Navashya Maruti,
   Sinhagad Road,
   Pune-411030

2. Vivek Velankar,
   President, Sajag Nagrik Manch,
   1200, Sadashiv Peth, Limaye Wadi,
   Pune-411030

3. Parineeta Dandekar,
   A-2/402, Kanchanban Apartments,
   Shivtirth Nagar, Kothrud,
   Pune-411038

4. Dilip Jaywantrao Mohite,
   B-28, Pradnyangad Apartments,
   S.No. 119/3, Behind Navashya Maruti,
   Sinhagad Road, Pune-411030

5. Sanjay Babanrao Bhosale,
   244, Bhawani Peth, Mahatma Phule Marg,
   Pune-411042

6. Narendra Sunderlal Chugh,
   15/3, PWD Quarters, Pimpri Colony,
   Pune-411017.

.....Applicants

Versus

1. The Commissioner,
   Pune Municipal Corporation, Shivajinagar,
   Pune-411004

2. JNNURM Office,
   Nirman Bhawan, Maulana Azad Road,
   New Delhi

3. The Chief Engineer,
   Khadakwasla Irrigation Division,
   Irrigation Department,
   Govt. of Maharashtra, Sinchan Bhavan,
   Barne Road, Mangalwar Peth,
   Pune-411011

4. Maharashtra Pollution Control Board,
   Through the Regional Officer, Pune,
   Jog Centre, 3rd Floor, Mumbai-Pune Road,
   Wakadewadi, Pune-411003.

.....Respondents

Counsel for Appellants :

Mr. Asim Sarode, Advocate for Applicant

Counsel for Respondents :

Mr. Arvind S. Avhad & Mr. A.K. Srivastava, Advocates for Respondent No.1.
Mr. Kailash Pandey, Mr. Ranjeet Singh, and Mr. Pravesh Thakur, Advocates for Respondent No.3
Mr. Mukesh Verma & Mr. Ashi Chauhan, Advocates for Respondent No.4

ORDER/JUDGMENT

PRESENT :

Hon'ble Mr. Justice Swatanter Kumar (Chairperson)
Hon'ble Mr. Justice U.D. Salvi (Judicial Member)
Hon'ble Dr. D.K. Agrawal (Expert Member)
Hon'ble Prof. A.R. Yousuf (Expert Member)
Hon'ble Dr. R.C.Trivedi (Expert Member)

Dated : July 11, 2013

JUSTICE SWATANTER KUMAR, (CHAIRPERSON)

1. The applicant and others, social activists, challenge the construction of the road from Vitthalwadi to National Highway-4

(b) Respondent No.1 shall make every effort to realign the road to bring it as far as possible closer to and beyond the blue line, right from chainage of 0+400 to 1+750 of Exh. Annexure 2/1. It shall ensure to extend the least part of the project in the river bed/blue line.

(c) The road/project shall be constructed on elevated pillars alone in the area that falls within the blue line.

(d) We direct Respondent No.1 to remove the debris dumped at the present site and shift the same to the red line by following 1 in 25 years rule.

(e) A massive plantation should be undertaken on both sides of the river, also in the no-development zone by Respondent No.1 as well as the State Government of Maharashtra. Adequate protective measures should be undertaken to prevent flooding and submerging of the residential area along the proposed road.

(f) The conditions imposed by the Chief Engineer, Irrigation Department, vide his NOC dated 15th April, 2013 shall *mutatis mutandis* be part of the present directions. The same shall be read in aid and not in derogation to the conditions stated in this order.

(g) As already noticed and highlighted during the course of the hearing, a large number of structures have come up at and even inside the blue line of the river Mutha. Respondent No.1 itself has issued notice to some of such structures for demolition. Thus, in the peculiar facts and circumstances of

the case, we further direct that Respondents No.1, 3 and 4 shall take appropriate steps against unauthorised constructions, if any, raised on and inside the blue line and pass order of demolition or such other order as is permissible in accordance with law. We also direct the said authorities to ensure that no encroachment is permitted and no construction in future is permitted on and inside the blue line of the river Mutha.

39. The imposition of the above conditions is necessary in the interest of environment and ecology. It is better to take precautions at this stage, even at the cost of additional expenses rather than to face floods, disaster, loss of person and property and irreversible damages to ecology and environment. The precautionary principle, which is a part of the law of the land now and is a Constitutional mandate in terms of Articles 21, 48A and 51A(g) of the Constitution of India, that require the State to safeguard and protect the environment and wild life of the country. It is expected of Respondents No.1 and 3 to anticipate and then prevent the causes of environmental degradation. Furthermore, no public interest would suffer by imposition of the above conditions. If the conditions imposed under this order are found to be onerous by the State, particularly Respondent No.1, then they can even give up the project on river Mutha as an alternative road on the other side of the river has already been constructed to provide the connectivity. In the event the Department decides to give up the road project, it shall be

Annexure A-19

NOTARY
D. M. BHALEKAR
PUNE
REG. NO. 860
GOVERNMENT OF INDIA

IN THE NATIONAL GREEN TRIBUNAL AT NEW DELHI

IN

M. A. NO. 52 OF 2014

IN

APPLICATION NO. 2 OF 2013

IN THE MATTER OF

SARANG YADWADKAR & ORS. ... PETITIONERS

THE COMMISSIONER
PUNE MUNICIPAL CORPORATION
& ORS ... RESPONDENTS

ADDITIONAL SUPPLEMENTARY AFFIDAVIT ON
BEHALF OF RESPONDENT NO. 1

I, Kunal Kumar, age about 38 years, working as Municipal Commissioner of the Pune Municipal Corporation

(answering Respondent), Shivaji Nagar, Pune-5 am competent to file the present affidavit on behalf of Respondent No. 1 being fully conversant with the facts of the case and duly authorized to affirm and file this affidavit. I hereby solemnly affirm and state:

1. THAT the Respondent No. 1 is filing the present additional affidavit in respect of compliance of the order and judgment of this Hon'ble Tribunal dated 10/10/2014.

1.1 That Respondent No. 1 undertakes not to permit in future any building construction activities within the blue line. Accordingly, necessary interim orders are being issued by the Respondent No.1 and also the process of minor modifications to the D.C. regulations under Sec. 37 (1) of MR&TP act 1966 to prohibit any such further building construction shall be initiated forthwith.

1.2 Further, with a view to prevent inundation of the low lying areas along the proposed elevated road, it is submitted that a protection embankment was constructed earlier by the Irrigation Department by removing soil & silt from the riverbed (I rely on the letter issued by the Irrigation Department and annexed here as **Exhibit No. 1-a and Exhibit No. 1-b**). Also a Minor Bridge was constructed at chainage 1/770 m. for discharge of storm water from the adjoining catchment areas of

Sinhagad Road side and land side of retaining wall into the Mutha River. Please refer Photograph of existing minor Bridge (Exhibit No. 2). The system had been working satisfactorily ever since. The construction of Retaining wall along the embankment has ensured protection against erosion due to flood water. In addition, the constructed Retaining wall has also ensured there is no sudden inundation due to gushing of water in low lying residential area due to flood. Thus the combination of retaining wall and existing and proposed culverts detailed in 1.3 herein below shall ensure that the inhabitants of residential area are protected from release of flood water on one hand and also from inundation caused due to run off of storm water in the residential area.

1.3 Finally, the answering Respondent No.1 has developed options to ensure that the storm water from catchment area on Sinhagad road side and on land side of retaining wall gets discharged into Mutha river and the same have already been placed on record of this Hon'ble Tribunal. These options were further discussed with experts who opined that, the storm water management system suggested by M/s Primove Consultants, (Option no.1 in our affidavit dtd. 27-08-2014) by providing storm water drains joining river at Chainage 1/770 m. be implemented and provision of R.C.C. box culverts of suitable size with Automatic Flap Gates on river side of Box culvert be adopted. Hence the answering Respondent no. 1 immediately

had referred the issue to the Executive Engineer, Irrigation Department, Khadakwasla, Pune **(Exhibit No. 3)**. who directed to contact the Superintending Engineer, Central Design Organization, Irrigation Department, Nashik (Exhibit No. 4). PMC contacted C.D.O., Nashik **(Exhibit No. 5)**, The Superintending Engineer, C.D.O., Irrigation department, Nashik have further suggested to take opinion of Navi Mumbai/ Mumbai Municipal Corporation or Koyana Design Circle, Pune. **(Exhibit No. 6)**. The answering Respondent No.1 has further contacted The Superintending Engineer, Koyana Design Circle, Pune on 20-10-2014 in person **(Exhibit No. 7)**, who has agreed for checking and approving the design of Automatic Flap Gate for the proposed culverts. We are persuing the matter with the above stated expert authorities and thus we hereby undertake to execute drainage system as per the design approved by the aforesaid competent authority. It is to further submit that such culvert as may be found most suitable with Automatic Flap Gate shall be provided between Ch. 1/024 to Ch.1/033 m. and between Ch.1/670 to Ch.1/700 m.

2. THAT in view of the foregoing explanation, it is humbly submitted that the answering Respondent no.1, is making all necessary efforts to give full effect to the judgment of this Hon'ble Tribunal in letter and in spirit. Moreover, all concerns of the citizens as well as of this Tribunal expressed on various occasions are being promptly dealt with and the most efficient

solutions for addressing the concerns are being evolved as is evident from the foregoing. Respondent No. 1 is always ready and willing to take any other further measures to better implement the directions of this Hon'ble Tribunal and shall remain bound by the directions passed by it.

3. The contents of paragraph No. 1 to 2, and all the Exhibits herein are true and correct to best of my knowledge and belief.

DEPONENT
Municipal Commissioner
Pune Municipal Corporation

VERIFICATION:

I, the deponent above named, do hereby state on solemn affirmation that the contents of the paras 1 to 3 are true and correct to my knowledge and I believe the same to be true and that nothing material has been concealed therefrom.

Verified at Pune on 3/11/2014

DEPONENT
Municipal Commissioner
Pune Municipal Corporation

NOTARY
D. M. BHALEKAR
PUNE
REG. NO. 860
GOVERNMENT OF INDIA

NOTED & REGISTERED AT
SR. NO. 237/2014
DATED 3/11/2014

BEFORE ME

D.M. BHALEKAR
Advocate & Notary
Govt. of India
PUNE

CANCELLED CANCELLED

Annexure A-20

महाराष्ट्र कृष्णा खोरे विकास महामंडळ, पुणे
मुख्य अभियंता (जसं), जलसंपदा विभाग, पुणे
सिंचन भवन, मंगळवार पेठ, बारणे रोड, पुणे-411011
कार्यालय (020) 26120505 / 26125074 फॅक्स (020) 26126015
ई-मेल- cewrdpune@gmail.com

जा. क्र. मु.अ./काअ-२/प्रशा-६/पुणे मनपा/नदीकाठ वि.प्र./ /२०१९ दिनांक:- /१०/२०१९

प्रति, No- 4734 15 NOV 2019

मा. सचिव(लाक्षेवि),
जलंपदा विभाग,मंत्रालय,मुंबई.
(लक्षवेध श्री. पराते,उपसचिव(सिं.व्य.))

विषय: -	मुळा,मुठा,मुळा-मुठा नदीकाठ विकसन प्रकल्पास आपले विभागाची संमती मिळणेबाबत
संदर्भ:-	१) मुख्य अभियंता(प्रकल्प),पुणे म.न.पा. पुणे यांचे पत्र क्र. ३०३९ दि.२२/०१/२०१८ २) या कार्यालयाचे पत्र क्र. मुअ/काअ-२/प्रशा-६/पूररेषा/अतिक्रमण/०४६३/२०१८ दि.३०/०१/२०१८ ३) शासन पत्र क्र. संकिर्ण-२०१९/(प्र.क्र.१४७/२०१९)/सिं.व्य.(म) दि.२५/०६/२०१९ ४) मुख्य अभियंता(प्रकल्प),पुणे म.न.पा. पुणे यांचे पत्र क्र. १७९५ दि.०६/११/२०१९ ५) अ.अ.,पु.पा.मं.,पुणे यांचे पत्र क्र.पुपामं/प्रशा-२/नदीकाठ/विप्र/८३८४ दि.१६/११/२०१९

पुणे महानगर पालिका हद्दितील मुळा,मुठा,मुळा-मुठा या नद्यांचा नदीकाठ विकसन प्रकल्प अहवाल पुणे महानगर पालिके मार्फत तयार करण्यात येत असून,यासाठी खाजगी अभिकरणा कडून तयार करून घेतलेला मुळा,मुठा,मुळा-मुठा या नद्यांचा Hydrology & Hydraulics Report , C.W.P.R.S. pune यांचे कडून तपासून घेऊन जलसंपदा विभागाच्या मान्यतेसाठी संदर्भिय पत्र क्र.१ अन्वये प्राप्त झाला होता.

त्यावर संदर्भिय पत्र क्र.२ अन्वये—" पुणे महानगरपालीकेच्या हद्दीमधून वाहणा-या मुठा व मुळा मुठा नदीच्या निळया व लाल पूररेषांचे नकाशे खडकवासला पाटबंधारे विभागाने दिनंक ५.३.२०११ च्या पत्रान्वये व पुणे शहराच्या हद्दीतील मुळा नदीच्या पूररेषेचे नकाशे दिनांक २.६.२०१० रोजीच्या पत्रान्वये पुणे पाटबंधारे मंडळाने पुणे महानगर पालीकेस दिलेले आहेत. या नद्यांच्या पूररेषा निश्चित करताना २५ वर्षे वारंवारीतेसाठी (निळी पूररेषा) व १०० वर्षे वारंवारीतेसाठी (लाल पूररेषा) येणारे पूर विसर्ग पुणे महानगर पालीकेस कळविण्यात आलेले आहेत. हे पूर विसर्ग व पूररेषा अंतिम असून ,खाजगी अभिकरणा कडून तयार करून घेतलेला व C.W.P.R.S. pune यांचे कडून तपासून घेतलेला मुळा,मुठा,मुळा-मुठा या नद्यांचा Hydrology & Hydraulics Reportला संमती देण्याचा प्रश्न उद्भवत नाही. तसेच शासन परिपत्रक क्र. एफडीडब्ल्यु/१०८९/२४३/८९/ सिं.व्य.(कामे) दि.२१.९.१९८९ अन्वये नद्यांच्या निळया व लाल पूररेषांचे आत कोणती कामे असावीत याचे स्पष्ट निर्देश आहेत. पुररेषांच्या आत नदीकाठ विकसन प्रकल्प राबवताना नदीचा प्रवाह बाधित होऊन नदीच्या पूरवहनामध्ये अडथळा निर्माण होणार नाही याची दक्षता घेण्यात यावी." असे प्रदेश कार्यालयाने स्पष्ट निर्देश दिलेले आहेत..(सोबत प्रत सादर)

त्यानंतर पुणे म.न.पा. ने दि.०८/०१/२०१९ रोजी शासन,जलसंपदा विभागास पत्र सादर केले. या पत्रावर शासनाने संदर्भिय पत्र क्र.३ अन्वये दिलेल्या निर्देशाच्या अनुषंगाने दि.१८/१०/२०१९ रोजी प्रदेश

कार्यालयात पुणे म.न.पा.च्या अधिका-यांसमवेत संपन्न झालेल्या बैठकीतील चर्चेनुसार , पुढिल प्रमाणे सादर करण्यात येत आहे.

पुणे महानगरपालीकेच्या हद्दीमधून वाहणा-या मुठा व मुळा मुठा नदीच्या निळया व लाल पूररेषांचे नकाशे खडकवासला पाटबंधारे विभागाने दिनंक ५.३.२०११ च्या पत्रान्वये व पुणे शहराच्या हद्दीतील मुळा नदीच्या पूररेषेचे नकाशे दिनांक २.६.२०१० रोजीच्या पत्रान्वये पुणे पाटबंधारे मंडळाने पुणे महानगर पालीकेस दिलेले आहेत. या नद्यांच्या पूररेषा निश्चित करताना २५ वर्षे वारंवारीतेसाठी (निळी पूररेषा) व १०० वर्षे वारंवारीतेसाठी (लाल पूररेषा) येणारे पूर विसर्ग पुणे महानगर पालीकेस कळविण्यात आलेले आहेत. ते खालिल प्रमाणे आहे.

अ.क्र.	नदीचे नांव	ठिकाण	२५ वर्षे वारंवारीतेचा पूर विसर्ग Cusecs	१०० वर्षे वारंवारीतेचा पूर विसर्ग Cusecs
१.	मुठा	मुळा-मुठा संगमा पूर्वी	६०,०००.००	१००००.००
२.	मुळा	वाकड पूल	४२,३७३.००	४३,५४३.००
	मुळा	मुळा-मुठा संगमापूर्वी	१,०१,५३१.००	१,४०,२३६.००
३.	मुळा-मुठा	मुंढवा को.प.बंधारा	१,१८,०००.००	१,६८,०००.००

हे पूर विसर्ग व पूररेषा अंतिम असून , यात बदल होणार नाही.

शासन जलसंपदा विभाग परिपत्रक क्र. एफडीडब्ल्यू/ १०८९/२४३/८९/ सिं.व्य.(कामे) दि.२१.९.१९८९ व परिपत्रक क्र. पूरनि-२०१८/(१८२/२०१८) सिं.व्य.(महसूल) दि.०३/०५/२०१८अन्वये पूराचा संभाव्य धोका टाळण्यासाठी पूररेषेच्या आत कोणतेहि बांधकाम न होण्याच्या दृष्टिने पूररेषेची आखणी करणे व निशिद्ध व नियंत्रित क्षेत्रामध्ये कोणत्या प्रकारची कामे करता येतील याबाबत मार्गदर्शक सुचना आहेत. नदीच्या निशिद्ध व नियंत्रित क्षेत्रात बांधकामास परवानगी देण्याचे अधिकार मुख्य अभियंता यांना नाहीत. तसेच दि.०३/०५/२०१८ रोजीच्या शासन परिपत्रकातील मुद्दा क्र.११ नुसार " जलसंपदा विभागाचे कार्यक्षेत्र नदी किनारी पूररेषेची आखणी करण्याइतपतच मर्यादित असल्याने या परिपत्रकातील मुद्दा क्र.१ ते ९ नुसार निशिद्ध व नियंत्रित क्षेत्रातील सार्वजनिक हिताच्या दृष्टीने आवश्यक व अपरिहार्य कामांना जलसंपदा विभागाच्या ना-हरकत प्रमाणपत्राची आवश्यता राहणार नाही. तथापी ,पर्यावरण विभाग/इतर विभाग/स्थानिक संस्था/इतर शासकिय विभाग यांची वैधानिक मान्यता आवश्यक असेल."

विषयांकित कामासाठी संदर्भिय पत्र क्र.४ अन्वये पुणे म.न.पा.ने जलसंपदा विभागाची संमती मागितली आहे.परंतू विषयांकीत कामे हि मुळा,मुठा,मुळा-मुठा नदीच्या पूररेषेच्या आतील असल्याने यासाठी संमती देणे हि बाब धोरणात्मक असल्यामुळे संदर्भिय पत्र क्र.३,शासन पत्रातील निर्देशा नुसार विषयांकीत

कामासाठी पुणे महानगर पालिकेने प्रस्तावित केलेल्या नदीकाठ विकास प्रकल्पास पुढिल अटींचे अधीन राहून संमती देण्याबाबत सादर करण्यात येत आहे.

१) जलसंपदा विभागाने यापूर्वी मुळा,मुठा,मुळा-मुठा या पुणे शहरातील नद्यांचे निर्धारीत केलेली पूरांची आकडेवारी व पूररेषा यामध्ये सद्यस्थितीत कोणताही बदल करण्यात येवू नये.

२) नदीकाठ सुधार प्रकल्प राबवताना मुळा,मुठा,मुळा-मुठा या नद्यांचे पूरवहन क्षेत्र (काटछेद) कमी होणार नाही याची काळजी घेण्यात यावी.

मुळा,मुठा,मुळा-मुठा नदीकाठ विकसन प्रकल्प राबवताना नदीच्या पूररेषेच्या आत विकसन करताना शासन जलसंपदा विभाग परिपत्रक क्र. एफडीडब्ल्यु/ १०८९/२४३/८९/ सिं.व्य.(कामे) दि.२१.९.१९८९ व परिपत्रक क्र. पूरनि-२०१८/(१८२/२०१८) सिं.व्य.(महसूल) दि.०३/०५/२०१८अन्वये पूराचा पूराचा संभाव्य धोका टाळण्यासाठी पूररेषेच्या आत कोणतेहि बांधकाम न होण्याच्या दृष्टिने पूररेषेची आखणी करणे व निशिद्ध व नियंत्रित क्षेत्राचा उपयोग करण्याबाबत दिलेल्या मार्गदर्शक सुचनांनुसार या प्रकल्पास संमती देणे हि बाब धोरणात्मक असल्यामुळे याबाबत शासन स्तरावर धोरणात्मक निर्णय घेण्यात यावा हि विनंती.

सोबत:- संदर्भिय पत्र क्र.२ व४ ची प्रत

d/c मुख्य अभियंता(ज.सं.),
जलसंपदा विभाग, पुणे-११

प्रत:- मुख्य अभियंता(प्रकल्प) कार्यालय, पुणे महानगरपालिका, पुणे यांना माहितीसाठी व कार्यवाहीसाठी अग्रेषित.
२/- विषयांकित कामासाठी संमती देणे हि बाब धोरणात्मक असल्यामुळे आपण शासन स्तरावर पाठपूरावा करावा.
प्रत:- आयुक्त, पुणे महानगरपालिका, पुणे.यांना माहितीसाठी.
प्रत:- अधीक्षक अभियंता, पुणे पाटबंधारे मंडळ, पुणे यांना माहितीसाठी.

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Maharashtra Krishna Valley Development Corporation, Pune
Chief Engineer (WR), Water Resources Department, Pune
Sinchen Bhavan, Mangalwar Peth, Barne Road, Pune- 411011
Office: (020) 26120505/26125074 Fax: (020) 26126015
Email: cewrdpune@gmail.com

Outward No: C.E./Ka A-2/Admin-6/PMC/River bank Devl. Project/4734/2019

Date: 15-Nov-2019

To,

Hon. Secretary (लाक्षेवि),

Water Resource Department, Mantralaya, Mumbai.

(लक्षवेध Shri. Parate, Dy. Secretary (Sin. Vya.))

Sub: Regarding granting permission of our department for River Front Development of Mula, Mutha & Mula-Mutha.

Ref:

1. Letter from Chief Engineer (Projects), PMC, Pune Outward No: 3039 Dt. 22/01/2018,
2. This Department's letter Outward No: C.E./Ka. A.-2/Admin-6/Flood Lines/Encroachment/0463/2018 Dt. 30/01/2018,
3. Government's Letter Outward No: संकीर्ण-२०१९/(प्र.क्र.१४७/२०१९)/सिं.व्य.(म) दि. २५/०६/२०१९,
4. Letter of Chief Engineer (Projects), PMC, Pune Outward No: 1795 Dt. 06/11/2019,
5. Letter from Superintending Engineer, Pune Irrigation Circle, Pune Outward No: PIC/Admin-2/River Banks/Vi.Pra./8384 Dt. 16/11/2019.

PMC (Pune Municipal Corporation) is preparing a report on riverfront development project for Mula, Mutha and Mula-Mutha Rivers under its jurisdiction. Hydrology and Hydraulics Reports prepared by private firms for Mula, Mutha and Mula-Mutha Rivers had been received by Water Resource Department for approval after vetting by C.W.P.R.S., Pune vide Ref. No. 1.

Vide Ref. No.2, Regional Office has given following directions *"The red and blue line maps for the Mutha and Mula-Mutha Rivers flowing through municipal limits of PMC were handed by Khadakwasla Irrigation Division vide letter dated 05.03.2011 and vide letter dated 02.06.2010, flood line maps for Mula River under*

jurisdiction of PMC were handed by Pune Irrigation Circle to PMC. While deciding the flood lines, flood discharge for flood frequency of 25 years (Blue Flood Line) and for frequency of 100 years (Red Flood Line) have been reported to PMC. Said flood discharges and flood lines are final and hence the question of approving the Hydrology and Hydraulics Report for Mula, Mutha and Mula-Mutha Rivers prepared by private firm and verified by C.W.P.R.S. Pune does not arise. As per the Government's Notification FWD/1089/243/89/Sin.Vya.(Works) Dt. 21.09.1989, clear directions are given regarding works to be permitted inside red and blue flood lines. While implementing riverfront development project inside flood lines, precautions should be taken so that river flow should not get disturbed inside flood lines and no impact shall happen to flood carrying capacity of the river."

Afterwards, PMC sent a letter to Water Resources Department on 08/01/2019. In reply to this, government gave directions vide Ref. No. 3. As per the discussion took place with PMC Officials in Regional Office on 18/10/2019, following is being presented.

The red and blue line maps for the Mutha and Mula-Mutha Rivers flowing through municipal limits of PMC were handed over by Khadakwasla Irrigation Division vide letter dated 05.03.2011 and flood line maps for Mula River under jurisdiction of PMC were handed over by Pune Irrigation Circle to PMC vide letter dated 02.06.2010. While deciding the flood lines, flood discharge for flood frequency of 25 years (Blue Flood Line) and for frequency of 100 years (Red Flood Line) have been reported to PMC. These are as follows.

Sr. No	Name of River	Place	25 years frequency flood discharge	100 years frequency flood discharge
1	Mutha	Before Mula-Mutha confluence	60,000.00	100000.00
2	Mula	Wakad Bridge	42,373.00	43,543.00
	Mula	Before Mula-Mutha confluence	1,01,531.00	1,40,236.00
3	Mula-Mutha	Mundhwa K.T. Weir	1,18,000.00	1,68,000.00

These flood discharges are final and there will not be any changes in this.

According to Government's circular Water Resources Dept. No. FWD/1089/243/89/Sin.Vya(Works) Dt. 21.09.1989 and Circular No. Flood control-

2018/(182/2018) Sin.Vya.(Revenue) Dt. 03/05/2018, to avoid possible risk of floods, with a view to prohibit any construction inside flood lines, the guiding principles regarding demarcation of flood lines and the works to be permitted inside prohibitive and restrictive zones are mentioned. Chief engineer does not have powers to permit construction inside prohibitive and restrictive zones. Also, vide government circular Dt. 03/05/2018, point number 11, *"The scope of Water Resource Department is limited to demarcation of flood lines along the rivers. Hence, as per Point No. 1 to 9 from this circular, NOC from Water Resource Department will not be required for any public benefit and unavoidable works inside prohibitive and restrictive zones. But, permission from Environment Department/Other Departments/Local Body/Other Government Departments will be required."*

But as the said works are inside the flood lines of Mula, Mutha and Mula-Mutha Rivers and as the said approval is a policy matter, as per the directions given in letter at Ref. No. 3 above, the riverfront development proposal is forwarded for approval under following conditions.

1. **The flood lines and flood data for Mula, Mutha and Mula-Mutha Rivers inside PMC limits, defined earlier by Water Resources Department will not be changed.**
2. **Flood carrying capacity (Cross-Section) of rivers should not be reduced while implementing riverfront development project for Mula, Mutha and Mula-Mutha Rivers.**

While implementing riverfront of Mula, Mutha and Mula-Mutha Rivers and while developing inside flood lines vide Government's circular Water Resources Dept. No. FWD/1089/243/89/Sin.Vya(Works) Dt. 21.09.1989 and Circular No. Flood control-2018/(182/2018) Sin.Vya.(Revenue) Dt. 03/05/2018, for avoiding possible risk of floods, with a view to prohibit any construction inside flood lines, as per the guiding principles for demarcation of flood lines and the works to be permitted inside prohibitive and restrictive zones, granting permission for the project is a policy matter and hence policy decision needs to be taken on government level.

Enclosure: Copy of letters referred at 2 and 4.

XXXX

Chief Engineer (WR),

Water Resource Department, Pune-11

Copy to: Chief Engineer (Projects), PMC, Pune for information and required action.

2/- Granting permission for said works is a matter of policy. Hence, you need to communicate on Government's level.

Copy to: The Commissioner, PMC, Pune for information.

Copy to: Superintending Engineer, Pune irrigation Circle for information

Annexure A-21

महाराष्ट्र कृष्णा खोरे विकास महामंडळ, पुणे
मुख्य अभियंता (जसं), जलसंपदा विभाग, पुणे
सिंचन भवन, मंगळवार पेठ, बारणे रोड, पुणे-411011
कार्यालय (020) 26120505 / 26125074 फॅक्स (020) 26126015
ई-मेल- cewrdpune@gmail.com

जा.क्र.मुअ/काअ-२/प्रशा-६/पुणे मनपा/नदीकाठ वि.प्र./3370/२१ दिनांक:-23/7/2021

प्रति,

मुख्य अभियंता (प्रकल्प),
पुणे महानगरपालिका पुणे

विषय :	पुणे शहरातून वाहणा-या मुळा,मुठा,मुळा-मुठा नदी पुनरुज्जीवन प्रकल्पाबाबत
संदर्भ :	१) प्रदेश कार्यालयाचे पत्र क्र. मुअ/काअ-२/प्रशा-६/ पुणे मनपा/नदीकाठविप्र/४७३४/२०१९ दि.१५/११/२०१९ २)शासन जलसंपदा विभाग पत्र क्र. संकिर्ण-२०२०/(प्र.क्र.१४/२०२०)/सिं.व्य.(म) दि.२१/०१/२०२१ ३)मुख्य अभियंता (प्रकल्प)कार्यालय पुणे महानगरपालिका यांचे पत्र जा.क्र.अतिमआ वानि/१९५९ दि.२६/२/२०२१ ४)प्रदेश कार्यालयाचे पत्र क्र. मुअ/काअ-२/प्रशा-६/ पुणे मनपा/नदीकाठविप्र/१५३२/२०२१ दि.१०/०३/२०२१ ५)अधीक्षक अभियंता, पुणे पाटबंधारे मंडळ, पुणे यांचे पत्र क्र.पुपामं/प्रशा-२/ ४२७३ दि.०७/०७/२०२१

विषयांकित प्रकरणी उपरोक्त शासन संदर्भ पत्र क्र.२मधील सूचनांचे अनुषंगाने व आपल्या उपरोक्त संदर्भ पत्र क्र.३ मधील मागणीच्या अनुषंगाने पुणे महानगरपालिकेडून प्राप्त जलशास्त्रीय अभ्यास व विकसन प्रकल्प अहवाल यांचा अधीक्षक अभियंता पुणे पाटबंधारे मंडळ पुणे यांचेकडून अभ्यास होऊन क्षेत्रिय अहवाल/ अभिप्राय प्राप्त झाले असून त्यानुसार या कार्यालयाचा अहवाल/ अभिप्राय खालीलप्रमाणे आहे.

पुणे म.न.पा. हद्दीतील मुळा, मुठा व मुळा-मुठा नदीच्या निळी व लाल पूररेषांचे नकाशे कार्यकारी अभियंता, खडकवासला पाटबंधारे विभाग, पुणे कार्यालयाने दि.०५/०३/२०११ अन्वये व पुणे शहराच्या हद्दीतील मुळा नदीचे पूररेषा नकाशे दि.०२/०६/२०१० रोजीच्या पत्रान्वये पुणे पाटबंधारे मंडळाने पुणे महानगर पालिकेस दिलेले आहेत. या नदयांचा पूररेषा निश्चित करताना २५ वर्षे वारंवारीतेसाठी (निळी पूररेषा) व १०० वर्षे वारंवारीतेसाठी (लाल पूररेषा) येणारे पूर विसर्ग पुणे महानगर पालिकेस कळविण्यात आलेली आहेत. हे पूर विसर्ग व पूररेषा अंतिम असून त्यामध्ये व आपण खाजगी अभिकरणाकडून तयार करून घेतलेल्या व C.W.P.R.S. Pune यांचेकडून तपासून घेतलेल्या पूरविसर्गातील मुळा मुठा संगमापूर्वी या ठिकाणी २५ वर्ष वारंवारितेचा पूर विसर्ग यामध्ये तफावत असल्याचे दिसून येते.

१) त्यामुळे जलसंपदा विभागाने यापूर्वी मुळा, मुठा व मुळा-मुठा या पुणे शहरातील नदयांचे निर्धारित केलेले पूर विसर्ग व पूररेषा अंतिम असून त्यामध्ये सद्य:स्थितीत कोणताही बदल करणेत येवू नये.

२) शासन जलसंपदा विभाग परिपत्रक क्र. पूरनि-२०१८/(१८२/२०१८)/सिं.व्य.(म) दि. ३ मे २०१८ नुसार नदीकाठ विकसन प्रकल्पामुळे मुळा-मुठा नदीच्या निळया व लाल पुररेषेच्या पातळीत वाढ होणार नाही याची दक्षता पुणे महानगर पालिकेने घेणे आवश्यक आहे.

३) नदीकाठ सुधार प्रकल्प राबवितांना मुळा, मुठा व मुळा-मुठा नदयांचे पूरवहन क्षेत्र (काटछेद) कमी होणार नाही याची दक्षता घेणेत यावी.

४) शासन जलसंपदा विभाग परिपत्रक क्र. पूरनि-२०१८/(१८२/२०१८)/सिं.व्य.(म) दि. ३ मे २०१८ मधील मार्गदर्शक सूचनानुसार सार्वजनिक हिताचे दृष्टीने अपरिहार्य व आवश्यक कामांना जलसंपदा विभागाच्या ना- हरकत

Shri Deshmukh
Shri Digge

(श्रीनिवास क्कलला)
मुख्य अभियंता (प्रकल्प)
पुणे महानगरपालिका

प्रमाणपत्राची आवश्यकता नाही, तथापि नदीकाठ सुधार प्रकल्पास पर्यावरण विभाग व इतर अन्य शासकीय विभागांची वैधानिक मान्यता घेणे आवश्यक राहील.

५) नदीमध्ये शहरात निर्माण होणारे सांडपाणी विनाप्रक्रिया सोडण्यात येवू नये.

हे आपले माहितीसाठी व कार्यवाहीसाठी सस्नेह अग्रेषित.

मुख्य अभियंता(ज.सं.),
जलसंपदा विभाग, पुणे-११

प्रत:- आयुक्त, पुणे महानगरपालिका, पुणे यांना माहितीसाठी अग्रेषित.
प्रत:- अधीक्षक अभियंता, पुणे पाटबंधारे मंडळ, पुणे यांना माहितीसाठी व त्वरित कार्यवाहीसाठी.

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Maharashtra Krishna Valley Development Corporation, Pune

Chief Engineer (WR), Water Resources Department, Pune

Sinchan Bhavan, Mangalwar Peth, Barne Road, Pune- 411011

Office: (020) 26120505/26125074 Fax: (020) 26126015

Email: cewrdpune@gmail.com

Outward No: C.E./Ka A-2/Admin-6/PMC/RFD Project/3370/21 Date: 23/07/2021

To,

Chief Engineer (Projects),

Pune Municipal Corporation, Pune.

Subject:	Regarding River Front Development project of Mula, Mutha & Mula-Mutha flowing through Pune City.
Ref.:	1) Letter from Regional Office vide No. CE/EE-2/Admin-6/PMC/RFD/4734/2019 Dt. 15/11/2019 2) Gov. Water Resources Dept. letter No. Sankirna-2020/(Pra. Kra. 14/2020)/Sin. Vya. (M) Dt. 21/01/2021 3) Letter from the Chief Engineer (Projects) office, Pune Municipal Corporation Outward No. AtiMA Vani/1959 Dt. 26/02/2021 4) Letter from Regional Office vide No. CE/EE-2/Admin-6/PMC/RFD/1532/2021 Dt. 10/03/2021 5) Letter from Superintending Engineer, Pune Irrigation Circle, Pune vide No. PIC/Admin-2/4273 Dt. 07/07/2021

In connection with the above-mentioned subject, as per the directions issued vide letter at reference No. 2 and as per your requirements mentioned in letter at reference No. 3, Superintending Engineer, Pune Irrigation Circle has studied the hydraulic studies and report of the development project received for Pune Municipal Corporation. Accordingly, the report/opinion of this office is as under.

The red and blue line maps for the Mutha and Mula-Mutha Rivers flowing through municipal limits of PMC were handed over to Pune Municipal corporation by the Executive Engineer, Khadakwasla Irrigation Division vide letter dated 05.03.2011 and vide letter dated 02.06.2010, flood line maps for Mula River under jurisdiction of PMC were handed by Pune Irrigation Circle to PMC. While deciding the flood lines, flood discharge for flood frequency of 25 years (Blue Flood Line) and for frequency of 100 years (Red Flood Line) have been reported to PMC. Said flood discharges and flood lines are final. **As per our observations, there are variations in these flood lines and the flood lines you have prepared through a private organisation** and verified by CWPRS, Pune for 25 yrs. frequency discharge before Mula Mutha confluence.

1. Therefore, **no change is permissible in the flood discharges and flood lines which are already finalised by Water Resources Dept. for Mula, Mutha and Mula-Mutha rivers**.
2. As per Gov. Water Resources Dept. circular No. Flood Control-2018/(182/2018)/SinVya(M) Dt. 3 May 2018, Pune Municipal Corporation has to take all precautions, so that there is no rise in the levels of Blue and Red Flood Lines.
3. While implementing the River Front Development Project, **precautions should be taken so that Flood Carrying Areas (Cross-Sections) of Mula, Mutha and Mula-Mutha Rivers are not reduced**.
4. As per the guidelines issued vide Gov. Water Resources Dept. circular No. Flood Control-2018/(182/2018)/SinVya(M) Dt. 3 May 2018, works that are unavoidable and are needed in public interest do not require NOC from Water Resources Dept. In spite of this, it would be necessary to procure approvals from Environment Dept. and other Gov. departments for the River Front Development Project.
5. Sewage generated in the city should not be released in the river without treatment.

This is for your information and further action.

******

Chief Engineer (WRD),
Water Resources Dept., Pune -11

Copy to: Commissioner, Pune Municipal Corporation for information.
Copy to: Superintending Engineer, Pune Irrigation Circle, Pune for information and urgent action.

T. T. C.

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Annexure A-22

Annexure A-22

NATIONAL DISASTER MANAGEMENT GUIDELINES

MANAGEMENT OF FLOODS

January 2008

NATIONAL DISASTER MANAGEMENT AUTHORITY
GOVERNMENT OF INDIA

Executive Summary

Introduction

Following the enactment of the Disaster Management Act, 2005, (DM Act, 2005) the Government of India (GOI) constituted the National Disaster Management Authority (NDMA) as the apex body for Disaster Management (DM) in India with the mandate, inter alia, for laying down policies and guidelines on DM. At the national level, there is to be a paradigm shift from the erstwhile relief-centric and post-event syndrome to pro-active prevention-, mitigation- and preparedness-driven DM. These efforts will conserve developmental gains and also minimise loss of lives, livelihood systems and property. These Guidelines have been evolved by the NDMA, through a nine-step process. This approach ensures that all contemporary knowledge, experience and information are taken on board, clear destinations are identified, and road maps drawn with milestones duly marked off through a wide consultative process, involving all the stakeholders. Recognising the gravity of the risk and vulnerability of India to floods, the NDMA, soon after its constitution initiated a series of consultations with the various stakeholders to develop Guidelines for strengthening the existing arrangements for flood preparedness, mitigation, and post-flood emergency response, relief, rehabilitation and reconstruction. Senior representatives from the Central Ministries/ Departments and the state governments, related agencies, academics and professionals attended these meetings. The meetings acknowledged that, while several significant initiatives had been taken by government agencies in the past for addressing the risk and vulnerability of India to floods, it is necessary to undertake measures for the evolution of a holistic and integrated strategy to address the critical factors that accentuate flood risk. On the basis of these deliberations, the NDMA has prepared these Guidelines for Flood Management (FM), to assist the ministries and departments of the GOI, the state governments and other agencies in preparing Flood Management plans (FMPs).

Vulnerability to Floods

Floods have been a recurrent phenomenon in India and cause huge losses to lives, properties, livelihood systems, infrastructure and public utilities. India's high risk and vulnerability is highlighted by the fact that 40 million hectares out of a geographical area of 3290 lakh hectares is prone to floods. On an average every year, 75 lakh hectares of land is affected, 1600 lives are lost and the damage caused to crops, houses and public utilities is Rs. 1805 crores due to floods. The maximum number of lives (11,316) were lost in the year 1977. The frequency of major floods is more than once in five years. Floods have also occurred in areas, which were earlier not considered flood prone. An effort has been made in these Guidelines to cover the entire gamut of Flood Management. Eighty per cent of the precipitation takes place in the monsoon months from June to September. The rivers bring heavy sediment load from the catchments. These, coupled with inadequate carrying capacity of the rivers are responsible for causing floods, drainage congestion and erosion of river-banks. Cyclones, cyclonic circulations and cloud bursts cause flash floods and lead to huge losses. The fact that some of the rivers causing damage in India originate in neighboring countries, adds another complex dimension to the problem. Continuing and large-scale loss of lives and damage to public and private property due to floods indicate that we are still to develop an effective response to floods. These

Guidelines have been prepared to enable the various implementers and stakeholder agencies to address effectively the critical areas for minimising flood damages.

Urban Flooding

Flooding in the cities and the towns is a recent phenomenon caused by increasing incidence of heavy rainfall in a short period of time, indiscriminate encroachment of waterways, inadequate capacity of drains and lack of maintenance of the drainage infrastructure. Keeping in view the fact that the problem is becoming more severe and losses are mounting every year, the subject of urban flooding has been recognised by the NDMA as one meriting exclusive attention and separate guidelines for its management are being prepared and will be issued soon.

Action Plans at Various Levels

These Guidelines have been drawn up in the context of a rigorous risk management framework to ensure the effectiveness of action plans that are developed by various agencies. All key agencies, including the central ministries, and departments, state governments, local bodies including Panchayati Raj Institutions (PRIs), and Urban Local Bodies (ULBs) like metropolitan development authorities, municipal corporations, municipal councils and district authorities will develop detailed FMPs based on these Guidelines. State governments and local authorities will play an important role in the formulation and effective implementation of such action plans. The communities and other stakeholders will play an important part in ensuring compliance to the regulations and their effective enforcement. The State Disaster Management Authorities (SDMAs) will be responsible for reviewing and monitoring the implementation of the action plans at the state-level.

The Objectives of the Guidelines

These Guidelines rest on the following objectives aimed at increasing the efficacy of the FMPs, which will be prepared at various levels:

1. Shifting the focus to preparedness by implementing, in a time-bound manner, an optimal combination of techno-economically viable, socially acceptable and eco-friendly structural and non-structural measures of FM.

2. Ensuring regular monitoring of the effectiveness and sustainability of various structures and taking appropriate measures for their restoration and strengthening.

3. Continuous modernisation of flood forecasting, early warning and decision support systems.

4. Ensuring the incorporation of flood resistant features in the design and construction of new structures in the flood prone areas.

5. Drawing up time-bound plans for the flood proofing of strategic and public utility structures in flood prone areas.

6. Improving the awareness and preparedness of all stakeholders in the flood prone areas.

7. Introducing appropriate capacity development interventions for effective FM (including education, training, capacity building, research and development, and documentation.)

8. Improving the compliance regime through appropriate mechanisms.

9. Strengthening the emergency response capabilities.

6 Regulation and Enforcement

6.1 Flood Plain Zoning

6.1.1 Concept

The basic concept of flood plain zoning is to regulate land use in the flood plains to restrict the damage caused by floods. Flood plain zoning, therefore, aims at determining the locations and the extent of areas for developmental activities in such a fashion that the damage is reduced to a minimum. It, therefore, envisages laying down limitations on development of both the unprotected as well as protected areas. In the unprotected areas, boundaries of areas in which developmental activities will be banned, are to be established to prevent indiscriminate growth. In the protected areas, only such developmental activities can be allowed, which will not involve heavy damage in case the protective measures fail. Zoning cannot remedy existing situations, although, it will definitely help in minimising flood damage in new developments.

Flood plain zoning is not only necessary in the case of floods by rivers but it is also useful in reducing the damage caused by drainage congestion particularly in urban areas where, on grounds of economy and other considerations, urban drainage is not designed for the worst conditions and presupposes some damage during storms whose magnitude frequently exceeds that for which the drainage system is designed.

6.1.2 Pre-requisites for the Enforcement of Flood Plain Zoning

The basic requirements to be taken care of before implementing flood plain zoning are as follows:

(i) Broad demarcation of areas vulnerable to floods.

(ii) Preparation of a large-scale maps (1:10,000/1:15,000) of area vulnerable to floods with contours at an interval of 0.3 m or 0.5 m.

(iii) Marking of reference river gauges with respect to which, the areas likely to be inundated for different magnitudes of floods will be determined.

(iv) Demarcation of areas liable to inundation by floods of different frequencies, e.g., like once in two, five, ten, twenty years and so on. Similarly, demarcation of areas likely to be affected on account of accumulation of rainwater for different frequencies of rainfall like 5, 10, 25 and 50.

(v) Marking of likely submersion areas for different flood stages or accumulation of rainwater on the maps.

6.1.3 Regulation of Land Use in Flood Prone Areas

There can be different considerations for such regulations. For example, the area likely to be affected by floods up to a 10-year frequency should be kept reserved only for gardens, parks, playgrounds, etc. Residential or public buildings, or any commercial buildings, industries, and public

utilities should be prohibited in this zone. In area liable to flooding in a 25-year frequency flood, residential buildings could be permitted with certain stipulation of construction on stilts (columns), minimum plinth levels, prohibition for construction of basements and minimum levels of approach roads, etc. In urban areas there should be double-storeyed buildings. Ground floors could be utilised for schools and other non-residential purposes.

6.1.4 Categorisation and Prioritisation of Structures in Flood Plains Zoning

In the regulation of land use in flood plains, different types of buildings and utility services can be grouped under three priorities from the point of view of the damage likely to occur and the flood plain zone in which they are to be located:

Priority 1: Defence installations, industries, public utilities like hospitals, electricity installations, water supply, telephone exchanges, aerodromes, railway stations, commercial centres, etc. -Buildings should be located in such a fashion that they are above the levels corresponding to a 100-year frequency or the maximum observed flood levels. Similarly they should also be above the levels corresponding to a 50-year rainfall and the likely submersion due to drainage congestion.

Priority 2: Public institutions, government offices, universities, public libraries and residential areas. -Buildings should be above a level corresponding to a 25-year flood or a 10-year rainfall with stipulation that all buildings in vulnerable zones should be constructed on columns or stilts as indicated above.

Priority 3: Parks and playgrounds. -Infrastructure such as playgrounds and parks can be located in areas vulnerable to frequent floods. Since every city needs some open areas and gardens, by restricting building activity in a vulnerable area, it will be possible to develop parks and play grounds, which would provide a proper environment for the growth of the city.

On the same analogy, certain areas on either side of the existing and proposed drains (including rural drains) should be declared as green belts where no building or other activity should be allowed. This will not only facilitate improvement of these drains in future for taking discharges on account of growing urbanisation, but will also help in minimising the damage due to drainage congestion whenever rainfall of higher frequency than designed is experienced. These green belts, at suitable locations, can also be developed as parks and gardens.

6.1.5 Flood Plain Zoning Regulations

The CWC has been continuously impressing upon the states the need to take follow-up action to implement the flood plain zoning approach. A model draft bill for flood plain zoning legislation was also circulated by the union government in 1975 to all the states. A copy of the model draft bill is at **Annex-VI/I**

There has been resistance on the part of the states to follow-up the various aspects of flood plain management including possible legislation. The state of Manipur had enacted the flood plain zoning legislation way back in 1978 but the demarcation of flood zones is yet to be done. The state of Rajasthan has also enacted legislation for flood plain management in the state. It has not taken any action to enforce it though. The governments of Assam, Goa, Himachal Pradesh, Sikkim and the Union Territories (UTs) of Chandigarh, Delhi and Lakshadweep have stated that they have not considered enactment of any type of legislation in their states. The government of Uttar Pradesh has decided to take suitable measures for regulating the economic/development activities in the flood plains. The government of Bihar initiated action to prepare

flood plain zoning maps, which are essential before any executive measures could be undertaken. The government of West Bengal had intimated that a draft bill on flood plain zoning was under process. The government of Madhya Pradesh had intimated that they had demarcated 36 towns affected by floods and that necessary administrative measures were taken towards the demarcation of flood zones. Other state governments have not even spelt out their approaches. The reluctance of the states to enact flood plain zoning regulation is mainly due to population pressure and want of alternative livelihood systems.

The lukewarm response of the states towards the enactment and enforcement of the flood plain regulations has fuelled a significant increase in the encroachments into the flood plains, sometimes authorised and duly approved by the town planning authorities.

The state governments/SDMAs will enact and enforce appropriate laws for implementing flood plain zoning regulations by March 2009.

6.2 Incentives and Disincentives to States for Enactment and Enforcement of Flood Plain Zoning Regulations

The MOWR will, in consultation with the state government and the CWC evolve a scheme of incentives and disincentives with respect to the central assistance to encourage the states for enactment and enforcement of flood plain zoning regulations.

6.3 Encroachment into the Waterways and Natural Drainage Lines

The possibility of removing buildings/ structures obstructing existing natural drainage lines will be seriously considered by state governments/ SDMAs. In any case, and with immediate effect, unplanned growth will be restricted by state governments/SDMAs so that the construction of structures obstructing natural drainage or resulting in increased flood hazard is not allowed.

6.4 Bye-laws for Buildings in Flood Prone Areas

The following provisions will be incorporated by the state governments/SDMAs/local bodies in the building bye-laws for buildings in flood prone areas:

(a) Plinth levels of all buildings should be 0.6 m above the drainage/flood submersion lines.

(b) In the areas liable to floods, all the buildings should preferably be double and multiple storeys.

Wherever there are single storey buildings, a stairway will invariably be provided to the roofs so that temporary shelter can be taken there. The roof levels of the single storey buildings and the first-floor level in double-storey buildings will be above 100-year flood levels so that the human beings and movable property can be temporarily sheltered there during periods of danger on account of floods.

6.5 Legal Framework for Making Infrastructure Flood Resilient

The infrastructural activities by the different organisations, such as the Indian Railways, National Highway Authority of India (NHAI) the State Public Works Department, BRO etc. in the flood prone areas need to be carried out duly considering the requirements for making them flood resilient. While constructing railway lines and roads, care is sometimes not taken in aligning, locating and designing with respect to height and width of

embankments and providing adequate waterway i.e bridges, culverts, vents and causeways for passage of storm water. The top level of the railway/road embankments is also often not kept above the flood levels in the area. It may be mentioned here that flood levels are likely to increase with development taking place in the catchment such as reduction in vegetative cover, deforestation, paving of areas for settlements etc. as well as due to the afflux caused by obstruction to the flow due to inadequate size of bridges, culverts, vents and causeways. The result is increased vulnerability of the area to flooding and drainage congestion, submergence of roads and railway embankments and breaches in them.

An appropriate legal framework will be developed by the state governments/SDMAs so as to make it mandatory for obtaining clearance for the plans for construction of the infrastructure in flood prone areas from states' irrigation/flood control/water resources departments with respect to their safety against floods and effects thereof on the vulnerability of the area to floods and drainage congestion, who will process the cases in a fixed time frame.

6.6 Survey of Flood Prone Areas

One of the main requirements for implementation of flood plain zoning measure is the availability of survey maps, on a suitably large scale, to enable proper zoning of vulnerable areas and preparation of flood risk maps. The CWC had initiated, in 1978, a programme for surveying areas prone to floods under the central sector through the Survey of India (SOI) as a pilot scheme, to assist the state governments in preparing flood risk maps. Of the 106,000 sq km of area identified in the country as prone to frequent floods, about 55,000 sq. km. had been surveyed in the states of Bihar, Assam, Uttar Pradesh, West Bengal, Punjab, Haryana and Jammu and Kashmir. Maps on the scale of 1:15,000 with contour interval of 0.3 m/0.5 m were made available to the states. These maps cover areas along the main river Ganga and its tributaries - the Yamuna, Ramganga, Roopnarayan, Jalangi and other flood prone rivers of West Bengal, the tributaries of the Brahmaputra like Burhi Dihing, Desang and Dikhoo, the rivers Sutlej and Ravi, which had been earlier identified by the state governments concerned and work taken up in a phased manner as per the priorities indicated by the states. A total of 570 maps (109,267 sheets) to the scale 1:15,000 were prepared and sent to the respective state governments as well as to the GFCC and Brahmaputra Board for preparation of flood risk zone maps. However, no progress has been made by any of the states to finalise and publicise such maps. It is felt that each state should select at least one basin for preparation of these maps on pilot basis and come out with a factual report giving the benefits of these and also the difficulties encountered by them in the task. In the event of maps of 1:15,000 scale not being available, the same exercise can be attempted on maps of larger scale 1: 25,000 or 1:50,000, which are available for all regions of India. A MOU was signed in March 2006 between the CWC and SOI for digitisation of the above maps and this is targeted for completion in two years.

The Indian Space Research Organisation (ISRO) has formulated, for the Eleventh Five-Year Plan period, a programme for DMS services wherein "creation of digital, thematic and cartographic data base for hazard zonation and risk assessment and realization of national data base for emergency management have been identified as one of the programme elements. Under this programme, ISRO and NRSA have planned to cover about 1 lakh sq km (10 million ha) every year for development of close contour information of ground using the Air-borne Laser Terrain Mapping (ALTM) system thereby envisaging to cover all the priority flood prone areas in a period of five years. Phasing of the area to be surveyed will be done by them in consultation with

the CWC so that the most vulnerable areas are covered first.

6.7 Wetlands: Conservation and Restoration

Wetlands provide effective flood moderation by being available to accommodate the flood water. The existing wetlands should be revived and maintained properly. The flow of fresh water into these wetlands must be ensured.

The reclamation of the existing wetlands/ natural depressions will be prohibited by state governments/SDMAs and they will formulate an action plan for using them for flood moderation.

6.8 Watershed Management including Catchment Area Treatment and Afforestation

Watershed management though not very effective in the case of large floods, helps in the moderation of small and medium floods. It is also very effective in the overall land and water management. It also leads to reduction in soil erosion and overall reduction in sediment load of the rivers. A watershed is identified as the ideal geophysical unit for planning and executing development programmes aimed at achieving rational utilisation of all natural resources for sustainable development with least damage to the environment. It is essential to ensure efficient utilisation of rainfall and safe disposal of runoff and the watershed approach is best suited to meet this goal. The watershed approach can help enhance local and regional economic viability of the FM objective in ways that are environmentally sound and consistent with watershed objectives. The watershed approach strengthens teamwork between the public and private sectors at the national, state and local levels to achieve the greatest environmental improvements with the resources available. This emphasis gives those people who depend on water resources for their health, livelihood or quality of life, a meaningful role in the management of the resources. Through such active and broad involvement, the watershed approach can help in developing a sense of community, reduce conflicts, increase commitment to the actions necessary to meet the goals of the society and, ultimately, improve the likelihood of sustaining long-term environmental improvements.

The Ministry of Agriculture (MOA) and Ministry of Environment and Forests (MOEF) will, in collaboration with the NDMA, MOWR and state governments, implement watershed management including catchment area treatment and afforestation programmes to improve land and water management which will, in turn, result in flood moderation and sediment management in rivers.

6.9 Coordination and Enforcement

It is important that an appropriate techno-legal regime is put in place for the regulation of developmental activities in the flood plains, preventing blocking and encroachment of waterways, prohibiting reclamation, conservation and restoration of existing wetlands and depressions etc. Provisions are required in the bye-laws of ULBs and PRIs to ensure that buildings and the infrastructure in flood plains are flood resilient.

The state governments will put in place mechanisms for the enforcement of the acts, laws and rules made by them and identify the officers who will be responsible for their implementation and make them accountable for any lapses/violations.

The NDMA will coordinate the establishment of the mechanisms and enforcement by the central ministries and departments concerned and the state governments/SDMAs/DDMAs on the basis of these guidelines. The main objective of this effort will be to enable the

DM structures at various levels to expand their capacities and refocus their activities to enable them to respond rapidly and effectively to a flood situation.

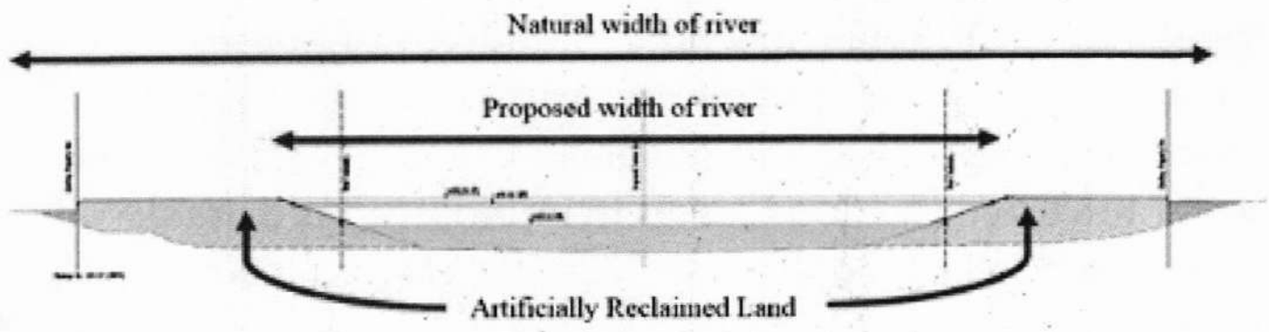
6.10 Action Plan

S.No	Activity	Commencement	2008				2009				2010	2011	2012
			M	J	S	D	M	J	S	D	M	M	M
1.	Flood plain zoning regulation	Immediate	Legislative Action → Implement										
2.	Bye-laws for buildings in flood plains	Immediate	Not-ification → Implement										
3.	Legal framework to make infrastructure flood resilent	Immediate	Notification → Implement										
4.	Flood plain survey (close colour maps-DEM)		Surveys and preparation of maps →										
5.	Wetlands-conservation and restoration		Notification → Implement										
6.	Watershed management/ CAT/afforestation	Immediate	Implement →										
7.	Mechanism for coordi-nation and enforcement of regulation	Immediate	Es-tablish → Implement										

SANDRP

Annexure A-23

South Asia Network on Dams, Rivers and People



RIVER FRONT DEVELOPMENT

PUNE RIVER FRONT DEVELOPMENT PROJECT

August 5, 2021August 6, 2021 · SANDRP

GUEST ARTICLE BY SARANG YADWADKAR

Pune,
A city along the banks of five rivers,
A city with 7 dams on the upstream,
A city surrounded by pristine green hills,
Hence probably the only city to enjoy abundance of water even in drought like situation.

Due to this abundant availability of water, the city of Pune grew very rapidly. But this situation has a darker side of frequent flooding as well, which the citizens have witnessed and experienced quite a few times. The most recent example, is the floods in 2019. In a few hours hundreds of houses were washed away; properties worth Crores of rupees were destroyed and 25 innocent people lost their lives. The flood water breached the flood levels to inundate innumerable houses and even a hospital. In 2020 too, Bhairoba Nala breached its limits.

Why is this happening so frequently these days?

Was it similar in the past?

Will it be the same in future?

Who is responsible for this?

There are innumerable questions. But the real question is, "When will be find logical answers to these questions?"

For this we need to ponder over a few crucial aspects.

As mentioned, 5 rivers namely Mula, Mutha, Ramnadi, Devnadi and Pavana are flowing through Pune city. These 5 rivers form confluences and flow away from Pune as one river, Mula-Mutha. In short, water flows into Pune from 5 different catchments and there is only one outlet to that, Mula-Mutha River. Over and above this, Pune's topography is saucer shaped leading to frequent inundation of the central city as storm water runoffs gush down from all directions whenever it rains heavily.

Total 7 dams (Khadakwasla, Panshet, Varasgav, Temghar, Pavana, Mulshi and Kasar Sai) are constructed on these rivers on the upstream on the West of Pune. These dams are not only close to Pune, but they are close to each other as well. If there is a cloudburst in the West of Pune, the catchments of all these seven dams will receive huge runoffs simultaneously and enormous quantities of water will have to be released from all these dams which will hit Pune city within no time.

Another unique characteristic of the rivers and streams in Pune is the topography of their catchments. All these catchments are hills and valleys forming steep slopes. Therefore, whenever it rains heavily, the surface runoffs gush down to the rivers and streams so fast that the flood levels rise hardly in few minutes leading to flash floods, without giving any opportunity even for evacuation. The floods of the Ramnadi and Ambil Odha have already proved it.

Another important aspect that needs some serious attention is the report prepared by "The Energy and Resources Institute" (TERI) in 2014 for Maharashtra Govt: "Maharashtra State Adaptation Action Plan". In this report, the impacts of Global Warming on Maharashtra are discussed in-depth and scientific ways and solutions to avoid the same are advised. The report predicts that there will be a rise of 37.50% in Pune's annual rainfall with less rainy days and increased frequency of cloudbursts. This clearly means Pune city is headed towards more severe and frequent floods in the future.

In last 20-25 years health of Pune rivers has deteriorated from bad to worse. Pune's population has increased by leaps and bounds leading to generation of huge quantities of sewage which is not being treated completely as the capacities of

PMC's Sewage Treatment Plants are extremely poor and their efficiency is questionable. As this partially treated sewage is released in the rivers from all STPs, through most of the year, all these rivers are practically carrying only sewage rather than fresh water. And on the top of this, there are huge quantities of industrial effluents released in the rivers. The quantity of industrial effluents is so much, that the monitoring by the Pollution Control Boards has become questionable.

Solid waste management is another serious concern in Pune as is in all cities. Keep aside the waste segregation and processing, we are still stuck with the problem of 100% collection of garbage. The garbage strewn everywhere around is proof of carelessness of the citizens. This garbage, mainly plastic finally flows with the surface runoffs and gets stuck in the storm water drainage system leading to water stagnation at many locations, which we call as "pluvial floods".

Water carrying capacity of all rivers and streams in and around Pune is drastically eroded in last many years. For this, initially we need to understand the concept of "Flood Lines" which are identified by Water Resources Department. There are two types of flood lines, Red and Blue. The Blue Flood Lines mark the level of the flood that comes every 25 years whereas the Red Flood Lines mark level of the flood which comes every 100 years. The portion of land between the two Blue Flood Lines is known as "Prohibitive zone" where no construction is permissible. And the portion of land between Blue Flood Line and Red Flood Lines is known as "Restrictive Zone" where construction is permissible but under certain conditions. Under any circumstances, the cross section of the river cannot be altered due to which the water carrying capacity of the river reduces.

In and around Pune, there are innumerable encroachments upon floodplains, riverbeds and streams. Most of these encroachments are unauthorized but some are "authorised", e.g., car parking on the riverbed, Chowpatty, sewage pipes, Metro pillars on the riverbed etc. Due to these encroachments, the cross section of the riverbed is reduced at many locations and so is the water carrying capacity. We do have experienced this in the recent years. In 2011 when the flow of 67,212 CuSecs. (Cubic Feet Per Second) from Khadakwasla dam was released it reached the same level as it had in 1997 when 90,000 CuSecs. were released. The Blue Flood Line, which has been identified for a flow of 60,000 CuSecs., was breached by the flow of 45,474 CuSecs. in 2019.

The conclusion emanating from this situation is that; on one hand the severity of rainfall and frequency of cloudbursts is on the rise, while on the other hand, riverbeds are being strangulated on large scale by encroachments. Just to give an analogy, we can compare this situation with the artery supplying blood to our heart. Gradual deposition of cholesterol reduces blood supply to heart, ultimately leading to cardiac arrest. Similarly, the encroachments on the riverbeds are eroding their water carrying capacities as if we are waiting for a cardiac arrest. Unfortunately for today's awful situation local politicians and administration is responsible and the innocent common citizens would be left with no choice but to face its gruesome consequences.

The water release capacity of Khadakwasla dam is 100,000 CuSecs. This release can reach Pune within minutes and if it is raining in the free catchment on the downstream of the dam, there is additional storm water flow of at least another 50,000 CuSecs. This means that if it rains cats and dogs in the

catchment of the dam and in the downstream, the city of Pune will be left with no choice but to face the deluge of 150,000 CuSecs. only from Mutha River. If the Blue Line identified for the flow of 60,000 CuSecs. is breached by 45,474 CuSecs., can we imagine what catastrophe 150,000 CuSecs. would cause in Pune? And this could happen in any rainy season, including in 2021. Unfortunately, it appears that the politicians and administrators are least concerned about it.

The Central Water and Power Research Station (CWPRS), a reputed and Pune-based organization, recently released a report on the impact of riverbed construction of metro on the flood levels of Mutha River. The report shockingly reveals that in the present circumstances even without metro pillars, the flow of 60,000 CuSecs. which is expected to touch Blue Flood Line will actually flow 5 Ft. above it. In short, due to encroachments, the flood level in Pune has gone up by 5 Ft. which is not only serious but a very scary fact. If the flood level rises by 5 Ft., the flood water will spread few hundred Ft. beyond riverbed inundating thousands of homes. The question is, even after the report was released in January 2021, why are our politicians and administration have chosen to remain tight-lipped about it?

The confluence of Mula and Mutha is another dimension to this scary situation. Similar to 150,000 CuSecs. from Mutha, Mula River can bring in flow of 160,000 CuSecs. These rivers meet each other near Sangamwadi at a right-angle causing reduction in the velocity of water of both rivers. This further aggravates the flood situation on the upstream side of both the rivers.

In Pune, biodiversity in the rivers is another vital subject related to the rivers. The pollution and encroachments on the rivers have caused immeasurable damages to the biodiversity. Innumerable trees have been axed down. The riparian wetlands which is a prosperous and intricate ecosystem on its own is completely disturbed by these anthropogenic interferences. These wetlands consist of a variety of plants, innumerable species of insects and reptiles and hence interminable presence of local as well as migratory birds. It is not yet too late, we still can save these precious wetlands by protecting them and by of removing the encroachments on the riverbeds, in fact it is our responsibility.

Except for few days of monsoon, it is only polluted sewage that flows in the rivers throughout the year. Due to lack of dissolved Oxygen, hardly two species of fishes are surviving in the river water. The fishermen are dependent on these fish for their livelihood. If we stop releasing polluted water in rivers, the aquatic life will bounce back to its original. Mula-Mutha is so polluted due to the sewage and the industrial effluents that even the groundwater has become highly toxic not only in Pune but up to a few hundred Kilometres downstream. This polluted water of Mula-Mutha has also adversely affected the agriculture depending on the river. It is also observed that certain health disorders are on the rise in the people and the cattle along both the banks of Mula-Mutha.

On this background, Pune Municipal Corporation has proposed a massive project of River Front Development on the 44 Km. long rivers in Pune. The cost of this project as estimated in 2018 is Rs. 2619 Cr. Obviously this cost is to be borne by the tax paying citizens of Pune. Hence, we need to know, what this project is all about, how it is, what are its consequences etc. It's

not only the need of the hour but also our responsibility to search for the scientific and logical answers to all these questions.

What is the "Pune River Front Development Project"?

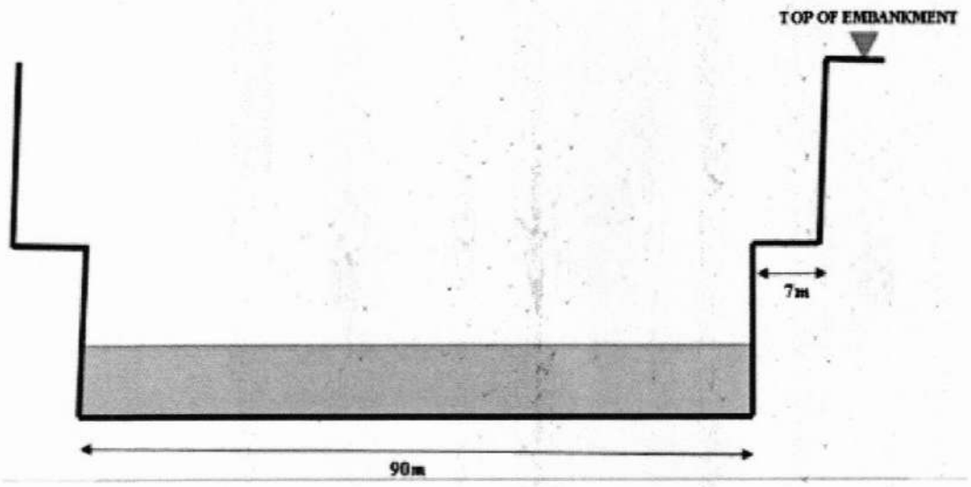
Part-2: PUNE RIVER FRONT DEVELOPMENT PROJECT:

It is stated in the Detailed Project Report (DPR) of River Front Development project that following were the objectives while envisaging and planning the project:

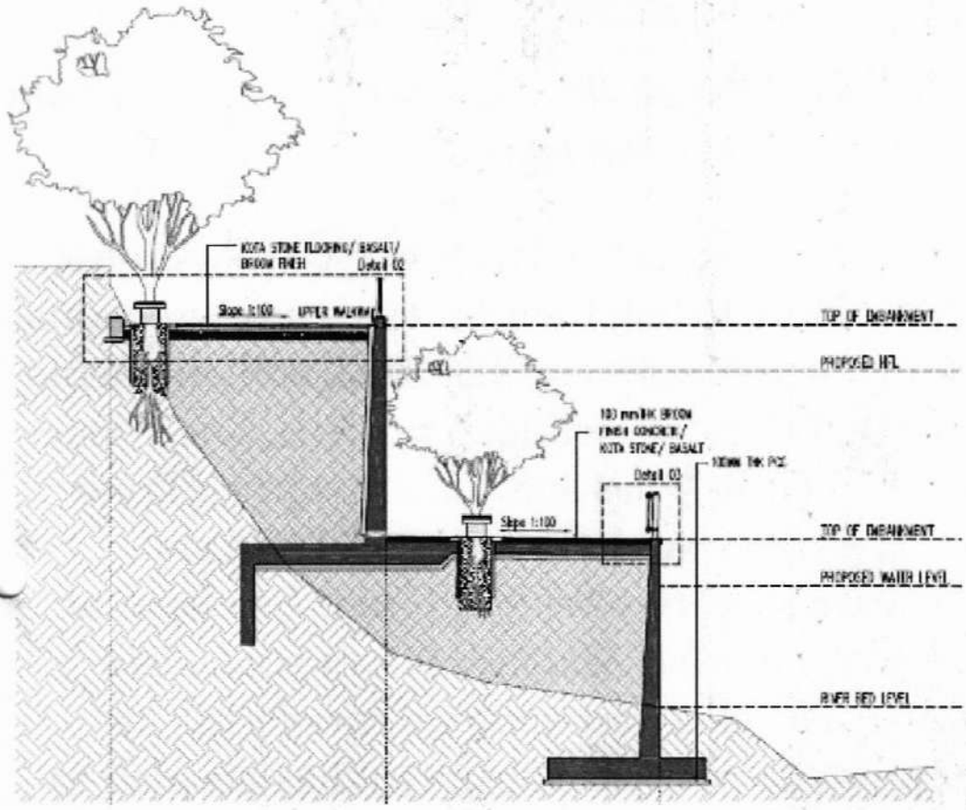
1) Reduce the floods caused by the rivers.
2) To have clean rivers
3) To rejuvenate the rivers,
4) To develop a link between rivers and citizens.

But the question is, will these objectives be truly delivered by this project?

Pune Municipal Corporation boasts that, 44 Km. long Mula, Mutha, and Mula-Mutha rivers flowing within PMC limits will be "rejuvenated" due to this project. The river Front Development (RFD) project predominantly comprises of channelising and converting the rivers into canals by constructing 30- 40 Ft. high concrete or stone walls (Embankments) along both the banks.



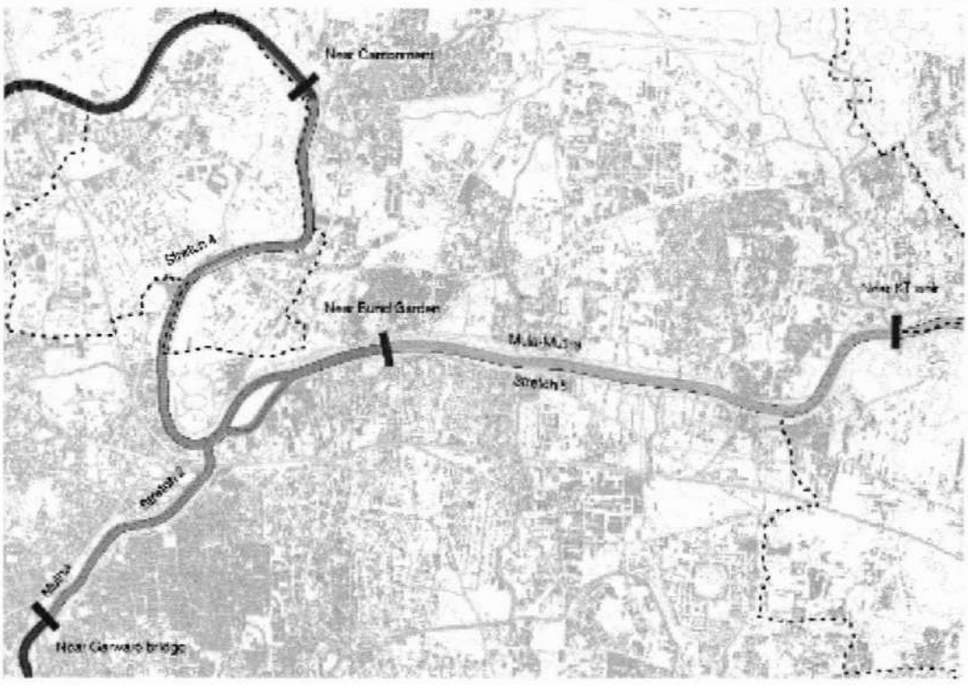
Proposed Cross Section of River Bed



RCC Walls proposed on Riverbanks as Embankments

Apart from the embankments, three barrages are to be constructed at following locations:

1. Mutha River – Near Garware College
2. Mula River – Kaspate Vasti, Near Cantonment
3. Mula Mutha River – Near Mundhwa K. T. Weir.



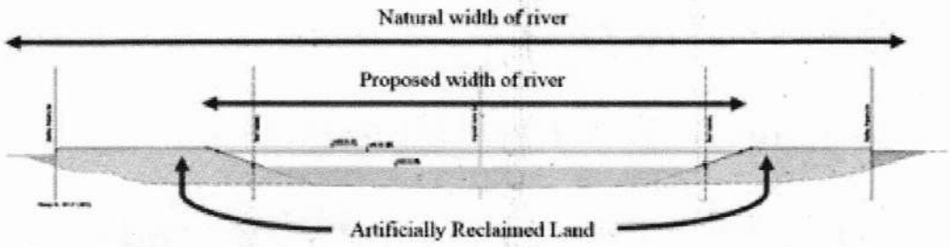
In addition to the existing barrages, three new barrages are to be built at these locations

The embankments are to be constructed inside the flood lines, narrowing the river and reducing the riverbed's cross-sectional area. The floodplains on the outer sides of these embankments are to be filled with soil to create artificial gardens. The Water Resources Department (WRD) has specifically warned Pune Municipal Corporation not once but twice on 30.1.18 and 15.11.19 that, *"While implementing the River Front Development project on Mula, Mutha, and Mula Mutha rivers, care should be taken that the cross-section of the river must not be reduced."* It appears that PMC and their project consultant has decided to completely disregard these instructions from the WRD while implementing the project.

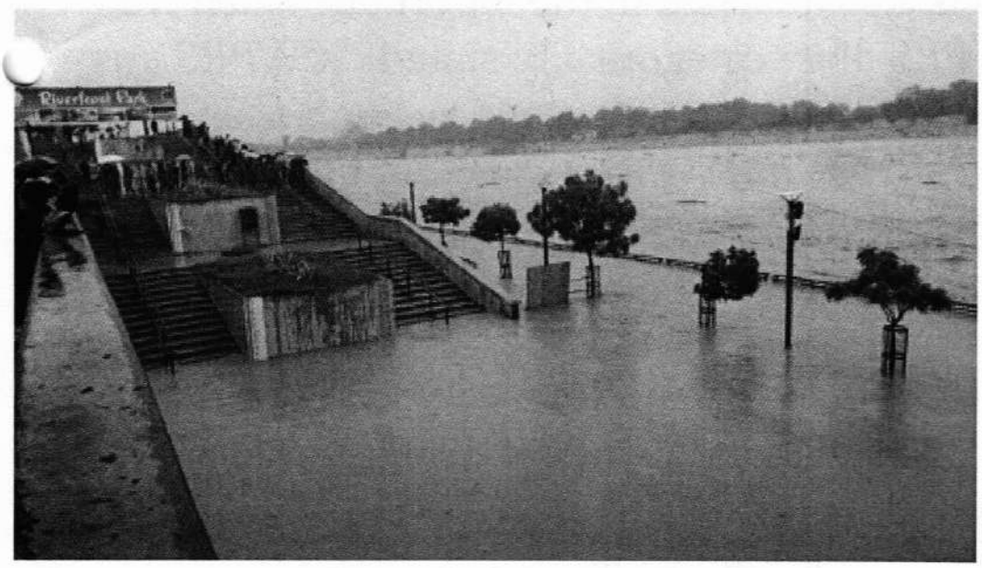
As mentioned earlier in Part 1, Pune is a flood-prone city. There are two root causes for this, first is increasing rainfall and the second is gradually constricting riverbeds due to encroachment (same is the situation of all streams). Rains,

being a natural phenomenon; is not under our control but what can be controlled by us is to free all streams and rivers from encroachments.

As a matter of fact, the River Front Development project would further narrow down the rivers by constructing embankments to create more land by reclaiming the riverbed or the flood plains. Reduction in width of the river would reduce its cross-sectional area necessary for uninterrupted flow of water. Consequently, whenever water is released from the dam, that flow will get less space to flow in the riverbed leading to steep rise in flood levels inundating large areas of the city.



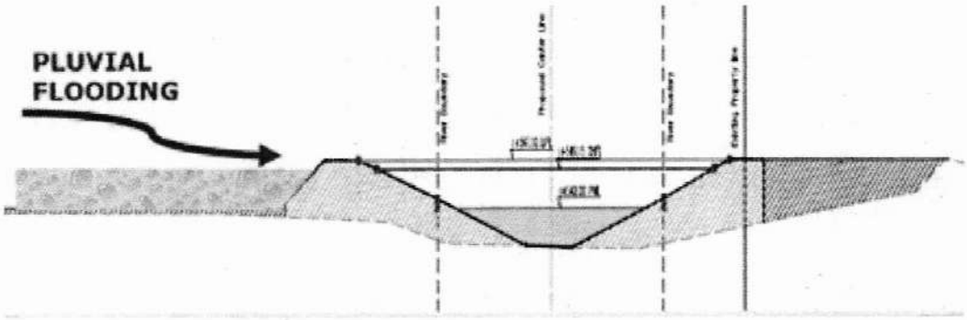
Reduction in Width of the River



This photograph establishes what happens to Ahmedabad's Sabarmati during floods. Pune River Front Development is very similar to

Sabarmati River Front Development. And Pune rivers are far more flood-prone than Sabarmati.

The embankments proposed to contain the rivers in this project are pretty high. At some locations they are above the surrounding ground level. This will obstruct the storm water from other parts of the city to flow naturally in to the river causing further inundation in the residential localities.



Inundation due to obstructed storm water

The RFD project report highlights that Central Water and Power Research Station (CWPRS) has given approval to this project after in-depth hydrological study of the rivers. A letter stating the same is also attached in the report but when we approached CWPRS, they categorically stated, *"CWPRS was requested by PMC to examine hydrology and hydraulics report prepared by the HCPDPM (project consultants).",* CWPRS also clarified that, *"CWPRS did not conduct any study for RFD of PMC".* This raises a plethora of questions:

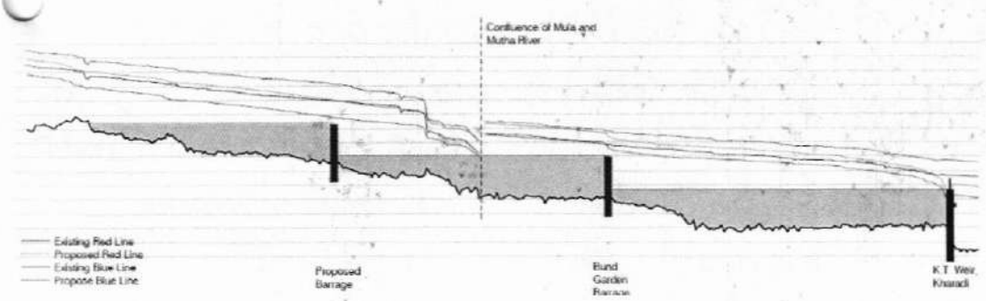
1. Given the history of floods in Pune, why isn't CWPRS involved to conduct an independent detailed study? Or was it avoided intentionally?
2. If CWPRS did not conduct an independent study then what is the credibility of their so called *"approval"*?
3. Why are the citizens of Pune misguided about this?

And most importantly

- Who will be responsible when flood levels rise? The Project Consultant or the Politicians or the administration or Water Resources Department, or CWPRS?

In short, the River Front Development project is going to be a perpetual arrangement leading to more frequent and intense flooding of Pune city.

Furthermore, just to show water *(stagnant)* in the rivers, three new barrages are to be constructed. The impounding water in these three barrages will create new problems. The water currently flowing through rivers is nothing but stinking half-treated sewage. If this water stagnates, the stink would further aggravate, and the levels of the stagnant water will also rise. This stinking stagnant sewage will flow back in to the streams. This will instigate mosquito infestation everywhere in the city. The stagnant water will further lower the already low dissolved Oxygen (DO) levels leading to extinction of the remaining two fish species (Mangur and Tilapia) in the river.



Stagnant Water due to Barrages

Environment Clearance for this River Front Development project has been accorded by State Environment Impact Assessment Authority (SEIAA), but in a highly objectionable and controversial manner from multiple aspects.

1. The SEIAA, in its meeting held on 11.10.19 issued Environmental Clearance for this project. The minutes of this meeting specifically mention, *"Project Proponent informed that there are 4 (four) barrages to be constructed. As the Committee has no expert working in this field, the Committee has not gone into this aspect. Proper appraisal from proper authority in this regard is solicited."*
2. It also is clearly visible that the Environmental Clearance is accorded by SEIAA; ignoring the very basic facts and features of the project. While according the EC, SEIAA has mentioned in the minutes at point No. 18 (a) that the proposed Built-up area of this project (FSI and Non-FSI) is 00 Sq. M. i.e., the project does not propose any Built-up area at all. Completely in contravention with this, the Cost Estimates clearly mention about many built components like Retaining Walls, Promenades, Embankments, Stairs, Ghats, Toilet Blocks, Food Courts, Parking Spaces, Plazas, Bridges etc. etc. All this covering minimum Built-up area of 17,41,684 Sq. M. (1,87,47,486 Sq. Ft. or 430 Acres). How could SEIAA overlook such a massive part of the project while issuing the EC?
3. Further, while providing the *"Details of the demolition with disposal"* at point No. 30, the SEIAA minutes specifically say that, *"There will be no demolition."* Whereas the Project Cost Estimates show that some Bridges, Weirs, Causeways, Check Dam, Roads, Retaining Walls, Compound Walls, Small Buildings and Ghats will come under the hammer of demolition at the lump sum estimated cost of Rs. 5 Cr.

Such an Environmental Clearance given by SEIAA raises innumerable questions:

1. If the State Environment Impact Assessment Authority could not study the impacts of the barrages in absence of Experts, then on what basis was this project accorded the Environmental Clearance?
2. As per the SEIAA directions, was any study conducted independently by any competent authority?
3. If such independent study was conducted, what are its conclusions?
4. What is the validity of the Environment Clearance which is given completely overlooking the massive Built-up area of 1,49,00,000 Sq. Ft. or 342 Acres?
5. Why the demolition of so many structures like Bridges and Weirs, Causeways, Check Dam, Roads and some Retaining Walls, Compound Walls, Small Buildings and Ghats etc. was not considered by SEIAA?
6. All this, because of premeditated misrepresentation by the Project Consultant and Proponents or sheer ignorance of the SEIAA members?

And the citizens of Pune need logical answers to all these questions.

Apart from this, the embankments to be constructed on the riverbed will have some other serious adverse impacts, the foundations of these 30-40 Ft. tall walls will be deep down in the riverbed. Due to this, the main course of river will get completely disconnected from aquifers on both the banks. River banks are recharge and discharge zones of groundwater. Some aquifers feed the rivers by releasing groundwater into it and rivers also recharge ground water through the aquifers. This natural process goes on incessantly maintaining the

ground water table. The concrete embankment walls and their deep foundations will stop this permanently affecting the groundwater table adversely.

Sr No.	Particular	Amount (in Rs. Crores)	% Of total Cost
A	River-Edge Protection	1,245	47.52%
B	Interceptor Sewage Network	98	3.71%
C	Water Replenishment	287	10.93%
D	Promenade Finishing Works	377	14.36%
E	Public Access and Ghats	93	3.52%
F	Landscape	114	4.32%
G	Public Amenities	117	4.46%
H	Roads and Bridges	117	4.43%
I	Urban Infrastructure	91	3.46%
J	Sub Total of A to I	**2,533**	**96.71%**
K	Considering 3% Contingencies over J	87	0.00%
L	**Total Cost**	**2,619**	**100.00%**

PROJECT COST ESTIMATE PREPARED IN 2018

The cost estimate clearly shows that 80% of the cost is for different types of civil constructions. There is no mention of purifying or cleaning the rivers. How the rivers could be rejuvenated by such concretisation and without cleaning? This is a million-dollar question.

There are few more shocking revelations in the Detailed Project Report of the project.

Chapter 6.3 discusses raising finances for this project. On page 224, it states, after erection of embankments, 625 Ha (1544 Acres) of land will be created or reclaimed on the flood plains, through which finances can be made available for this project. Does it mean that the reclaimed flood plains which form the integral part of the riverbed will be monetised for this beautification project?

Furthermore, it is mentioned on page No. 228, *"As per the study, approximately 73 Ha of land is under the ownership of various government authorities. A possibility to lease out or sale or give development rights of the government owned land needs to be explored as a source of revenue generation."* This means that the 73 Ha. (180 Acres) of centrally located government land, which is a public property will be sold to provide finances for this project. Is this acceptable to the citizens?

This clearly means that the future of the centrally located priceless 1544 Acres of reclaimed land and 180 Acres of government land will be completely in the hands of the Politicians, administration and the SPV (Special Purpose Vehicle) formed for this project. Citizens who are the real owners of this land will stand at the losers' end. The question is, were the common people taken in confidence while deciding such policies? And is this acceptable for Punekars? Close look at the Detailed Project Report of this River Front Development project raises a strong suspicion that this project is not really intended to rejuvenate the rivers at all but this actually is a real estate development project. The land belongs to citizens, money will be spent from the taxes collected from the citizens,

the risk of floods will be for the citizens at the cost of irreversible environmental damage but for the benefits of only few selected people.

Gist of River Front Development project.

1. The River Front Development project is not going to clean and purify the rivers.
2. Biodiversity on the riverbank will be irreversibly destroyed.
3. Ground water table will deplete.
4. Some existing bridges will become redundant and the existing riverbed road will be closed.
5. The rivers will become canals due to channelisation, altering their natural flow.
6. Flood levels will rise and more areas will submerge underwater

and

- All this at the cost of several thousand Crores from our pockets.

It's not just about Finances,

It's about the irreversible Environmental damages also,

It's about the safety and security of our next generations also,

It's about Punekars, their families and houses not only on the riverbanks, but away from the banks also.

The question is, do we want to repeat the history of 1961 Panshet floods?

We do want our Rivers to be beautiful,

But before that they should flow clean,

And even prior to that, we want our Rivers to be safe.

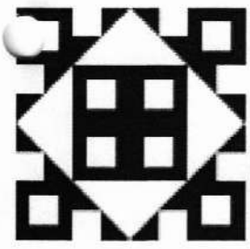
The need of the hour for us is to rise,

Not for our sake, but for the sake of our future generations.

–Sarang Yadwadkar
(yadwadkarsarang@gmail.com)

- Architect,
- Member of the Planning Committee of the Development Plan of Pune City.
- Has filed many cases in the National Green Tribunal against river pollution and encroachments on riverbeds.

(The original article was written in Marathi, the translation is by Ms. Tanmayi Shinde.)



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CWPRS ENVIRONMENT CLEARANCE MULA MULA-MUTHA RIVERS MUTHA PUNE PUNE METRO PUNE MUNICIPAL COPORATION RIVER

FRONT DEVELOPMENT SABARMATI RIVER FRONT DEVELOPMENT SEAC SEIAA

Annexure A-24

Agenda for 178 SEIAA Meeting	
SEIAA Meeting number: 178 **Meeting Date** October 11, 2019	
Subject: Environment Clearance for Mula, Mutha,Mula-Mutha River Rejuvenation Project	
Is a Violation Case: No	
1.Name of Project	Mula, Mutha,Mula-Mutha River Rejuvenation Project
2.Type of institution	Government
3.Name of Project Proponent	Pune Municipal Corporation
4.Name of Consultant	Green Circle Inc.
5.Type of project	River Rejuvenation Project
6.New project/expansion in existing project/modernization/diversification in existing project	Not applicable
7.If expansion/diversification, whether environmental clearance has been obtained for existing project	Not applicable
8.Location of the project	Pune
9.Taluka	Pune
10.Village	Pune
Correspondence Name:	Mr. Mangesh Dighe
Room Number:	NA
Floor:	NA
Building Name:	PMC Building
Road/Street Name:	NA
Locality:	Shivajinagar
City:	Pune
11.Whether in Corporation / Municipal / other area	Municipal
12.IOD/IOA/Concession/Plan Approval Number	NA
	IOD/IOA/Concession/Plan Approval Number: NA
	Approved Built-up Area: 00
13.Note on the initiated work (If applicable)	NA
14.LOI / NOC / IOD from MHADA/ Other approvals (If applicable)	NA
15.Total Plot Area (sq. m.)	820 ha
16.Deductions	NA
17.Net Plot area	820 Ha
18 (a).Proposed Built-up Area (FSI & Non-FSI)	**FSI area (sq. m.):** 00
	Non FSI area (sq. m.): 00
	Total BUA area (sq. m.): 00
18 (b).Approved Built up area as per DCR	**Approved FSI area (sq. m.):** 00
	Approved Non FSI area (sq. m.): 00
	Date of Approval: 23-03-2018
19.Total ground coverage (m2)	8200000
20.Ground-coverage Percentage (%) (Note: Percentage of plot not open to sky)	8200000
21.Estimated cost of the project	28000000000

22.Number of buildings & its configuration

Serial number	Building Name & number	Number of floors	Height of the building (Mtrs)
1	--	--	--

23.Number of tenants and shops	THERE WILL BE NO TENANTS
24.Number of expected residents / users	THERE WILL BE NO RESIDENTS OR USERS
25.Tenant density per hectare	00
26.Height of the building(s)	
27.Right of way (Width of the road from the nearest fire station to the proposed building(s)	NA
28.Turning radius for easy access of fire tender movement from all around the building excluding the width for the plantation	6m
29.Existing structure (s) if any	There are no existing structures
30.Details of the demolition with disposal (If applicable)	There will be no demolition

31.Production Details

Serial Number	Product	Existing (MT/M)	Proposed (MT/M)	Total (MT/M)
1	Not applicable	Not applicable	Not applicable	Not applicable

32.Total Water Requirement

Dry season:	**Source of water**	Pune Municipal Corporation
	Fresh water (CMD):	180
	Recycled water - Flushing (CMD):	00
	Recycled water - Gardening (CMD):	1000
	Swimming pool make up (Cum):	00
	Total Water Requirement (CMD) :	1180
	Fire fighting - Underground water tank(CMD):	00
	Fire fighting - Overhead water tank(CMD):	00
	Excess treated water	00

Wet season:	**Source of water**	Pune Municipal Corporation
	Fresh water (CMD):	180
	Recycled water - Flushing (CMD):	00
	Recycled water - Gardening (CMD):	00
	Swimming pool make up (Cum):	00
	Total Water Requirement (CMD) :	180
	Fire fighting - Underground water tank(CMD):	00
	Fire fighting - Overhead water tank(CMD):	00
	Excess treated water	1000
Details of Swimming pool (If any)	NA	

33.Details of Total water consumed									
Particulars	Consumption (CMD)			Loss (CMD)			Effluent (CMD)		
Water Requirement	Existing	Proposed	Total	Existing	Proposed	Total	Existing	Proposed	Total
Domestic	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

34.Rain Water Harvesting (RWH)	Level of the Ground water table:	1 M
	Size and no of RWH tank(s) and Quantity:	NA
	Location of the RWH tank(s):	NA
	Quantity of recharge pits:	NA
	Size of recharge pits :	NA
	Budgetary allocation (Capital cost) :	NA
	Budgetary allocation (O & M cost) :	NA
	Details of UGT tanks if any :	THERE ARE NO UGT TANKS
35.Storm water drainage	Natural water drainage pattern:	WATER CATCHMENT AREA FOR THREE RIVERS ARE: MULA RIVER:1299 SQ KM, MUTHA RIVER: 738 SQ KM, MULA-MUTHA: 59 SQ KM
	Quantity of storm water:	MULA RIVER: 3971 MUTHA RIVER: 2835 MULA-MUTHA RIVER: 4762 (CUMECS FOR 100 YEARS RETURN PERIOD)
	Size of SWD:	NA
36.Sewage and Waste water	Sewage generation in KLD:	728 MLD
	STP technology:	SBR/ ANAEROBIC PROCESS WITH TERTIARY TREATMENT
	Capacity of STP (CMD):	22 , TOTAL CAPACITY 931KLD
	Location & area of the STP:	SEVERAL PLACES IN PUNE CITY
	Budgetary allocation (Capital cost):	NA
	Budgetary allocation (O & M cost):	NA

37.Solid waste Management

Waste generation in the Pre Construction and Construction phase:	**Waste generation:**	280 KG/ DAY
	Disposal of the construction waste debris:	PMC AUTHORIZED VENDORS
Waste generation in the operation Phase:	**Dry waste:**	NA
	Wet waste:	NA
	Hazardous waste:	NA
	Biomedical waste (If applicable):	NA
	STP Sludge (Dry sludge):	NA
	Others if any:	NA
Mode of Disposal of waste:	**Dry waste:**	WILL BE SENT TO WASTE DISPOSAL FACILITY OF PMC AFTER SEGREGATION IF GENERATED
	Wet waste:	WILL BE SENT TO WASTE DISPOSAL FACILITY OF PMC AFTER SEGREGATION IF GENERATED
	Hazardous waste:	NA
	Biomedical waste (If applicable):	NA
	STP Sludge (Dry sludge):	NA
	Others if any:	NA
Area requirement:	**Location(s):**	NA
	Area for the storage of waste & other material:	NA
	Area for machinery:	NA
Budgetary allocation (Capital cost and O&M cost):	**Capital cost:**	NA
	O & M cost:	NA

38.Effluent Charecterestics

Serial Number	Parameters	Unit	Inlet Effluent Charecterestics	Outlet Effluent Charecterestics	Effluent discharge standards (MPCB)
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Amount of effluent generation (CMD):	Not applicable
Capacity of the ETP:	Not applicable
Amount of treated effluent recycled :	Not applicable
Amount of water send to the CETP:	Not applicable
Membership of CETP (if require):	Not applicable
Note on ETP technology to be used	Not applicable
Disposal of the ETP sludge	Not applicable

39.Hazardous Waste Details

Serial Number	Description	Cat	UOM	Existing	Proposed	Total	Method of Disposal
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

40.Stacks emission Details

Serial Number	Section & units	Fuel Used with Quantity	Stack No.	Height from ground level (m)	Internal diameter (m)	Temp. of Exhaust Gases
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

41.Details of Fuel to be used

Serial Number	Type of Fuel	Existing	Proposed	Total
1	Not applicable	Not applicable	Not applicable	Not applicable
42.Source of Fuel		Not applicable		
43.Mode of Transportation of fuel to site		Not applicable		

44.Green Belt Development

Total RG area :	NA
No of trees to be cut :	NA
Number of trees to be planted :	NA
List of proposed native trees :	NA
Timeline for completion of plantation :	NA

45.Number and list of trees species to be planted in the ground

Serial Number	Name of the plant	Common Name	Quantity	Characteristics & ecological importance
1	Stereospermum colais	PATALA	--	BEAUTIFICATION
2	Semecarpus anacardium	BHALLATAK	--	BEAUTIFICATION
3	Syzygium caryophyllatum	JAMUN	--	BEAUTIFICATION AND EDIBLE
4	Samanea saman	SIRIS	--	BEAUTIFICATION
5	Mangifera Indica	MANGO	--	EDIBLE
6	Azadirachta Indica	NEEM	--	BEAUTIFICATION AND MEDICINE
7	Cochlospermum Religiosum	GANERI	--	BEAUTIFICATION
8	Pongamia pinnata	KARANJ	--	BEAUTIFICATION AND MEDICINE
9	Plumeria rubra	CHAMPA	--	BEAUTIFICATION
46.Total quantity of plants on ground				

47.Number and list of shrubs and bushes species to be planted in the podium RG:

Serial Number	Name	C/C Distance	Area m2
1	Bougainvillea Purple	--	--
2	Bougainvillea Yellow California Gold	--	--
3	Bougainvillea Pink Barbara Karst	--	--

48.Energy

Power requirement:	**Source of power supply :**	MSEDCL
	During Construction Phase: (Demand Load)	0.5 MVA
	DG set as Power back-up during construction phase	1
	During Operation phase (Connected load):	5 MVA
	During Operation phase (Demand load):	NA
	Transformer:	11X615
	DG set as Power back-up during operation phase:	NA
	Fuel used:	NA
	Details of high tension line passing through the plot if any:	NA

49.Energy saving by non-conventional method:

LED LIGHTS WILL BE USED FOR STREET LAMPS. POSITIONING OF THE STREET LAMPS WILL BE PLANNED PROPERLY.

50.Detail calculations & % of saving:

Serial Number	Energy Conservation Measures	Saving %
1	LED LIGHTS	NA

51.Details of pollution control Systems

Source	Existing pollution control system	Proposed to be installed
Not applicable	Not applicable	Not applicable

Budgetary allocation (Capital cost and O&M cost):	**Capital cost:**	NA
	O & M cost:	NA

52.Environmental Management plan Budgetary Allocation

a) Construction phase (with Break-up):

Serial Number	Attributes	Parameter	Total Cost per annum (Rs. In Lacs)
1	DUST SUPPRESSION	--	20
2	GREEN BELT	--	11800
3	SOLID WASTE MANAGEMENT	--	5025
4	ENVIRONMENTAL MONITORING,	--	12.12

5	OCCUPATIONAL HEALTH	--	35

b) Operation Phase (with Break-up):				
Serial Number	**Component**	**Description**	**Capital cost Rs. In Lacs**	**Operational and Maintenance cost (Rs. in Lacs/yr)**
1	STP OPERATION	OPERATION AND MAINTANANCE	150	50
2	ENVIRONMENT MONITORING	MONITORING OF THE ENVIRONMENTAL PARAMETERS	00	12.12
3	GREEN BELT	PLANTATION AND MAINTANANCE	75	30
4	SOLID WASTE MANAGEMENT	COLLECTION AND DISPOSAL	50	20
5	OCCUPATIONAL HEALTH	MONITORING AND MAINTANANCE	30	20

52. Storage of chemicals (inflamable/explosive/hazardous/toxic substances)

Description	**Status**	**Location**	**Storage Capacity in MT**	**Maximum Quantity of Storage at any point of time in MT**	**Consumption / Month in MT**	**Source of Supply**	**Means of transportation**
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

53. Any Other Information

No Information Available

54. Traffic Management

	Nos. of the junction to the main road & design of confluence:	NA

1319

Parking details:	Number and area of basement:	NA
	Number and area of podia:	NA
	Total Parking area:	NA
	Area per car:	NA
	Area per car:	NA
	Number of 2-Wheelers as approved by competent authority:	NA
	Number of 4-Wheelers as approved by competent authority:	NA
	Public Transport:	NA
	Width of all Internal roads (m):	NA

	CRZ/ RRZ clearance obtain, if any:	NA
	Distance from Protected Areas / Critically Polluted areas / Eco-sensitive areas/ inter-State boundaries	47.8 KM FROM WILDLIFE SANCTUARY
	Category as per schedule of EIA Notification sheet	8(b)
	Court cases pending if any	NA
	Other Relevant Informations	NA
	Have you previously submitted Application online on MOEF Website	Yes
	Date of online submission	28-07-2018

Brief information of the project by SEAC

PP had submitted application for prior Environmental clearance for Mula, Mutha,Mula-Mutha River Rejuvenation Project.

The case was discussed on the basis of the documents submitted and presentation made by the proponent. All issues relating to environment, including air, water, land, soil, ecology, biodiversity and social aspects were examined. The proposal is appraised as category 8(b).

Salient features of the proposal as informed by the PP are as below:

Project description: The Mula and Mutha Rivers originate in the Sahyadri ranges and traverse across Pune city, and form Mula-Mutha River which eventually joins the Bhima River. The total length of the three rivers Mula, Mutha and Mula-Mutha traversing through Pune Municipal Corporation area is approximately 44.4 km.

The river length covered in this project along the land is as follows:

Mula River: Mumbai-Pune Bypass to Sangam Bridge (22.2 Km).

Mutha River: Mumbai-Pune Bypass to Mula-Mutha Sangam (10.4 Km).

Mula-Mutha River: Mula-Mutha Sangam to Kharadi (11.8 Km).

Terms of References: PP has received ToR from EAC (MoEFCC) on 10th August 2017.

Purpose of the study: The environmental study undertaken was aimed at identifying existing environmental conditions, predicting environmental impacts associated with the proposed Mula, Mutha & Mula-Mutha River Rejuvenation to suggest mitigation measures to mitigate the adverse environmental impacts. The different activities that are likely to take place were analyzed and proposed mitigation measures were assessed for their adequacy. Further mitigation measures shall be proposed if necessary. The study will also establish the likely effect on the environment, human beings, local communities, and on the adjoining/neighbouring areas as a consequence of the relevant phases of proposed project, methods, and measures contemplated for minimizing environmental damage and carrying out site restoration activities.

Accordingly, PP has submitted EIA Report to the Committee.

DECISION OF SEAC

During discussion, PP informed that no activity pertaining to deepening of river will be undertaken as a part of this proposal.

During discussion following points emerged:

1. Corporate Environmental Responsibility: (1-a) PP has proposed rehabilitation and expansion of Municipal School Building costing 28.75 Cr over 5 years. PP to give details of expansion of every building and work to be done and expansion to be done in every year. (1-b) PP has proposed LED lighting with solar panel at slum area strips and EWS. PP has given only sum total for every year. PP to give details of activities to be done in every locality, every year. (1-c) PP has proposed RWH in school building at slum area. No details of the same are given. PP to submit details like name of school, how many pits are proposed and its budget. (1-d) PP has proposed sanitation blocks at various places. PP to give information viz. how many blocks are to be constructed, quantum of construction and year in which expansion will be done.

2. PP to submit indemnity bond indemnifying Environment Department, GoM from any legal consequences.

3. PP informed that there are 4 (four) barrages to be constructed at following places:(a) Mula - Kaspate Chowk, (b) Mula - Bund Garden, (c) Mundhwa and (d) Mutha - Garware College. As the Committee has no expert working in this field, the Committee has not gone into this aspect. Proper appraisal from proper authority in this regard is solicited.

*SEAC decided to **recommend** the proposal for prior environmental Clearance, subject to PP complying with the above conditions.*

Specific Conditions by SEAC:

1) PP to ensure that NGT norms to be followed regarding release of treated water from STP i.e. BOD below 10.
2) PP to upload revised CER activities as per as per OM issued by MoEF&CCdated 01.05.2018 after approval of Municipal Commissioner.

SEIAA DECISION

The proposal was submitted for prior Environmental clearance for Mula, Mutha, Mula-Mutha River Rejuvenation Project i.e. area development project. Proposal was recommended in 94th meeting of SEAC-3 for prior Environmental clearance. Proposal was then considered in 177th meeting of SEIAA and deferred as PP was absent for the meeting. Now, proposal is considered in 178th meeting of SEIAA

SEIAA decided to grant EC subject to following conditions-

1.PP to ensure that NGT norms to be followed regarding release of treated water from STP i.e. BOD below 10.

2.PP to upload revised CER activities as per as per OM issued by MoEF&CCdated 01.05.2018 after approval of Municipal Commissioner.

Specific Conditions by SEIAA:

1) PP to ensure that NGT norms to be followed regarding release of treated water from STP i.e. BOD below 10.
2) PP to upload revised CER activities as per as per OM issued by MoEF&CCdated 01.05.2018 after approval of Municipal Commissioner.

FINAL RECOMMENDATION

SEIAA have decided to grant the proposal for Prior Environmental Clearance subject to above conditions