



महाराष्ट्र जलसंपत्ती नियमन प्राधिकरण

Maharashtra Water Resources Regulatory Authority (MWRRA)

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No. MWRRA/Legal/2015/Case No.9 of 2015/669

Date : 9/11/2015

Case No. 9 of 2015

**In The Matter of GMIDC, Aurangabad Order dated 17/10/2015 about
releasing water from upstream reservoirs into Jayakwadi Reservoir**

Please find herewith a copy of MWRRA Order dated 9/11/2015 in the
matter.

Encl : As above (13 pages)

(Dr. Suresh Kulkarni)
Secretary

1. Secretary,(WRM & CAD) Water Resources Department, Madam Kama Marg, Hutatma Rajguru Chawk, Mantralaya, Mumbai - 400032.
2. Executive Director, Godavari Marathwada Irrigation Development Corporation, Sinchan Bhavan, Jalna Road, Aurangabad-431 005.
3. Shri. Bhaskarrao N Kharde, Ex-Chairman, Padamshree Dr. Vitthalrao Vikhe Patil Sahakari Sakhar Karkhana Limited, R/o. Pravaranagar, Tal. Rahata, Dist. Ahmednagar- 413 712 through Advocate Prashant Darandale
4. Shri. Shantinath Eknath Aher, At Post Loni (Khurd), Tal-Rahata, Dist. - Ahmednagar - 413712 through Advocate Prashant Darandale.
5. Shri. Bansi Balu Tambe, Shetinishth Kisan Manch, Chandrapur, Tal-Rahata, Dist. - Ahmednagar - 413712 through Advocate Prashant Darandale.

6. Shri. Anil Nivrutti Dhikle, At & Post Saiyyad Pimpri, Taluka & District Nashik.
7. Er. Rajendra Jadhav, Chairman, Jalchintan Sanstha, Jadhav Farm, Takli Road, Nashik - 11.
8. Shri Prashant Bansilal Bumb (MLA), Plot No. 3-B, Chabada Building, Opp. Gurudwara, Sindhi Colony, Jalna Road, Aurangabad. 431 005 through Adv. Mangal Bhandari, Veena Taikalwadi, L J Road, Mahim, Mumbai - 400016.
9. The Sanjivani (Takali) Sahakari Sakhar Karkhana Ltd. At Sahajanandangar, through Adv. Pramod N. Patil, 8-B, 2ⁿd Floor, 35 Ambalal Doshi Marg,a Opp. Hanman Hopuse, Fort, Mumbai - 400 023.
10. Shri Sanjay Daulatrao Hon through Adv. Pramod N. Patil, 8-B, 2nd Floor, 35 Ambalal Doshi Marg,a Opp. Hanman Hopuse, Fort, Mumbai-400 023
11. i) Vishwasrao S/o Laxman Aher ii) Balasaheb S/o Devram Ghumre iii) Karbhari S/o Pandharinath Jadhav, through Advocate Shri. Kamlesh P. Mali, C/o. Shri Ranjit A. Thorat, 102, Rehman House, Nadirshah Sukhia Street, Behind Mahesh Lunch Home, Fort, Mumbai - 400 001
12. Machindra S/o Tukaram Rohmare ii) Kakasaheb S/o Raibhan Jawale iii) Karbhari S/o Maruti Agwan iv) Balasaheb S/o Appasaheb Barhate v) Sachin S/o Ramrao Rohmare through Advocate Shri. Kamlesh P. Mali C/o. Shri Ranjit A. Thorat 102, Rehman House, Nadirshah Sukhia Street, Behind Mahesh Lunch Home, Fort, Mumbai - 400 001
13. Shri. Dashrath Vithoba Pise through Advocate Umesh D. Latmale, A. N. Complex, Statue Karmavir Chowk, Ward No. 1, Behind Ram Zerox, Shrirampur - 413 709, Tal - Shrirampur, Dist - Ahmednagar
14. Shri Bhausahab Vitthal Dound through Advocate Umesh D. Latmale, A. N. Complex, Statue Karmavir Chowk, Ward No. 1, Behind Ram Zerox, Shrirampur, Pin- 413 709, Tal - Shrirampur, Dist - Ahmednagar
15. Shri Ashok Sahakari Sakhar Karkhana Ltd through Advocate Umesh D. Latmale, A. N. Complex, Statue Karmavir Chowk, Behind Ram Zerox, Shrirampur, Ward No. 1, Tal Shrirampur, Dist. - Ahmednagar 413709.
16. Godavari Kalave Pani Bachav Sangharsh Samiti, C/o Rajendra Bhimaji Bavake, At Post- Sakuri, Tal-Rahata, Dist. - Ahmednagar - 423107.
17. Shri. Y. R. Jadhav, Ramayan, Visawanagar, Nanded - 431602,
18. Shri. Abhijit Durgadasrao (Joshi) Dhanorkar, R/o. Krushisarathi Colony, Basmat Road, Parbhani - 431401 through Adv. Yashodeep Deshmukh.
19. Comrade Rajan Kshirsagar, Communist Party of India, Sangharsh, Behind Tahasil Office, University Road, Parbhani-431 401.
20. Harishchandra Sahakari Pani Puravatha Sansthanche Sahakari Federation Ltd, Amrutnagar, Post. Sangamner S.K. - 422 068.

21. Shri. Balasaheb Murkute, MLA- Nevasa, Near Bus Stand, Nevasa, District - Ahmednagar.
22. Chief Engineer, Water Resources Dept. North Maharashtra Region, Sinchan Bhavan, Tryambak Road, Nashik - 422 002.
23. Chief Engineer & Chief Administrator (CAD), Water Resources Department, Garkheda Complex, Aurangabad - 431 005.
24. Superintending. Engineer & Deputy Secretary (IM), Water Resources Department, 10th Floor, New Admn. Building, Mantralaya, Mumbai - 400 032
25. Superintending Engineer & Administrator, CADA, Sinchan Bhavan, Triyambak Road, Nasik - 422 002.
26. Superintending Engineer and Administrator, CADA, Water Resources Department. Garkheda Complex, Aurangabad - 431 005.
27. Divisional Commissioner, Aurangabad
28. Municipal Commissioner, Aurangabad
29. Collector, Ahmednagar
30. Collector, Aurangabad
31. Collector, Beed
32. Collector, Jalna

Case No. 9 of 2015

In The Matter of GMIDC, Aurangabad Order dated 17/10/2015 about
releasing water from upstream reservoirs into Jayakwadi Reservoir

1. Shri. Bhaskarrao N Kharde, Ex-Chairman, Padamshree Dr. Vitthalrao Vikhe Patil Sahakari Sakhar Karkhana Limited, R/o. Pravaranagar, Tal. Rahata, Dist. Ahmednagar- 413 712 through Advocate Prashant Darandale
2. Shri. Shantinath Eknath Aher, At Post Loni (Khurd), Tal-Rahata, Dist. - Ahmednagar - 413712 through Advocate Prashant Darandale.
3. Shri. Bansi Balu Tambe, Shetinishth Kisan Manch, Chandrapur, Tal-Rahata, Dist. - Ahmednagar - 413712 through Advocate Prashant Darandale /Shri. Landge.
4. Shri. Anil Nivrutti Dhikle, At & Post Saiyyad Pimpri, Taluka & District Nashik.
5. Er. Rajendra Jadhav, Chairman, Jalchintan Sanstha, Jadhav Farm, Takli Road, Nashik - 11.
6. Godavari Kalave Pani Bachav Sangharsh Samiti, C/o Rajendra Bhimaji Bavake, At Post- Sakuri, Tal-Rahata, Dist. - Ahmednagar - 423107.
7. Harishchandra Sahakari Pani Puravatha Sansthanche Sahakari Federation Ltd, Amrutnagar, Post. Sangamner S.K. - 422 068 through Adv. R L Kute.
8. Shri Sanjay Daulatrao Hon through Adv. Ajit Hon.
9. The Sanjivani (Takali) Sahakari Sakhar Karkhana Ltd. At Sahajanandangar, through Adv. Ajit Hon.

..... Petitioners

Versus

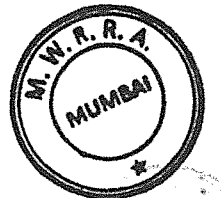
1. Secretary (WRM & CAD), Water Resources Department, Madam Kama Marg, Hutatma Rajguru Chowk, Mantralaya, Mumbai - 400032.
2. The Executive Director, Godavari Marathwada Irrigation Development Corporation, Sinchan Bhavan, Jalna Road, Aurangabad-431 005.



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3. Chief Engineer, Water Resources Dept. North Maharashtra Region, Sinchan Bhavan, Tryambak Road, Nashik - 422 002.
4. Chief Engineer & Chief Administrator (CAD), Water Resources Department, Garkheda Complex, Aurangabad - 431 005.
5. Superintending. Engineer & Deputy Secretary (IM), Water Resources Department, 10th Floor, New Admn. Building, Mantralaya, Mumbai - 400 032
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9. Shri. Abhijit (Joshi) Dhanorkar, R/o. Krushisarathi Colony, Basmat Road, Parbhani - 431401 through Adv. Yashodeep Deshmukh.
10. Shri. S U Naik, Aurangabad.
11. Divisional Commissioner, Aurangabad
12. Municipal Commissioner, Aurangabad
13. Collector, Ahmednagar
14. Collector, Aurangabad
15. Collector, Beed
16. Collector, Jalna
17. Shri. Rajendra Shinde, Executive Engineer, Nashik Irrigation Division, Nashik

..... Respondents



ORDER

CORAM : Shri. RAVI B BUDHIRAJA (Chairman)
Smt. CHITKALA ZUTSHI, MEMBER (Economy)
Shri. S.V.SODAL, MEMBER (Engineering)

Date: 09 November 2015

Petitions have been received from following parties on the issue of GMIDC, Aurangabad Order dated 17/10/2015 about releasing water from upstream reservoirs into Jayakwadi Reservoir for drinking purpose;

1. Shri. Bhaskarrao N Kharde, Ex-Chairman, Padamshree Dr. Vitthalrao Vikhe Patil Sahakari Sakhar Karkhana Limited,
2. Shri. Shantinath Eknath Aher,
3. Shri. Bansi Balu Tambe, Shetinishth Kisan Manch, Chandrapur,.
4. Shri. Anil Nivrutti Dhikle,
5. Er. Rajendra Jadhav, Chairman, Jalchintan Sanstha,
6. Godavari Kalave Pani Bachav Sangharsh Samiti,
7. Harishchandra Sahakari Pani Puravatha Sansthanche Sahakari Federation Ltd,

2.0 In the above matter, the Hon. High Court of Bombay has given order in the PIL 183 of 2015 with others on 30/10/2015. The operative part of the said order, vide Para 29, reads as below,

29. Hence, we pass the following order:

ORDER :

- (a) Rule. Rule on interim relief is made returnable on 17th December 2015.
The Respondents who are represented today waive service.
- (b) For the reasons recorded above, the prayer for grant of ad-interim stay of operation of the order dated 17th October 2015 is rejected. However, we accept the statement of the State Government that the water released from upstream reservoirs shall be used only for the drinking purposes;



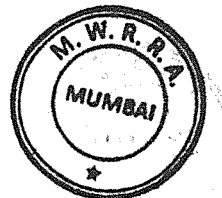
- (c) *Prayer for grant of interim relief in all these Petitions will be considered on 17th December 2015 when the Petitions shall be listed under the caption of "hearing as to interim relief";*
- (d) *We direct that no further release of water from the upstream dams shall be made for the benefit of Jayakwadi Reservoir in the downstream without leave of this Court. This direction will not preclude both the Water Regulatory Authority and the Irrigation Corporation from taking appropriate decision on this aspect. This order will not prevent the Water Regulatory Authority from reconsidering its earlier directions;*
- (e) *The State shall take all measures for ensuring the minimum possible loss of water during the transmission. The State shall take all possible steps as per the assurance given to this Court through the learned Government Pleader.*

3.0 We heard all the parties viz. Petitioners on upstream side and stakeholders on the downstream side along with ED, GMIDC, Aurangabad and SE & CE, GMIDC on 05/11/2015 on the above issues.

4.0 We have considered the written and oral submissions made before us by the parties. The submissions made by various parties through their Counsels are briefly narrated as below;

4.1 In the beginning, Adv. Yashodeep Deshmukh appearing on behalf of Shri. Abhijit (Joshi) Dhanorkar requested in the interest of fairness and justice to grant one week's time to file a detailed response on the Petitions filed. He submitted his justification in writing for the same. However, he was informed that this hearing is on short point to determine the water being released will be used only for drinking, as per Hon'ble High Court Order.

4.2.1 Shri Birajdar, ED, GMIDC, Aurangabad made a presentation for the strategies from Table No. 5 & 6 (Annex I & II) of the MWRRA's 19/09/2014 Order. He explained how Strategy I was selected on the basis of storage on 15th October 2015 at Paithan dam and storage positions on upstream dams as per the guidelines given by MWRRA in its Order dated 19/09/2014 for selecting appropriate Strategy. He also explained various components



included in the releases to be made according to chosen strategy which include evaporation losses, requirement of drinking, industry and irrigation for kharif and rabi. For Strategy I it is 80% drinking use, 80% industrial use, 80% kharif use and no rabi irrigation use. He further explained the basis on which calculations of 12.84 TMC (363.63 Mm³) water were worked out for releases from upstream dams (as per Strategy I) and the amount of water likely to be reached at Jayakwadi after 30% loss as 254.54 Mm³ (**Annex III**). The present storage at Jayakwadi on 15/10/2015 being 129.00 Mm³ and 254.54 Mm³ released will add up to 570.54 Mm³ i.e (26.28% of live storage) which is less than 797 Mm³ (37%). Thus, the threshold limit of Paithan dam for Strategy I as per Table 6 for equitable distribution will not be reached even after release of 12.84 TMC (363.63 Mm³) water.

4.2.2. Shri. Pokale, SE & Admin. CADA, Aurangabad circulated a copy of the minutes of the meeting held on 31/10/2015 with Divisional Commissioner Aurangabad (**Annex IV**) showing details of water requirement & industrial use for the population dependent on Paithan dam vis-à-vis availability of water considering the storage at Paithan dam on 15/10/2015 including likely addition of water from upstream dams after 30% transmission losses. The total demand for drinking water & industrial use is 396.86 Mm³ (14.01 TMC) against availability of 383.00 Mm³ (13.52 TMC). There is a shortfall of 13.86 Mm³ (0.5 TMC) water to meet the demand fully.

4.3 Advocate for Dr. Vikhe Patil Sahakari Sakhar Karkhana pleaded that -

- (a) As per para 29-B of High Court Order dtd. 30.10.2015, *water released from upstream reservoir shall be used only for drinking purposes.*
- (b) The requirement for drinking and domestic purposes for the entire area dependent on Jayakwadi reservoir is of the Order of 6.9 TMC as per affidavit made by GMIDC (dt. 22.10.2015) in PIL 183 of 2015. Hence, no purpose will sub-served if ED, GMIDC is permitted to release 12.84 TMC of water hastily.
- (c) As per Strategy-I, releases are considered to be used for drinking, industry and kharif irrigation. However, as per High Court Order dtd. 30.10.2015, the released water is to be used for drinking purposes only.
- (d) As per para 3 on page 52 of the MWRRA Order dtd. 19.09.2014, it is only in exceptional circumstances water from dead storage can be used



for drinking purposes and this year being the fourth draught year in a row, such an exception can be made for this year and water from dead storage allowed to be used for drinking purpose.

(e) The quantities for evaporation losses shown in different affidavits are different. 20% cut be applied for drinking water requirement as per strategy I.

(f) About 25% releases have already been made with the above background. Further releases be stopped.

4.4 Shri. R.M.Landge, Pravara Sahakari Sakhar Karkhana raised the issues of -

(a) Quantities of evaporation losses shown at different places are different.

(b) Utilization from dead storage be considered to some extent to bear evaporation losses.

(c) Unauthorized lift from Jayakwadi back water be stopped.

4.5 Advocate of Harshchandra Sahakari Pani Puravatha Sansthanche Sahakari Federation Ltd, mainly pleaded that -

(a) There is no consistency between the information pertaining to drinking water requirement shown by ED, GMIDC in his affidavit made in PIL 183 of 2015 at Bombay High Court enclosed as Exhibit "C" (**Annex V**) and information of water use circulated on the day of hearing by GMIDC (**Annex IV**).

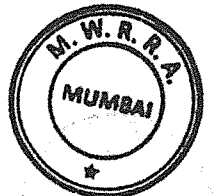
(b) The requirement of drinking water for the villages dependent on Bhandardara and Nilwande dams which is about 8.1 TMC (**Annex VI**) for the period upto 15.7.2016, be retained in these dams.

(c) Use of water from dead storage of Jayakwadi be allowed to ED, GMICD so that it will be not required to release water from upstream dams.

4.6 Shri. Bavake, Godavari Kalwe Sangharsh Samitee mainly pleaded that

(a) The quantity of water required for evaporation losses to be charged to upstream releases is an injustice to upstream users.

(b) Is the release for drinking water requirement of Jayakwadi as per Strategy I ?



4.7 Advocate for the Sanjivani (Takali) Sahakari Sakhar Karkhana Ltd. At Sahajanandangar wanted a clarification that if water is to be released exclusively for drinking water purposes, is Strategy I applicable.

4.8 Er. Rajendra Jadhav, Chairman, Jalchintan Sanstha, Nashik, personally pleaded that -

- (a) Figures given for evaporation losses by Shri Jogdand (the then S.E., CADA, Aurangabad) in his affidavit dtd. 18.12.2012 in earlier matter and those in the Minutes of Meeting dtd. 31.10.2015 with Divisional Commissioner, Aurangabad (**Annex IV**) are different.
- (b) Balance water available in Gangapur dam is not sufficient to meet the drinking water requirement for population dependent on this complex.
- (c) Godavari Study Group Report (Mendhegiri Report) has not considered the transit losses when the water is supplied to canals.
- (d) As per Table 6 of MWRRA Order dtd. 19.09.2014 there is some adverse impact on upstream dams, hence he raised objection on accepting the recommendations of the Mendhegiri Report.
- (e) Alandi dam has been clubbed under Darana complex. It should have been clubbed with Gangapur complex.

4.9 Shri. Anil Nivrutti Dhikle, At & Post Saiyyad Pimpri, Taluka & District Nashik pleaded that -

- (a) He himself is a farmer and beneficiary of Gangapur command.
- (b) There are grape gardens which are on drip irrigation. If they do not receive water, there will be a huge loss.
- (c) He said that no water was received in Kharif irrigation, but water from Gangapur was released for Sinhastha Event of Nashik.
- (d) Huge amount of water required for evaporation loss because of large size of Jayakwadi reservoir should not be at the cost of the upstream users.
- (e) Water released for drinking purposes not to be used for industrial use as per the High Court Order dtd.30.10.2015.
- (f) Further release from Gangapur complex be stopped.



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4.10 Shri. S U Naik, Aurangabad said that -

- (a) There is kharif irrigation on the upstream projects, whereas no kharif irrigation in Jayakwadi command. There was a considerable break in monsoon in Jayakwadi command during kharif and hence, there is necessity to have protective kharif irrigation.
- (b) Majority back water portion of the Jayakwadi reservoir is in Nagar district area. In fact, they are benefiting by lifting water.

4.11 Adv. Mangal Bhandari appearing for Shri. Prashant Bumb, MLA, Aurangabad - He pleaded that -

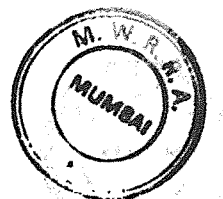
- (a) Conducting today's hearing by the Authority is not consistent with the direction contained in Para 29 of the High Court order dtd. 30.10.2015.
- (b) Do not consider water use from dead storage, as it is very costly to use for drinking water purposes as supported by Shri. Kore, Executive Engineer, Municipal Corporation, Aurangabad, on the grounds of costly treatment for purification of sedimented water and extra lifting charges.
- (c) He also cautioned that do not delay releasing water because of large transmission losses as per the previous experience.

4.12 Shri. C.N.Hangekar, CE & CA, CAD, Aurangabad said that he would required 7 days to reply the points raised by Petitioners.

5.0 Main issues in the present matter -

After hearing the parties and after considering the materials placed on record, we are of the view that the following issues arise for consideration in the present matter -

- (a) What is envisaged at the time of project planning about various components that are contained in the live storage and dead storage?



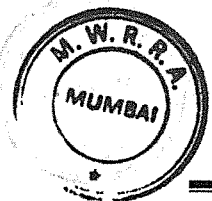
- (b) Whether releases made from upstream storages as per Strategy I vide Table 6 of MWRRA Order dtd. 19.9.2014 are inclusive of evaporation losses?
- (c) Other issues raised by the Petitioners viz, quantum of evaporation losses, Comments on Godavari Study Group Report, water used from Gangapur complex for Sinhastha Nashik event (2015), difference in drinking water requirement of the population dependent on Jayakwadi reservoir, drinking water requirement of Sangamner Taluka.

6.0 Before dealing with the issues raised above, it would be useful to reproduce some important definitions relevant to the subject matter of the present case from PWD Handbook Chapter 6 for 'Preparation of Projects and Engineering Geology' brought out by Govt. of Maharashtra.

Part I contains guidelines for investigation of irrigation projects and for preparation of Project Reports.

Some important definitions from Part I (Annex VII)

- (i) Storage capacity : The reservoir storage capacity is designed for optimum utilization. The gross storage for reservoir comprises live storage, dead storage carry over, flood absorption capacity.
- (ii) Live storage : The run-off of the river stored for the purposes of irrigation, power, flood control, water supply etc., including evaporation losses.
- (iii) Dead storage : This is necessary in order to provide silting of the reservoir during the period of its life which is generally taken from 50 to 100 years.
- (iv) Carry over : In case the live storage of the reservoir close to the annual run-off of the river, some carry over is provided for the purposes of utilizing surplus water of good years in years of low rainfall.



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7.0 MWRRA's Analysis of the issues with Reasons -

7.1 (a) What is envisaged at the time of preparing project report about various components that are contained in the live storage and dead storage?

and

(b) Whether releases made from upstream storages as per Strategy I vide Table 6 of MWRRA Order dtd. 19.9.2014 are inclusive of evaporation losses?

As per the definition given in PWD Chapter 6 for Preparation of the Project Report, live storage contains total water use requirement for irrigation (Kharif, Rabi and Hot weather), drinking and industrial water use and evaporation losses for the year.

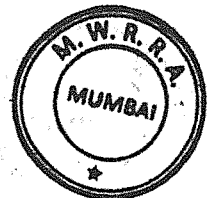
The dead storage is exclusively meant for accumulation of silt during the life time of the project. Additional consideration for deciding the dead storage top level is minimum driving head required above canal bed level to pass the required discharge.

From the above, it is explicitly clear that evaporation losses and drinking water use are fully contained in the live storage only.

The figures indicated in the bracket against each strategy for respective dam complexes (Table 6 of MWRRA Order dtd. 19.9.2014) are percentage of corresponding live storages. Since, live storage includes evaporation loss, the water to be released as per strategies is inclusive of evaporation losses.

As per definition of dead storage (PWD Chapter 6) no water use is planned from dead storage. All water use is planned from live storage only. However, in exceptional circumstances when there is no possibility at all to get water into the live storage, exception can be made to use water from dead storage only for drinking purposes. In the present case, by way of equitable distribution as provided in MWRRA Act vide Clause 11(c) it is possible to get water in the live storage of Jayakwadi reservoir for drinking purposes. As such this is not an exceptional circumstance warranting use of water from dead storage. Hence in the present case use of water from Jayakwadi dead storage does not arise.

In view of the basic definitions of live storage and dead storage given above, the methodology used by ED, GMIDC for working out quantum of



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water (12.84 TMC) to release from upstream storages as per Strategy I of Table 6 of MWRRA's Order dtd. 19.09.2014 is inclusive of evaporation losses and is perfectly in order. The water use considered in Strategy I as per Table 5 of MWRRA's Order dtd. 19.9.2014 is 80% drinking, 80% industrial, 80% kharif irrigation and no rabi irrigation.

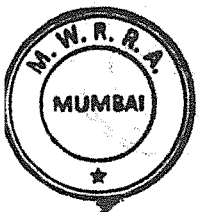
It is seen from the calculation given in **Annex IV** (meeting with Divisional Commissioner, Aurangabad dtd. 31.10.2105) total water requirement is 14.01 TMC (drinking 13.52 TMC + industrial 0.49 TMC). It is also seen that after release 12.84 TMC and taking into account 30% transmission losses, water that is likely to reach at Jayakwadi is 8.97 TMC + water available in Jayakwadi on 15.10.2015 is 4.55 TMC that is total available will be $8.97 + 4.55 = 13.52$ TMC. We are thus convinced that water released from upstream will be just sufficient for meeting drinking water requirement.

However, water required for industrial use (including drinking water requirement for the 3 lakh population depending on the industry) i.e. 0.49 TMC has to be used from dead storage of Jayakwadi being an exceptional circumstance.

Hence, the Order issued by ED, GMIDC dtd. 17.10.2015 for releasing 12.84 TMC water from upstream dams to Jayakwadi reservoir is inclusive of evaporation losses and, therefore, needs to be fully implemented.

7.2 Other issues raised by the Petitioners viz, quantum of evaporation losses, Comments on Godavari Study Group Report, water used from Gangapur complex for Sinhanstha Nashik event (2015), difference in drinking water requirement of the population dependent on Jayakwadi reservoir, drinking water requirement of Sangamner Taluka.

- (a) Quantum of evaporation losses - This is a function of time/period. As such quantity will vary from period to period within the year. However, total evaporation losses for the year are normally the same. The calculation of GMIDC are reasonable.
- (b) Comments on Godavari Study Group Report (GSG Report)- Detailed exposition on the GSG Report is given under Para (9) of MWRRA Order dtd. 19.09.2014 wherein these comments are clarified.



- (c) Water used from Gangapur complex for Sinhastha Nashik Event (2015) - This is already a bygone event. Now as per Strategy I, no rabi irrigation is contemplated. However, GMIDC officials and concerned revenue officials should have sought permission of the Govt. as per the provision in amended MWRRA Act, (2011) before release of water for this Event, when there was no reservation on this count. As per Strategy I balance storage has to be used only for drinking purposes and not for rabi irrigation. 20% cut to the drinking water norm of per capita per day is to be applied to the Nashik Municipal Corporation by the Executive Engineer so as to ensure the optimum utilization of scarce water and meet the balance requirement.
- (d) Difference in drinking water requirement of the population dependent on Jayakwadi reservoir - MWRRA has taken into consideration the drinking water requirement finalized in the meeting conducted by Divisional Commissioner, Aurangabad on 31.10.2015 (Minutes of Meeting as **Annex IV**) . Balance water has to be used very cautiously and economically with 20% cut to the drinking water norm of per capita per day is to be applied to the Aurangabad Municipal Corporation and other towns and villages. This cut should be strictly observed by concerned WRD officials.
- (e) Drinking water requirement of Sangamner Taluka. - Information about requirement of drinking water based on population furnished by Executive Engineer, Ahmednagar Irrigation Division (**Annex VI**) is 128.17 M^{m3} which can be fully met from the balance available water in Bhandara and Nilwande together. As per Strategy I, balance storage is to be used only for drinking and not for rabi irrigation. 20% cut is also to be applied to this requirement by the Executive Engineer so as to ensure the optimum utilization of scarce water.



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8.0 MWRRRA Directions - In view of the above analysis, we are of the view that -
The Order issued by ED, GMIDC dtd. 17.10.2015 for releasing 12.84 TMC water from upstream dams to Jayakwadi reservoir is perfectly in order and is inclusive of evaporation losses and therefore, should be fully implemented.

With the above findings and directions, the petitions and the applications stand disposed of.

Sd/-

(Chitkala Zutshi)
Member (Economy)

Sd/-

(Ravi B Budhiraja)
Chairman

Sd/-

(S.V. Sodal)
Member (Engineering)



(Dr. Suresh Kulkarni)
Secretary

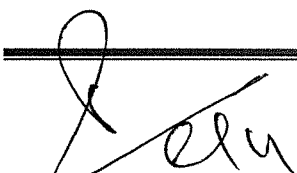
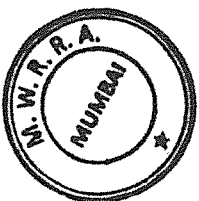
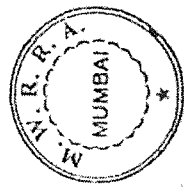




Table : 6
Distribution of Utilizable Water Available in the Upper Godavari (upto Paithan dam) Sub-basin among the various complex/systems of Reservoirs under different conditions of Probabilities of Inflows in Paithan dam

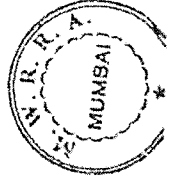
| SHEET No. | Scenario | Utilizable Water including Khauf/Monsoon Use (Mcum) | | | | | | |
|-----------|----------------------------|---|-------------------|--|-----------------------------------|---|---|---------|
| | | Complex | Mula | Pravara | Gangapur | Godavari - Darna | Paikhed | Paithan |
| | Complex | ↑ | Mandholi, Mula | Bhandardara, Nilwande, Adhala, Bhojapur | Gangapur, Kashyapi, Gautami | Alandi, Kadwa, Bham, Bhawali, Waki, Darna, Mukane, Waldevi | Karanjwan, Waghad, Punegaon, Ojharkhed, Paikhed, Tisgaon | Paithan |
| | Dams/Systems in complex | ↑ | | | | | | |
| | Design Live storage (Mcum) | ↑ | 617.59 | 570.77 | 308.56 | 718.38 | 350.34 | 2170.94 |
| | Carry over (Mcum) | ↑ | 28.32 | 0.00 | 11.64 | 0.00 | 0.00 | 381.70 |
| | Design Water Use (Mcum) | ↑ | 717.78 | 835.84 | 324.81 | 1220.04 | 456.52 | 2618.59 |
| | | Paithan | | % Demands | | | | |
| | observed Net Inflow at: | D-NI | I-NI | K-I | R-I | HW-I | | |
| 1 | 100% dep. Year | 80 | 80 | 80 | 0 | 0 | 331.45 | 1178.67 |
| 2 | 90% dep. Year | 80 | 80 | 80 | 32 | 0 | 430.04 | 1554.62 |
| 3 | 75% dep. Year | 80 | 80 | 80 | 52 | 0 | 517.28 | 1790.43 |
| 4 | 50% dep. Year | 80 | 80 | 80 | 72 | 0 | 604.56 | 2027.12 |
| 5 | Average yield | 80 | 80 | 80 | 80 | 0 | 639.39 | 2119.94 |
| 6 | Good year | 100 | 100 | 100 | 100 | 100 | 717.78 | 2618.59 |



S. S. S. S.

Table : 6
Upper Reservoirs' Storages to be synchronized with the state of Paithan dam storage for different Operating Strategies during filling (Monsoon) period

| Operating Strategy | Utilizable Water including Khairif/Monsoon Use excluding carry over (Mcum) | | | | | |
|--------------------|--|---------------|---|-----------------------------|--|--|
| | Paithan | Mula | Pravara | Gangapur | Godavari - Darna | Palkhed |
| Complex | Paithan | Mandhol, Mula | Bhandardara, Nilwande, Adhala, Bhojapur | Gangapur, Kashyapi, Gautami | Alandi, Kadwa, Bham, Bhawali, Waki, Darna, Mukane, Waldevi | Karanjwan, Waghad, Puneqaon, Ojharkhed, Palkhed, Tisgaon |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Strategy - I | 797 (37%) | 303 (49%) | 320 (56%) | 187 (61%) | 461 (64%) | 254 (73%) |
| Strategy - II | 1173 (54%) | 402 (65%) | 425 (74%) | 227 (74%) | 604 (84%) | 254 (73%) |
| Strategy - III | 1409 (65%) | 489 (79%) | 500 (88%) | 252 (82%) | 736 (102%) | 287 (82%) |
| Strategy - IV | 1645 (76%) | 576 (93%) | 575 (101%) | 277 (90%) | 870 (121%) | 345 (99%) |
| Strategy - V | 1738 (80%) | 611 (99%) | 605 (106%) | 287 (93%) | 918 (128%) | 369 (105%) |
| Strategy - VI | 2237 (103%) | 689 (112%) | 836 (146%) | 313 (101%) | 1220 (170%) | 457 (130%) |



S. Usdekar

**Details of water storage on upstream of Jayakwadi in various complexes including
Kharif use and water to be released from upstream complexes as per Strategy I of the
MWRRA order dated 19/09/2014**

in Mm³

| Sr. No. | Water Storage in upstream complex and its Kharif use upto 15/10/2015 | | | Available water as on 15/10/2015 including Kharif use | Water to be retained as per Strategy I | Water to be released from the Complex | |
|------------|---|--------------------|--------------------------------------|---|--|--|--------------|
| | Name of Complex & each dam storage | Complex Storage | Kharif Use in upstream complex | | | in Mm ³ | in TMC |
| 1 | 2a | 2b | 2c | 3 | 4 | 5a | 5b |
| 1) | Mula | 314.85 | 37.53 | 352.38 | 303.00 | 49.38 | 1.74 |
| | Mandohol (0.117) | | | | | | |
| | Mula (314.73) | | | | | | |
| 2) | Pravara | 359.41 | 144.59 | 504.00 | 320.00 | 184.00 | 6.50 |
| | Bhandardara (202.60) | | | | | | |
| | Nilvande (124.36) | | | | | | |
| | Aadhala (27.44) | | | | | | |
| | Bhojapur (5.01) | | | | | | |
| 3) | Gangapur | 170.80 | 54.58 | 225.38 | 187.00 | 38.38 | 1.36 |
| | Gangapur (113.52) | | | | | | |
| | Kashyapi (28.09) | | | | | | |
| | Gautami Godavari (29.19) | | | | | | |
| 4) | Darna | 386.88 | 165.99 | 552.87 | 461.00 | 91.87 | 3.24 |
| | Aalandi (20.06) | | | | | | |
| | Kadva (43.96) | | | | | | |
| | Bham (0.00) | | | | | | |
| | Bhavli (40.60) | | | | | | |
| | Waki (0.00) | | | | | | |
| | Darna (178.96) | | | | | | |
| | Mukne (75.51) | | | | | | |
| | Waldevi (27.80) | | | | | | |
| 5) | Palkhed | 164.01 | 39.66 | 203.67 | 254.00 | 0.00 | 0.00 |
| | Kanjvan (61.34) | | | | | | |
| | Waghad (43.26) | | | | | | |
| | Punegaon (14.27) | | | | | | |
| | Ozarkhed (19.57) | | | | | | |
| | Palkhed (20.11) | | | | | | |
| | Tisgaon (5.46) | | | | | | |
| | | | | | | 363.63 | 12.84 |

70% of these
water will be
reached to
Jayakwadi

| | | | | | | |
|------------------|---------------|---------------|---------------|---------------|---------------|--|
| Jayakwadi | 129.00 | 187.00 | 316.00 | 797.00 | 254.54 | |
|------------------|---------------|---------------|---------------|---------------|---------------|--|

Total Water reaching at Jayakwadi is 316.00+254.54 = 570.54 20.15 TMC

The % of water reaching against Live Storage of Jayakwadi (2170.94) is 26.28%

which is less
than 797.00
(37%) water
for Strategy I

अधीक्षक अभियंता व प्रशासक लाभक्षेत्र विकास प्राधिकरण

"लाभक्षेत्र विकास भवन", गारखेडा परिसर, औरंगाबाद - 431005

दूरध्वनी क्र.(थेट) (0240) 2331098, कार्यालय - 2331095, फॅक्स-2321306

E-mail : secada4_abad@ wrd.maharashtra.gov.in, seacadaabad@gmail.com

जा.क्र./लाक्षेविप्राओ/तांशा-2/5333

दिनांक :- 03/11/2015

मा. विभागीय आयुक्त यांच्या अध्यक्षतेखाली दि. 31.10.2015 रोजी झालेल्या बैठकीचे इतिवृत्त

विषय :- जायकवाडी प्रकल्प पैठण धरणाच्या सन 2015-16 करीता पाणी नियोजनास मान्यता देणे बाबत .

- संदर्भ :- 1. महामंडळ कार्यालयाचे आदेश क्र. 1196 पृ.क्र.गोमपाविम/तां-1/MWRR/2015/9506 दि. 17/10/2015
2. मा.उच्च न्यायालय मुंबई यांचे PIL -183/2015 व WP 10402/2015 या याचिका वरील दि. 30/10/2015 चे आदेश
3. लाभक्षेत्र विकास प्राधिकरण यांचे पत्र तांशा-2/5293 दि.31/10/2015.

दिनांक 31/10/2015 रोजी दुपारी 3.00 वाजता मा.विभागीय आयुक्त औरंगाबाद यांच्या अध्यक्षतेखाली आयुक्त कार्यालयात झालेल्या बैठकीस खालील अधिकारी/ कर्मचारी उपस्थित होते.

1. श्री.एम.के.पोकळे अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण, औरंगाबाद .
2. श्री. पी.पी.संत सहाय्यक मुख्य अभियंता, लाभक्षेत्र विकास (जसंवि), औरंगाबाद .
3. श्री.एन.सी.यावलेकर सहाय्यक अभियंता श्रेणी-2, लाक्षेविप्रा, औरंगाबाद.
4. श्री. जे.एन.हिरे सहाय्यक अभियंता श्रेणी-2, लाक्षेविप्रा, औरंगाबाद
5. महसूल विभागाचे अधिकारी व कर्मचारी

बैठकीत उपरोक्त विषयाच्या मुद्द्यावर चर्चाहोऊन निर्णय झाला.


1. अधीक्षक अभियंता व प्रशासक लाभक्षेत्र विकास प्राधिकरण औरंगाबाद .यांनी उर्ध्व धरणातून जायकवाडी धरणा करीता पाणी सोडणे बाबत.गोदावरी भराठवाडा विकास महामंडळ औरंगाबाद यांनी दि. 17.10.2015 रोजी निर्गमित केलेले आदेश त्या विरोधात मा.उच्च न्यायालय मुंबई येथे दाखल विविध याचिका, व मा. उच्च न्यायालयाचे दि. 30.10.2015. चे आदेश. इ.बाबी बैठकीत सविस्तरपणे प्रस्तावित करुन सादर केल्या.
2. अधीक्षक अभियंता व प्रशासक लाभक्षेत्र विकास प्राधिकरण औरंगाबाद . यांनी उर्ध्व धरणातून सोडण्यात येणाऱ्या पाण्याचा साधारणत 70 % पाणी येवा गृहित धरुन व दि. 15/10/2015 रोजीचा पैठण धरणाचा पाणीसाठा यावर जायकवाडी धरणाचे सन 2015-16 चे पाणी नियोजन सादर केले. त्यावर चर्चा होऊन मा.विभागीय आयुक्त यांनी सदरील पाणी नियोजनास सहमती दर्शवुन मान्यता दिली.(सोबत- पाणी नियोजनाची प्रत)
3. उर्ध्व धरणातून पैठण धरण स्थळी प्राप्त होणाऱ्या पाण्याचा प्रमाणशीर वाटा माजलगाव धरणाकरीता सोडणे नियोजनात आहे. सदरील पाणी हे जायकवाडी धरणाच्या उजव्या कालव्यातून 132 कि.मी.वर असलेल्या माजलगाव जलाशयास प्राप्त होते तरी ज्या ठिकाणी माजलगाव जलाशयास प्राप्त होईल म्हणजेच उजव्या कालव्याच्या 132 कि.मी.पासुन ते माजलगाव धरणात सद्यस्थितीत ज्याठिकाणी पाणी आहे. तीतपर्यंत एक चर (Trench) खोदावा म्हणजे उजव्या कालव्यातून माजलगाव जलाशया करीता सोडलेले पाणी इतरत्र पसरुन पाणी व्यय होणार नाही. असे सादर करण्यात आले. त्यावर मा.अध्यक्षांनी

माजलगाव धरणाचे अधीक्षक अभियंता व कार्यकारी अभियंता यांना सुचना देऊन त्वरीत कार्यवाही करावी असे आदेशित केले.

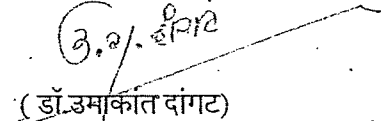
- जायकवाडीस उपलब्ध होणारे पाणी हे पिण्याचे पाणी असल्यामुळे त्याचा काटेकोरपणे म्हणजेच कार्यक्षम पणे वापर होण्यासाठी सर्व दक्षता घेणे बाबत. मा.अध्यक्ष यांनी सुचना दिल्या.
- जायकवाडी जलाशयावरून सिंचनाकरीता होणारा पाणी वापर थांबविण्या करीता महाराष्ट्र विज वितरण कंपनी यांनी त्वरीत कार्यवाही करून सिंचन पंपांचे विद्युत कनेक्शन कट करून व सतत सनियंत्रण करून पाणी टंचाई काळात विद्युत कनेक्शन पुन्हा जोडले जाणार नाही याची दक्षता घ्यावी असे मा.अध्यक्ष यांनी सुचना दिल्या.
- तसेच यापुढे हा प्रश्न सतत निर्माण होणार असल्यामुळे त्यावर कायम स्वरुपी उपाय योजना म्हणून जायकवाडी जलाशया भोवती असलेल्या गावा करीता तालुका निहाय स्वतंत्र फिडर करून वितरण करावे लागेल असे मा.अध्यक्ष यांनी सुचवून महावितरण कंपनीने पुढील कार्यवाही करावी अशा सुचना मा.अध्यक्षानी दिल्या.

मराठवाडयात निर्माण झालेल्या पाणी टंचाईवर मात करण्यासाठी जायकवाडीत उपलब्ध

होणाऱ्या पाण्याचा कार्यक्षम वापर करावा. असे मा.अध्यक्ष यांनी सुचविले व सर्वांचे आभार मानुन बैठक संपन्न झाली.


(-एम.के.पोकळे)

अधीक्षक अभियंता व प्रशासक
लाभक्षेत्र विकास प्राधिकरण औरंगाबाद


(डॉ.उमाकांत दांगट)
विभागीय आयुक्त
औरंगाबाद विभाग औरंगाबाद.

प्रतिलिपी,

- कार्यकारी संचालक, गोदावरी मराठवाडा पाटबंधारे विकास महामंडळ, औरंगाबाद यांना माहितीस्तव.
- विभागीय आयुक्त, उत्तर महाराष्ट्र नाशिक, माहितीस्तव सस्नेह अग्रेषित.
- मुख्य अभियंता व मुख्य प्रशासक, लाभक्षेत्र विकास (जलसंपदा विभाग), औरंगाबाद यांना माहितीस्तव व अनुपालना स्तव.
- मुख्य अभियंता, (जलसंपदा विभाग), उत्तर महाराष्ट्र विभाग, नाशिक यांना माहितीस्तव व अनुपालनास्तव.
- जिल्हाधिकारी नाशिक/औरंगाबाद /अहमदनगर यांना माहितीस्तव व अनुपालनास्तव.
- अधीक्षक अभियंता व प्रशासक लाभक्षेत्र विकास प्राधिकरण औरंगाबाद /नाशिक/बीड यांना माहितीस्तव व अनुपालनास्तव.
- अधीक्षक अभियंता महावितरण कंपनी अहमदनगर /नाशिक/ औरंगाबाद यांना माहितीस्तव व अनुपालनास्तव.
- कार्यकारी अभियंता, जायकवाडी पाटबंधारे विभाग, नाथनगर (उ) पैठण/ माजलगाव कालवा विभाग, परळी वैजीनाथ / जायकवाडी पाटबंधारे विभाग क्र 3 बीड यांना यांना माहितीस्तव व अनुपालनास्तव.


जायकवाडी प्रकल्प - पाणी नियोजन (दिनांक : 15 ऑक्टोबर 2015 ते 15 जुलै 2016)

उर्ध्व भागातील धरणातून पाणी प्राप्त झाल्यास

- 1.00 पैठण धरणाची प्रमुख वैशिष्ट्ये
- प्रकल्पीय एकूण जलसाठा : 2909 दलघमी. (102.73 अ.घ.फु.)
 - प्रकल्पीय उपयुक्त जलसाठा : 2171 दलघमी. (76.67 अ.घ.फु.)
 - प्रकल्पीय मृत जलसाठा : 738 दलघमी. (26.06 अ.घ.फु.)
- 2.00 पाणी उपलब्धता
- I दिनांक 15/10/2015 रोजीचा एकूण साठा : 867 दलघमी (30.61 अ.घ.फु.)
- II दि. 15/10/2015 चा उपयुक्त पाणी साठा : 129 दलघमी. (4.55 अ.घ.फु.) (5.93%)
- III उर्ध्व धरणातून सोडलेल्या पाण्यापैकी 70% अपेक्षित पाणी येवा. (363 दलघमी X 0.70) : 254 दलघमी (8.97 अ.घ.फु.)
- एकूण अपेक्षित उपयुक्त पाणीसाठा : 383 दलघमी (13.52 अ.घ.फु.)
- 3.00 अपेक्षित पाणी वापर (दि. 15/07/2016 पर्यंत)
- I माजलगाव प्रकल्पामध्ये सोडावयांचा प्रमाणशिर पाणीवाटा : 65.53 दलघमी (2.31 अ.घ.फु.)
(254 x 0.2580) (बीड व माजलगाव पापुयो 3.20 लक्ष लोकसंख्या)
- II बाष्पीभवन व्यय (0.75 दलघमी / दिन) (275 दिवस) : 206.25 दलघमी (7.28 अ.घ.फु.)
- 4.00 पिण्यासाठी जलाशयावरून पाणी वापर (275 दिवस)
- (अ) औरंगाबाद शहरासाठी (150 एमएलडी) : 41.25 दलघमी. (1.46 अ.घ.फु.)
- (ब) जालना शहरासाठी (23 एमएलडी) : 6.33 दलघमी. (0.22 अ.घ.फु.)
- (क) इतर ग्रामीण पाणीपुरवठा योजना (34 योजना 250 गावे). (50 एमएलडी) : 13.75 दलघमी. (0.49 अ.घ.फु.)
- (ड) अंबड-गेवराई पाणीपुरवठा योजना (10 महिने 5 दलघमी/माह) : 50.00 दलघमी. (1.76 अ.घ.फु.)
- एकूण पिण्याचे पाणी : 111.33 दलघमी (3.93 अ.घ.फु.)
- 5.00 औद्योगिक पाणी वापर (धरगुती वापरासह 3 लक्ष लोकसंख्या) : 13.75 दलघमी. (0.49 अ.घ.फु.)
(वाळूज, औरंगाबाद, शेद्रा, जालना, पैठण)
(50 एमएलडी. प्रतिदिन)
- 6.00 सिंचनाकरिता उपलब्ध होणारे पाणी : निरंक

एकूण लागणारे पाणी : 396.86 दलघमी (14.01 अ.घ.फु.)

- एकूण लागणारे पाणी 397 दलघमी (14.01 अ.घ.फु.) आहे.
- उर्ध्व धरणातून अपेक्षित पाणी प्राप्त झाल्यास 383 दलघमी (13.52 अ.घ.फु.) पाणी उपलब्ध होऊ शकते म्हणजेच (397 - 383) = 14 दलघमी (0.50 अ.घ.फु.) पाणी मृत साठ्यातून वापर होणे अपेक्षित आहे.
- हया स्थितीत परळी औष्णिक विद्युतकेंद्रास जायकवाडी प्रकल्पातून पाणी देणे शक्य होणार नाही.


 जयकवाडी पाणी नियोजन प्रकल्प
 अधिकाऱ्याचे कार्यालय - पाठण
 औरंगाबाद

१-५

१७११

HC

जायकवाडी प्रकल्प - पाणी नियोजन (दिनांक : 15 ऑक्टोबर 2015 ते 31 जुलै 2016)
उर्ध्व भागातील धरणातून पाणी प्राप्त झाल्यास

| | | |
|------|---|--------------------------------|
| 1.00 | पेठण धरणांची प्रमुख वैशिष्ट्ये | |
| | • प्रकल्पीय एकूण जलसाठा | : 2909 दलघमी. (102.73 अ.घ.फु.) |
| | • प्रकल्पीय उपयुक्त जलसाठा | : 2171 दलघमी. (76.67 अ.घ.फु.) |
| | • प्रकल्पीय मृत जलसाठा | : 738 दलघमी. (26.06 अ.घ.फु.) |
| 2.00 | पाणी उपलब्धता | |
| I | दिनांक 15/10/2015 रोजीचा एकूण साठा | : 867 दलघमी (30.61 अ.घ.फु.) |
| II | दि. 15/10/2015 चा उपयुक्त पाणी साठा | : 129 दलघमी. (4.55 अ.घ.फु.) |
| III | उर्ध्व धरणातून सोडलेल्या पाण्यापैकी 70% अपेक्षित पाणी येवा. | 254 दलघमी (8.97 अ.घ. फु.) |
| | एकूण अपेक्षित उपयुक्त पाणीसाठा | : 383 दलघमी (13.52 अ.घ.फु.) |
| 3.00 | अपेक्षित पाणी वापर (दि. 31/07/2016 पर्यंत) | |
| I | माजलगाव प्रकल्पामध्ये सोडावयाचा प्रमाणरिश्त पाणीवाटा (254 x 0.2580) | 65.53 दलघमी. (2.31 अ.घ.फु.) |
| II | बाष्पीभवन व्यय (0.75 दलघमी/दिन) (289 दिवस) | 216.75 दलघमी (7.65 अ.घ.फु.) |
| 4.00 | पिण्यासाठी जलाशयावरून पाणी वापर (289 दिवस) | |
| (अ) | औरंगाबाद शहरासाठी (150 एमएलडी) | : 43.35 दलघमी. (1.53 अ.घ.फु.) |
| (ब) | जालना शहरासाठी (23 एमएलडी) | : 6.65 दलघमी. (0.23 अ.घ.फु.) |
| (क) | इतर ग्रामीण पाणीपुरवठा योजना (34 योजना 250 गावे) (50 एमएलडी) | : 14.45 दलघमी. (0.51 अ.घ.फु.) |
| (ड) | अंबड-गोवराई पाणीपुरवठा योजना (10 महिने 5 दलघमी/माह) | : 50.00 दलघमी. (1.76 अ.घ.फु.) |
| | एकूण पिण्याचे पाणी | : 114.45 दलघमी (4.04 अ.घ.फु.) |
| 5.00 | औद्योगिक पाणी वापर | |
| (1) | (वाळूज, औरंगाबाद, शेंद्रे, जालना, पेठण) 50 एमएलडी. प्रतिदिन) | : 14.45 दलघमी. (0.51 अ.घ.फु.) |
| 6.00 | आकस्मिक ग्रामीण पाणीपुरवठा योजना (आपेगाव, हिरडपुरी, पाथरवाला, राजाटाकळी, लोणी सावंगी, डालेगाव, व मूळी बंधाऱ्यासाठी) | : 81 दलघमी. (2.86 अ.घ.फु.) |
| 7.00 | जलाशयावरून होणारा अनिवार्य पाणी वापर (सभोवतालची गावे व वसाहती यांना पिण्याचे पाणी पशुधन, सिंचन पाणी वापर) 0.5 द.ल.घ.मी. प्रति दिन | : 145 दलघमी (5.1 अ.घ.फु.) |
| 8.00 | सिंचनाकरिता उपलब्ध होणारे पाणी | : निरंक |
| | एकूण लागणारे पाणी | : 637.18 दलघमी (22.50 अ.घ.फु.) |

एकूण लागणारे पाणी 637 दलघमी (22.50 अ.घ.फु.) आहे.

- उर्ध्व धरणातून अपेक्षित पाणी प्राप्त झाल्यास 383 दलघमी (13.25 अ.घ.फु.) पाणी उपलब्ध होऊ शकते म्हणजेच (637 - 383) = 254 दलघमी (8.97 अ.घ.फु.) पाणी मृत साठ्यातून वापर होणे अपेक्षित आहे.
- हया स्थितीत परळी औष्णिक विद्युतकेंद्रास जायकवाडी प्रकल्पातून पाणी देणे शक्य होणार नाही.

ANNEXURE - VI

अहमदनगर पाटबंधारे विभाग,
अहमदनगर
दिनांक - 4/11/2014

जावक क्रमांक - प्रशा/ 8099 /2014.

प्रति,

✓ श्री. राजेंद्र केरुजी गुंजाळ,
चेअरमन,
हरिश्चंद्र सहकारी पाणी पुरवठा संस्थांचे सहकारी फेडरेशन मर्या.,
अमृतनगर, ता. संगमनेर, जि. अहमदनगर

विषय - टंचाई परिस्थिती व नियोजनाची माहिती मिळणेबाबत . .

संदर्भ - १. मा. जिल्हाधिकारी अहमदनगर यांचे पत्र क्र. टंचाई/कार्या १९-अ/१८८८/२०१५, दिनांक १८/०९/२०१५
२. आपले पत्र क्र. फेड/५१/२०१५, दिनांक ०४/११/२०१५

महोदय,

वरील संदर्भीय पत्रान्वये विषयांकीत माहिती सोबत देत आहोत.

कार्यकारी अभियंता

अहमदनगर पाटबंधारे विभाग,
अहमदनगर

सोबत - जून २०१६ पर्यंत लागणारे पाणी व त्याचे नियोजनाबाबतची माहिती

अहमदनगर पाटबंधारे विभाग, अहमदनगर

पृष्ठ - 1

दिनांक 15/10/2015 रोजीच्या धरणातील उपलब्ध पाणीसाठ्याची माहिती.

(पाणीसाठा दलघमी)

| अ.क्र. | समूह | धरणाचे नाव | प्रकल्पीय उपयुक्त पाणीसाठा | दि. 8/10/2015 चा उपयुक्त पाणीसाठा टक्केवारी | | गाळ व बाष्पीभवन | गाळ व बाष्पीभवन वजा जाता निव्वळ उपयुक्त पाणीसाठा | दि. 15/10/2015 ते 15/7/2016 पर्यतची पिण्याचा पाण्याची आवश्यकता लोकसंख्येनुसार | मागील 5 वर्षांची सरासरी पाणीसाठा वापर | मागील 5 वर्षांची सरासरी औदयोगिक पाणीवापर | एकूण बिगर सिंचन पाणीवापर घरगुती + औदयोगिक | उपलब्ध पाणी |
|--------|-------------|------------|----------------------------|---|-----------|-----------------|--|---|---------------------------------------|--|---|-------------|
| | | | | पाणी साठा | टक्केवारी | | | | | | | |
| 1 | 2 | 3 | 4 | 5 अ | 5 ब | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 | मुळा समूह | माडओहळ | 8.78 | 0.096 | 1.09% | 0.01 | 0.09 | 1.754 | 2.117 | 0 | 1.75 | -1.67 |
| 2 | प्रवरा समूह | भंडारदरा | 304.09 | 214.81 | 70.64% | 27.173 | 187.64 | 128.170 | 230.428 | 3.112 | 131.28 | 56.35 |
| | | निळवंडे | 203.74 | 111.74 | 54.84% | 11.174 | 100.56 | 0.000 | 0.000 | 0 | 0.00 | 100.56 |
| | | आढळा | 27.61 | 27.61 | 100.00% | 2.76 | 24.85 | 0.284 | 1.225 | 0 | 0.284 | 24.57 |

कार्यकारी अभियंता
अहमदनगर पाटबंधारे विभाग
अहमदनगर

अहमदनगर पाटबंधारे विभाग, अहमदनगर

प्रपत्र - २

उर्ध्व गोदावरी खोऱ्यातील धरणांवरील बिगर सिंचनाची आवश्यकता

(पाणीवापर दलघट्टी)

| अ.क्र. | समुह | धरणाचे नाव | बिगर सिंचन आवश्यक पाणी | | | | | | शेरा |
|--------|-------------|------------|---------------------------------|-------------------|---|--------------------|---------|---------|------|
| | | | लोकांनुसार आवश्यक पिण्याचे पाणी | | ५ वर्षांचे सरासरी वापरानुसार पिण्यासाठी व औद्योगिक वापरासाठीचे पाणी | | एकूण | | |
| | | | लोकसंख्या | पाण्याची आवश्यकता | पिण्याचे पाणी वापर | औद्योगिक पाणी वापर | | | |
| १ | २ | ३ | ४ | ५ | ६ | ७ | ८ | ९ | |
| १ | मुळा समुह | मांडओहळ | ४७३४६ | १.७५४ | २.११७ | ० | २.११७ | २.११७ | |
| २ | प्रवरा समुह | भंडारदरा | १०६३२४८ | १२८.१७० | २३०.४२८ | ३.११२ | २३३.५४१ | २३३.५४१ | |
| | | निळवंडे | ० | ०.००० | ०.००० | ० | ०.००० | ०.००० | |
| | | आढळा | १७८४४ | ०.२८४ | १.२२५ | ० | १.२२५ | १.२२५ | |



कार्यकारी अभियंता

अहमदनगर पाटबंधारे विभाग

अहमदनगर



GOVERNMENT OF MAHARASHTRA

P. W. D. HANDBOOK

CHAPTER 6

PREPARATION OF PROJECTS
AND
ENGINEERING GEOLOGY

L. G. GODBOLE
Dr. R. B. GUPTE

1980

Rs 9 - 00 A

PRINTED AT THE GOVERNMENT CENTRAL PRESS, BOMBAY

2.6.3.16. *Reservoir data.*—Reservoir Topography Area and capacity curves.—The optimum reservoir capacity and level as fixed by the consideration of the requirements of flood control, irrigation, power, navigation and submergence in the reservoir may be discussed.

The topographic maps of the dam site may be appended. A co-ordinate system may be laid down and all borings, test pits and structures existing and proposed may be plotted. The contour interval may be 1 to 2 m. according to the steepness of the country. The course of the river channel, nearest railway line, service roads, rock outcrops, and quarries for construction materials may be shown on the maps.

Topographic map showing contours of the reservoir area should form the basis for the area and capacity.

2.6.3.17. *Silt reserve of reservoir.*—Under this head should be mentioned the rate of silting together with the reasons for its adoption. A comparison of the rate of silting with that in existing reservoirs on the same river or elsewhere under similar conditions would be useful.

The other important factor to be considered is the useful life of the reservoir. This would depend on the amount of dead storage allowed which depends on the number of years for which silting has been provided.

2.6.3.18. *Storage capacity.*—The reservoir storage capacity is designed for optimum utilisation consistent with the cost. The gross storage of reservoir comprising of the following should be described.

2.6.3.19. *Live storage.*—The run-off of the river stored for purposes of irrigation, power, flood control and water supply etc. This will include the evaporation losses.

2.6.3.20. *Carry-over.*—In case, the live storage of the reservoir is close to the annual run-off of the river some carry-over is provided for the purposes of utilizing surplus waters of good years, in years of low rainfall.

2.6.3.21. *Dead storage.*—This is necessary in order to provide for silting of the reservoir during the period of its life which is generally taken from 50 to 100 years.

2.6.3.22. *Flood absorption or flood lift.*—This is required in order to absorb flood partially and reduce flood intensities so as to save the low-lying plains from damages by floods.

There is another case in which flood lift is provided to reduce the intensities of flood in order to have economical design of spill-ways on the bank where ground is high and the cost of the structure for flood disposal will be comparatively small.

2.6.3.23. *Average annual utilization factor.*—It may be described as the percentage of the annual run-off of the river utilized for purpose of irrigation, power etc.