



Before the  
**Maharashtra Water Resources Regulatory Authority**

9<sup>th</sup> Floor, Centre-1, World Trade Centre, Cuffe Parade, Mumbai-400 005

Tel. No. 022 - 2215 2019, Fax: 022 - 2215 3765

E-mail : mwrralibrary@yahoo.co.in

**Case No. 4 of 2011**

In the matter of

**Dispute relating to issuance or delivery of Entitlement to Water User Associations from Pavana dam - Appeal filed by Bharatiya Kisan Sangh & others under Section 22 (3) of the MWRRA Act 2005 against the order of the Primary Dispute Resolution Officer**

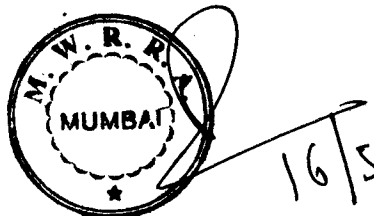
Shri AKD Jadhav, Member (Economy) & Presiding Chairman  
Shri V.V. Gaikwad, Member (Engineering)

Bharatiya Kisan Sangh & others  
C/o Shri Ritesh V. Kulkarni, Advocate  
4, Vijayalaxmi Apartment, Opposite Lane No. 10,  
Above Punjab National Bank  
Prabhat Road, Pune-411 004..... Appellants

**Versus**

1. Secretary (WRM & CAD),  
Water Resources Department,  
Govt. of Maharashtra,  
Mantralaya, Mumbai-400 032
2. Municipal Commissioner,  
Pimpri – Chinchwad Municipal Corporation,  
Mumbai-Pimpri Road,  
Pimpri, Pune- 411018..... Respondents

*Handwritten signature/initials*



**Present during the proceedings:-**

**For the Appellants:**

- (i) Ritesh V. Kulkarni, Advocate
- (ii) Sayali R. Kulkarni, Architect
- (iii) J. Prasanna, Associate
- (iv) Sham Vaidya, Associate
- (v) Shankar Rao Laxman Rao Shelar, Bharatiya Kisan Sangh
- (vi) Balkrishna Narayan Pingale, Bharatiya Kisan Sangh
- (vii) Babasaheb Jambulkar, Bharatiya Kisan Sangh
- (viii) Jayant Kadam, Bharatiya Kisan Sangh

**For the Respondents:**

**(a) Water Resources Department**

- (i) Avinash Surve, Superintending Engineer, Pune Irrigation Circle, Pune
- (ii) P. G. Mandade, Under Secretary, Water Resources Department, Mantralaya, Mumbai
- (iii) S. N. Bolbhat, Executive Engineer, Khadakwasla Irrigation Division, Pune
- (iv) R. N. Kshirsagar, Deputy Engineer, Pavananagar Irrigation Sub-Division, Pavana, Pune

**(b) Pimpri – Chinchwad Municipal Corporation**

- (i) Ramdas Tambe, Deputy City Engineer
- (ii) P. S. Kedari, Deputy Engineer (Electrical)
- (iii) P. S. Kadam, Deputy Engineer
- (iv) V. M. Bhosale, Junior Engineer (WS)
- (v) V. Mandhare Junior Engineer (Electrical)



*[Handwritten signature]*  
16/5

*[Handwritten initials]*

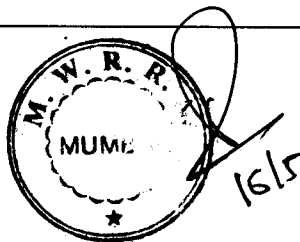
## ORDER

Date : 16<sup>th</sup> May 2012

Bharatiya Kisan Sangh, a trust registered under the Bombay Public Trusts Act, original Petitioners in PIL No. 52 / 2009 and water entitlement holder, through its President Shri. Shankarrao L. Shelar and its Secretary, filed an Appeal before the Maharashtra Water Resources Regulatory Authority (hereinafter "MWRRA" or "this Authority") on 25/01/2011 under Section 22 (3) of the MWRRA Act, 2005 against an order passed by the Primary Dispute Resolution Officer (PDRO) dated 27/01/2010. The Prayers made in the Appeal are as follows:

- (A) "Be pleased to condone the delay if any in filing the above referred Appeal;
- (B) Be pleased to call for record and proceedings of the order passed by the Primary Dispute Resolution Officer and after going through the same and satisfying itself about the legality, validity and propriety thereof, be pleased to quash and set aside the same;
- (C) During the pendency of the above referred Appeal, be pleased to restrain the Respondent No. 2 from continuing the activity in respect of the project in question on such terms and conditions as this Hon'ble Appellate Authority may deem fit and proper;
- (D) During the pendency of the above referred Appeal, be pleased to restrain the Respondent No. 1 and 2 from continuing with the acquisition proceedings;
- (E) Be pleased to quash the entire pipeline project and cancel the acquisition proceeding of land;
- (F) Grant ad-interim and interim relief in terms of Prayers clause (C) and (D) above;
- (G) Any other relief deem fit may please be granted; "

2. The present Appeal has been filed after the Public Interest Litigation No. 52 of 2009 filed by the first Appellant and others invoking the writ jurisdiction of the Hon'ble High Court of Judicature at Bombay came to be dismissed by Order dated 19/10/2010. The Hon'ble Court has *inter alia* held that it is not to sit in Appeal over the decision of the administrative



authorities and that too in a public project of such importance. The Hon'ble Court has taken note of the order passed by the Primary Dispute Resolution Officer (PDRO) dated 27/01/2010 and the remedy against it. That is how the present Appeal came to be filed before this Authority.

3. The impugned order was passed by the PDRO on 27/01/2010. The Appeal has been filed before us on 25/01/2011. Section 22 (3) of the MWRRA Act, 2005 reads as follows:-

*"22. (1) The Government shall by general or special order issued in this behalf authorise any competent officer or officers for each River Basin Agency as Primary Dispute Resolution Officer, to resolve the disputes with regard to the issuance or delivery of water*

*Entitlement, under the Act.*

*(2) The Primary Dispute Resolution Officer shall follow such procedure as may be prescribed while hearing the disputes.*

*(3) Any person aggrieved by an order of the Primary Dispute Resolution Officer may, within sixty days from the receipt of such order, prefer an Appeal to the Authority:*

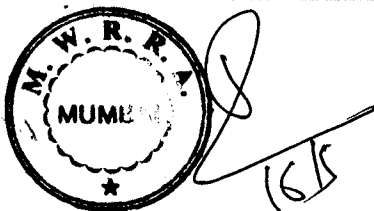
*Provided that, the Authority may entertain an Appeal after the expiry of the said period of sixty days if it is satisfied that the aggrieved person had sufficient cause for not preferring the Appeal within the said period of sixty days.*

*(4) The Authority shall follow such procedure while hearing the Appeals as may be prescribed."*

There is delay of about 300 days in filing of the present Appeal. We have, however, considered the aspect of condonation of delay with sympathy in the present case concerning a project of public importance and have also kept in view that the report of the PDRO was first before the Hon'ble High Court. Hence, the delay is hereby condoned.

4. The gravamen of the Appellants arise from the project of supply of water to Respondent No. 2 (PCMC) by use of closed underground pipe line from Pavana Dam in Maval Taluka of Pune district which purportedly will adversely affect the needs of the Appellant, water entitlement holders and

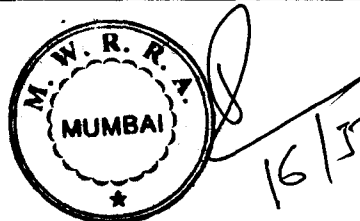
*16/1*  
*16/1*



other people qua the requirement of irrigation and drinking water. Hence, the Appeal pertains to a dispute relating to issuance / delivery of Entitlements to irrigation Entitlement holders.

5. Some background is necessary to be considered before we delve into the main issues in the present Appeal. The Appellants had in January 2009, through Public Interest Litigation No. 52 of 2009, filed a writ petition before the Hon'ble High Court of Judicature at Bombay challenging the project for supplying water to the Pimpri Chinchwad Municipal Corporation (PCMC) by underground closed pipeline from Pavana dam to replace the existing arrangement of drawal of water by PCMC from Pavana river, at Ravet bandhara, located about 35 kms. below Pavana dam. The Petitioners in the above mentioned writ petition, who are agriculturists in Maval Taluka below the dam contended before the Hon'ble High Court that, among other issues, their Entitlements are affected by the proposed pipeline project.
6. During the hearing of the said writ petition, the State Government decided to appoint a PDRO under Section 22 of the MWRRA Act. Accordingly, a PDRO viz. Chief Engineer, WRD, Pune was appointed on 15/07/2009 who was directed to take further action on the issues raised in the said PIL and submit his report to the Hon'ble High Court.
7. The PDRO, after giving a hearing to all stakeholders viz. PCMC, Water Resources Department (WRD), industries (Mahindra & Mahindra, Tata Motors), Dehu Road Cantonment, villagers and the Petitioner agriculturists, passed his order dated 27/01/2010 concluding that the scheme of water supply to PCMC through closed pipeline which entails less wastage of water is not going to adversely affect the requirement of irrigation and drinking water.
8. Hon'ble High Court by its order dated 19/10/2010 dismissed the aforesaid PIL and *inter alia* held that it is not to sit in Appeal over the decision of the administrative authorities and that too in a public project of such importance. The Hon'ble Court has taken note of the order passed by

10/1  
10/1



PDRO dated 27/01/2010 and the remedy against it. That is how the present Appeal came to be filed before this Authority.

9. After receipt of the Appeal on 25/01/2011, the Authority on 09/02/2011 served notice on the Respondents and directed them to reply to the points raised in the Appeal within four weeks' time. Since the PDRO was appointed by Respondent No 1, no separate notice was served on the PDRO. Respondent No. 1 on 08/03/2011 requested for extension of time by eight more weeks, which was granted. Respondents No. 1 and 2 filed their replies on 05/05/2011 and 09/05/2011 respectively.
10. A hearing was held on 29/06/2011. As the Counsel for the Appellant could not be present, the Appellant requested for an adjournment, which was granted. The next date for the hearing was fixed for 22/07/2011. In the meanwhile, further information was sought by the Authority from Respondent No. 1 as under:-
- (i) status of Section 12 (6) (d) of the MWRRA Act relating to extension of permission for existing private lift schemes in the State beyond 7/6/2010 (\*see Note below).
  - (ii) compliance in relation to water quality viz. assurance that quality of water is fit for irrigation even after diminution in river supplies due to change in source of drawal by PCMC.
  - (iii) compliance of Section 70 of the MMISF Act for protecting and safeguarding the applicable water Entitlement as per conditions laid down by the State Government in the water sanction to individual water Entitlement holders.
  - (iv) how transmission losses to PCMC are presently accounted for and what are the savings in transmission losses and tariff due to installation of pipeline.
  - (v) Implication on the lease agreement with MAHAGENCO of reduction in energy generation at dam site, due to reduction in flows.

(\*Note : Vide GR dated 13/02/2012, WRD has extended the sanction for private lift schemes upto 07/06/2015)

hij  
hij



11. The Authority heard the matter on 22/07/2011. Respondent No. 1 filed a supplementary affidavit furnishing information sought by the Authority. Counsel for the Appellant advanced submissions and also submitted written notes of arguments against the PDRO's order. The Authority granted four weeks' time (till 28/08/2011) to Respondent No. 1 to file its reply to the Appellant's submissions. The Appellant was also directed to file details of irrigation Entitlements and water quality data by 1/8/2011.
12. The Appellant, on 1/8/2011, submitted the required information and also prayed for ad-interim injunction to restrain the Respondent No. 2 from continuing with the project. The Appellant also prayed for directions to the Respondents to appoint experts to prepare the Environment Impact Assessment (EIA) Report.
13. After seeking and obtaining extension of time, Respondent No. 1, on 18/10/2011, filed reply to the Appeal and Appellant's written arguments submitted during hearing on 22/07/2011 and also on the data submitted by the Appellant on 01/08/2011.
14. Taking note of the paucity of water quality data in respect of water in the system, the Authority directed Respondent No. 2 on 15/11/2011 to collect water quality data on a monthly basis at Pavana reservoir, existing weirs at Kadadhe, Thugaon, Bebedohal and Godumbre, proposed weirs at Gahunje and Shivane and existing Ravet bandhara. The data required were pH, DO, BoD, TS, TDS & coliform. The Respondent No. 2 submitted the required data for the months December 2011 to April 2012.
15. **Main issues against the pipeline scheme agitated by Appellants before the PDRO**
- 15.1. The main issues agitated by the Appellants before the PDRO are summarized below :
- (i) There are many lift irrigation and drinking water schemes on the river between Pavana dam and Ravet bandhara. Besides, there are drinking water requirement of villages on both banks of the river, Talegaon Dabhade Municipality, Wagholi water supply, Dehu



Road Cantonment and industrial needs including MIDC. Water is also required for cattle in the villages. Due to implementation of the pipeline scheme, there will be a shortage of water to meet all the above needs.

- (ii) there will be a loss of electricity generation at the dam power house leading to the closure of the power plant and thus loss of revenue.
- (iii) siltation of dam and evaporation loss have already led to shortage of water in the dam
- (iv) project affected persons of the Pavana dam, who are also settled on the banks of the river, will be affected
- (v) while the water demand in Maval taluka is increasing, rainfall is decreasing.
- (vi) the per capita norm for water supply should be uniform for Municipalities and others.
- (vii) water availability can be augmented by constructing additional weirs on Indrayani, Bhama, Askhed, Andhra and Jadhavwadi.

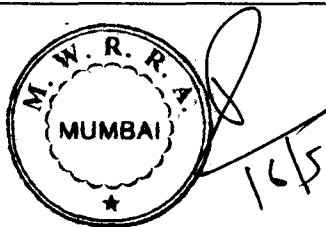
15.2. Representatives of Mahindra & Mahindra, Tata Motors and Dehu Road Cantonment also put-forth their views before the PDRO. Their concern was about future increase in water demand and water pollution.

15.3. Representatives of Gram Sabha, during public hearings, told the PDRO that they were opposed to the pipeline project as it involved land acquisition. Issues of pollution and water shortage for irrigation were also raised.

## **16. Rejoinder of Respondents before the PDRO on the above issues**

### **16.1. Respondent No. 1 (WRD)**

- (i) presently 4500 ha is irrigated. Sufficient water is available for all users.
- (ii) there are a number of bandharas on the river below the dam with sufficient storage to meet irrigation and non-irrigation demands.



Handwritten marks and signatures in the bottom left corner, including a box with '16/5' and a signature.



- (iii) there is no scope to implement the other storage schemes suggested by the Petitioner
- (iv) even after the pipeline project, 3.5 TMC (100 Mm<sup>3</sup>) of water will be released in the river for other users.

**16.2. Respondent No. 2 (PCMC)**

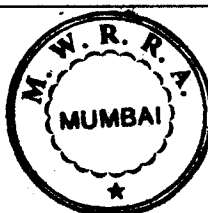
- (i) there is sufficient water to meet all the needs upto 2019.
- (ii) the pipeline project is funded under the Jawaharlal Nehru National Urban Renewal Mission of the Govt. of India and 50% of the cost is met by grant.
- (iii) there will be savings in energy bill and water tariff because of the project.
- (iv) the cost of two additional weirs is being met by the PCMC
- (v) there will be a saving in transmission loss of about 1 TMC (28.3 Mm<sup>3</sup>) in the river because of the pipeline project.

**17. PDRO's Report**

17.1. After collecting various types of information on hydrology and water allocations from WRD and after public hearings, the PDRO came to the conclusion that the present and future requirements for irrigation and drinking water will not face any shortage. Further, the industrial demand is only 9% of the availability. The present irrigation is 3685 ha and is projected to increase to 5304 ha. There is no shortage of water to meet this requirement. Keeping in view the dead storage provision of 1.10 TMC in the Pavana dam and the fact the catchment is densely vegetated, siltation is not an issue. There is no visible trend of reducing rainfall in the taluka. The pipeline project will result in saving of about 1 TMC of water presently lost in river as transmission loss. There is net saving in energy for pumping of water by PCMC. Rehabilitation of PAPs is not to be linked with this project. For pollution there is a separate body viz. Maharashtra Pollution Control Board to monitor this.

17.2. Keeping the above in view, the PDRO ruled in the order that the opposition to this scheme is not proper.

Handwritten initials and a signature mark.



Handwritten signature and the date 16/5.

18. **Pavana Dam**

18.1. From the details made available by WRD, the salient features of the Pavana dam and the various water sanctions given to irrigation and non-irrigation users are as below :

Year of completion	1972
Catchment area of dam	113.36 Km <sup>2</sup>
Gross storage	305 Mm <sup>3</sup>
Live storage	274 Mm <sup>3</sup>
Dead storage	31 Mm <sup>3</sup>
75% dependable yield (as per project planning)	345 Mm <sup>3</sup>
Evaporation loss	24 Mm <sup>3</sup>
Water available for utilization	321 Mm <sup>3</sup>

18.2. **Irrigation**

- (i) sanctioned from reservoir 132 schemes ..... 406.45 ha  
(ii) sanctioned from river 1441 schemes..... 4129.08 ha  
4535.53 ha

**Water requirement for irrigation**

<u>Season</u>	<u>From reservoir (Mm<sup>3</sup>)</u>	<u>From river (Mm<sup>3</sup>)</u>
Kharif	0.59	6.34
Rabi	0.98	10.87
Perennial	0.53	2.70
	2.10	19.91

Total water requirement for 4535.53 ha = 22.01 Mm<sup>3</sup>

Reservation made for irrigation in storage planning .. 32.33 Mm<sup>3</sup>

Li:  
AM



16/5

18.3. Non-Irrigation

Allocation from reservoir .. (Mm<sup>3</sup>)

Industry	Nil		
Domestic	PCMC	171.07	(without evaporation share)
	Piped water supply scheme	0.314	
	Ambi valley	<u>5.56</u>	
		<u>176.92</u>	

Allocation from river ...Mm<sup>3</sup>

Industry	MIDC	25.391
	420 other units	<u>6.380</u>
		<u>31.771</u>
Domestic	MIDC	35.957
	Wagholi, Water Supply Schemes I & II	9.920
	Talegaon Dabhade	3.946
	Garrison Engineer	9.922
	42 other schemes	<u>14.199</u>
		<u>73.944</u>

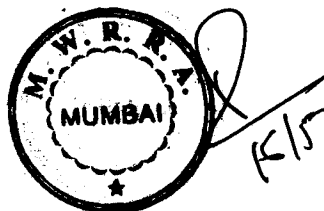
18.4. Post pipeline project scenario ... (Mm<sup>3</sup>)

<u>Allocation from Dam</u>		<u>Allocation from River</u>	
Domestic	176.92	Irrigation	30.23 (as planned)
Irrigation	<u>2.10</u>	Industry	31.771
		Domestic	<u>73.944</u>
	<u>179.02</u>		<u>135.945</u>

18.5. Allocation in kharif season ... (Mm<sup>3</sup>)

PCMC	53.92
Industrial (from river)	9.23
Domestic (from river)	21.76
Irrigation (from river)	<u>6.34</u>
	<u>91.25</u>

5/1



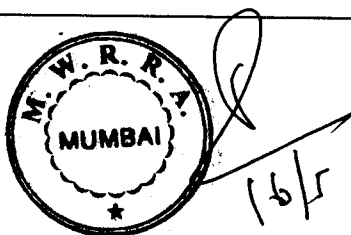
18.6. Total Allocation..... (Mm<sup>3</sup>)

Irrigation	32.33
Reservoir (domestic)	176.92
River (domestic)	73.944
River (industry)	<u>31.771</u>
	<u>314.965</u>

Note : Against 321 availability, the allocation is about 315 Mm<sup>3</sup>  
Balance of about 6 Mm<sup>3</sup> available for domestic use.

19. Issues/grounds raised by the Appellants in their Appeal before the Authority

- (i) PDRO ought to have recorded a finding in favour of the Appellant after allowing the objections raised by the Appellant to the pipeline project.
- (ii) PDRO has lost sight of the fact that the existing allotment of water is much higher than the capacity of the dam and average values of rainfall and water availability have been considered in the allocations.
- (iii) 54 out of 72 Gramsabhas have opposed the project and PDRO has not given weightage to the minutes of the meetings with them. Requirement of only 39 out of 72 villages considered.
- (iv) finding of the PDRO that there will be savings in electricity because of the pipeline project is contrary to record. Overall electricity generation will drastically reduce.
- (v) findings of the PDRO are perverse and arbitrary
- (vi) siltation of dam has not been considered in making water allocation; Respondents have considered only the 2001 population Census. Population as at present and its future increase have not been considered.
- (vii) water lifted by PCMC from Ravet bandhara is sufficient to meet the present and future requirement
- (viii) interference by the Appellate Authority is required as otherwise the project will cause grave loss to exchequer, irreparable loss to



Handwritten initials and a signature in the bottom left corner.

farmers, entitlement holders, industries and people at large dependent on water from the dam.

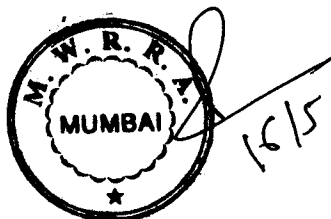
**20. Response of the Respondents to the issues raised in the Appeal.**

**20.1. Respondent No. 1 (WRD)**

- (i) PDRO has considered all aspects through public hearings and presentations made by WRD and PCMC
- (ii) planned use in all dams is always higher than actual storage capacity considering kharif use also.
- (iii) Pavana dam has been planned for 75% dependable availability
- (iv) all commitments for Entitlements of water shall be protected and hence there is no ground to restrain PCMC from going ahead with the pipeline project.
- (v) releases of the order of 136 Mm<sup>3</sup> shall continue round the year and will generate 7 million units of power. The net savings in energy for PCMC has been considered by the High Court in their order.
- (vi) silt inflow has been envisaged in project planning and provision for dead storage made
- (vii) the projected population for 39 villages for which water supply schemes exist is around 60,000 in 2023 AD. At 70 lpcd, the total requirement is 1.52 Mm<sup>3</sup>. If the remaining villages are also considered, a further 0.97 Mm<sup>3</sup> is the requirement.
- (viii) sufficient water will be stored in the existing and two proposed weirs to meet the needs of all users.
- (ix) with rising demand, PCMC has no alternative but to reduce conveyance loss and increase water use efficiency.
- (x) provisions in Section 70 of MMISF Act have been complied with while sanctioning quota for PCMC.

**20.2. Respondent No. 2 (PCMC)**

- (i) all points raised by the Appellant were already replied by the PCMC in their affidavit dated 18/3/2009 filed in the High Court. (This was again annexed in their reply to the Appeal).

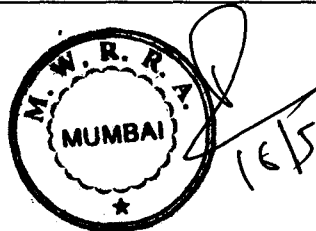


Col  
Am

- (ii) PCMC is going to construct service roads along the pipeline for the benefit of villagers.
- (iii) while sanctioning allocation to PCMC, WRD has considered the requirement of all other users.

**21. Additional issues raised by the Appellant in its written submissions filed on 22/7/2011 during the hearing and in Application dt. 1/8/2011.**

- (i) long term data of 38 years available since 1972 at Pavana dam should be used to decide dependable yield. The actual availability does not exceed 310 Mm<sup>3</sup> (11.1 TMC)
- (ii) the revised planning allocates 12.92 TMC (366 Mm<sup>3</sup>) against original 11.90 TMC (337 Mm<sup>3</sup>). Thus while the availability has reduced by 1 TMC (28.32 Mm<sup>3</sup>), there is an increase of 1 TMC in allocation leading to an overall deficit of 2 TMC (56.64 Mm<sup>3</sup>). This was not considered by the PDRO.
- (iii) there is a trend of reduced rainfall in catchment and increasing urbanization. This will lead to reduced inflows in the coming years.
- (iv) there is reduction in number of rainy days in catchment below the dam.
- (v) while PCMC gets constant supply for 365 days, others have to rely on rainfall for 75 days.
- (vi) the per capita availability for PCMC is 187 litres which is more than the norm of 135 litres. This norm should be applied to other townships also against present 70 litres.
- (vii) working tables from 1972 to 2010 should be prepared and placed on record.
- (viii) after the pipeline project, water will be released from the dam at 430 cusec for 6 hrs. or 107.5 cusec for 24 hrs. The requirement is 34.096 mcft/day whereas the supply will be only 9.288 mcft/day. Travel time to lower weirs will also be 4 days.
- (ix) the design of the pipeline project permits use upto 191.625 Mm<sup>3</sup>/year. This will leave less water in the reservoir.
- (x) no EIA report has been prepared for the project nor has location clearance been obtained from MoEF. Only one-third water will be



Handwritten marks: a signature and the number '137'.

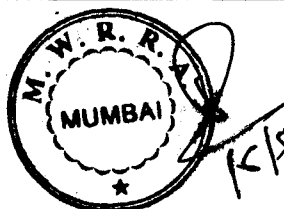
released from the dam. Waste water from villages will pollute the river making it unfit for human and cattle consumption. MPCB has also advised adequate continuous flow in the river to keep the BoD count within limits.

- (xi) water quality presently at Ravet bandhara shows that it is drinkable due to adequate flow (D.O. 6-7 mg/lit, BoD 4 – 10 mg/lit and total coliform in MPN/100 ml 225 – 1600, faecal coliform 40 – 200). At Chinchwad where most of the water is taken away, the BoD increases to 8 -25, total coliform 1600 – 1800 and faecal coliform 100 – 1000, which is not drinkable. This is going to be the situation post-pipeline project.
- (xii) Authority may direct the Respondent to appoint independent panel of experts to prepare the EIA report and during the pendency of the Appeal, the Authority may restrain PCMC from continuing the activity in the project.

**22. Reply of Respondent No. 1 (WRD) to Appellant's written submissions of 22/7/2011 and written argument dt. 1/8/2011.**

- (i) Inflow data from 36 years (1976 to 2011) shows that the average availability is 369.58 Mm<sup>3</sup> (13.05 TMC) and the 75% availability 317.01 Mm<sup>3</sup> (11.19 TMC). The actual shortage in planned availability at 75% dependability is only about 1 TMC (345 – 317 = 28 Mm<sup>3</sup>).
- (ii) the catchment area at the dam site is 113.36 Km<sup>2</sup>. The average rainfall at the dam site for 11 years from 2000 – 2011 is 3460 mm.
- (iii) the per capita norm considered for allocation for domestic uses for PCMC is 147 lts. The norms adopted are as per Gol guidelines.
- (iv) requirement of livestock is to be met from ground water and other sources.
- (v) total water use in the last 10 years by all users is in the range of 135.75 Mm<sup>3</sup> to 210.77 Mm<sup>3</sup> showing that there is no excess use.
- (vi) catchment area upto Ravet bandhara is 290 sq.km. Gauging data is available at Pimple Gurav (342 sq.km.). This shows that water availability in the free catchment below the dam varies from 95.7 Mm<sup>3</sup> to 660.9 Mm<sup>3</sup> in monsoon. Out of the total allocation of about

*Handwritten initials:*  
Eib  
Am



315 Mm<sup>3</sup> from Pavana dam, 93.55 Mm<sup>3</sup> is allocation for kharif of which the requirement in 75 rainy days is 65.98 Mm<sup>3</sup>.

(vii) water at Ravet bandhara is potable after treatment.

23. From the various contentions raised before us by the parties, the following issues arise for consideration:-

- (i) *whether the water availability in the system, after considering siltation and rainfall, is adequate to meet the planned demands for irrigation and non-irrigation uses?*
- (ii) *whether the generation of electricity at the dam and energy consumed by PCMC in pumping its allocation have a bearing on the present dispute?*
- (iii) *whether Section 12 (5) regarding water quality is also attracted?*
- (iv) *if the answer to issue (iii) is in the affirmative, how the apprehension of the Appellant about deterioration in water quality as a result of the pipe-line project is to be addressed?*
- (v) *whether the Authority is required to consider Section 11 (4) relating to water conservation in dealing with this Appeal?*
- (vi) *Does the PDRO's order require intervention ?*

24. The findings of this Authority on the above six issues are as follows:-

24.1. *Issue (1) - whether the water availability in the system is adequate to meet the planned demands for irrigation and non-irrigation uses?*

24.1.1. Planned utilization from a storage is usually more than the volume of live storage in the dam by 1.2 to 1.5 times. This is because utilization in kharif is from the run-of-the-river supplies and stored water at end of kharif is used only in 'rabi' and 'hot weather'. In Pavana dam, the assessed yield at 75% dependability at the planning stage of the project, according to WRD, was 345 Mm<sup>3</sup>. After accounting for evaporation loss from the reservoir of 24 Mm<sup>3</sup>, an utilization of 321 Mm<sup>3</sup> was planned and a live storage of 274 Mm<sup>3</sup> provided in the dam. This planning is as per accepted hydrological practice. The total allocation made to all users (Para 18.6) is about 315 Mm<sup>3</sup>. However, as per WRD, the total demand



Encl  
A21



has not exceeded 210.77 Mm<sup>3</sup> showing that the present demand is far short of the sanctioned demand or even the actual availability.

- 24.1.2. WRD have informed that on an analysis of inflow data at the dam from 1976 to 2011, the actual availability at 75% dependability is 317.01 Mm<sup>3</sup> i.e. short by 1 TMC (28.3 Mm<sup>3</sup>). While this shortage is not abnormal considering the variability in hydrology due to various factors including climate change, this shortage could cause problems in the future when the demand picks up and attains planned levels. The issue of siltation has been discussed in the PDRO report and we accept the PDRO's conclusion that this is not an issue as provision for dead storage of 31 Mm<sup>3</sup> is made in the dam and the catchment is densely vegetated.
- 24.1.3. While the catchment area at the dam is only 113.36 Km<sup>2</sup>, the catchment area at Ravet bandhara, 35 km. below the dam is 290 Km<sup>2</sup>. The usage points are not confined to Pavana dam but extend upto the Ravet bandhara including from the river en-route. From the data furnished by WRD, we find that 95.7 Mm<sup>3</sup> to 660.9 Mm<sup>3</sup> is available in the monsoon period in the free catchment below the dam over and above the availability at the dam. Further, there are four existing weirs below the dam at Kadadhe, Thugon, Bebedohol and Godumbre with a total storage of 82.96 Mcft (2.4Mm<sup>3</sup>). Two more such storages are planned at Gahunje and Shivane, the costs of which are to be borne by PCMC. It would be not correct to ignore this availability of storage and flows below the dam while dealing with the water balance of the system especially as the river below the dam will never be dry.
- 24.1.4. The en-route storage weirs would be full after monsoon and even after the pipe-line project is implemented, 136 Mm<sup>3</sup> would be released from the dam for other users. Travel time from dam to Ravet is relevant only when the river is dry. In our view this is not a constraint in delivering required water allocations upto Ravet.
- 24.1.5. The answer to issue (i) is therefore in the affirmative provided inter-seasonal planning of delivery of allocations is rescheduled to take advantage of the flows and storage below the dam up to Ravet. Accordingly the need for preparing working tables considering Pavana dam inflows alone is not relevant.



C. J.  
A. J. ↑

24.2. Issue No. (ii) - whether the generation of electricity at the dam and energy consumed by PCMC in pumping its allocation have a bearing on the dispute?

24.2.1 Although hydropower was not a part of the dam when it was commissioned in 1972, it was included subsequently to generate incidental power keeping in view that bulk of the utilization planned from the storage was below the dam and the releases made from the dam could therefore be made more productive. The energy consumed at the PCMC pump house at Ravet bandhara is paid for by PCMC as a part of its operating costs for the water supply scheme.

24.2.2. The Hon'ble High Court of Judicature at Bombay, while dismissing the aforesaid PIL writ petition filed by some of the present Appellants by its Order dated 19/10/2009, records that "4. It is pointed out on behalf of the Pimpri – Chinchwad Municipal Corporation that upon the project becoming operational, there will be net savings in electricity units to the tune of 58,52,438 units and there will be consequential savings to the extent of Rs. 2.92 crores at the rate of Rs. 5/- per unit". Hence, the statement made by PCMC shows an overall saving in energy in the system after the pipeline project is commissioned. The following comparative figures were also furnished by PCMC before the Hon'ble High Court as recorded in its aforesaid Order:-

Stage	Electricity Generation Per Year Through Dam As Per Irrigation Record	Electricity Consumption Per Year For Pumping (As Per PCMC Record)
(i) As on Today	1,75,00,000 Units	4,94,19,117 Units
(ii) After Functioning of Direct Pipeline Project	70,00,000 Units	3,30,66,679 Units
(iii) Difference (As Savings)	(-) 1,05,00,000 Units	(+) 1,63,52,438 Units
Net Savings in Electricity Units	+58,52,438 Units	
Net Savings in Amount @ Rs. 5/- per Units	+ 2,92,62,190/- (Say + Rs. 2.92 Crores)	

*Handwritten initials/signature*



*Handwritten signature and initials*

24.2.3. The Appellants have made their own calculations to show that the gain of 16.3 mu is in fact only 0.65 mu and therefore there is a net loss of 9.85 mu. However, PCMC has challenged this calculation on the grounds that pumping is done for 8 hours every day and not for 24 hours as assumed.

24.2.4. We note that hydropower generation at the dam is only an incidental benefit of the project and hence it cannot form the main plank of any argument against the pipeline project. Further, any exercise of financial implications in terms of net savings or loss will also have to take into account the savings in bulk water tariff to PCMC as the rate of bulk water at Ravet bandhara is twice the rate at the dam. In view of the differing data before us and in view of the relatively low significance of this activity the Authority is of the view that the issue does not have an adequate bearing on the dispute.

24.3. *Issue (iii) - whether Section 12 (5) of the MWRRA Act relating to water quality is also attracted?*

24.3.1. Entitlements are authorizations issued by River Basin Agencies (RBAs) for volumetric use of water for irrigation, domestic and industrial use from a dam or river. Water quality is not specified in such authorizations as

- (a) RBA is not responsible for quality of water
- (b) Irrigation is tolerant of inferior quality of water and RBAs, while making allocation to non-irrigation, stipulate that effluent be treated to secondary treatment standards, before letting it back into the river
- (c) Industrial and domestic users (Nagar Palika and Municipal Corporations) usually have treatment facilities. It is only the rural water user (Gram Panchayats) who do not have the wherewithal for treatment and use the water after disinfection. Thus water quality in Entitlements is an issue only for the rural domestic user and more inferior the quality, more will be the ill-effects on health of the users.

Ud  
AM



24.3.2. Section 22 as a stand-alone provision does not refer to water quality as it pertains to only a dispute on issuance or delivery of a volume of Entitlement. As long as the volume is issued fairly as per any existing Criteria and as long as it is delivered as per agreement, in our view, this Section does not involve water quality.

24.3.3. Section 12 (5), which is extracted below does place some indirect responsibility on the Authority for ensuring water quality:-

*"The Authority shall support and aid the enhancement and preservation of water quality within the State in close co-ordination with the relevant State agencies and in doing so the principle that the 'person who pollutes shall pay' shall be followed"*

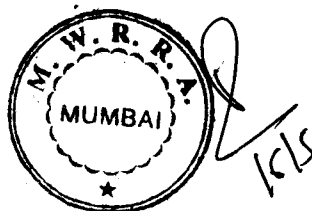
On a careful reading of this Section, it can be summarized that:-

- (i) The Authority has no direct responsibility but has to assist the relevant State agency viz. MPCB in preserving and enhancing water quality.
- (ii) The Authority is required to contribute to prevention of pollution by promoting the "polluter to pay" principle in its decisions.

24.3.4. The Appellants are availing the benefits in water quality due to PCMC's use-point being down stream at Ravet. The allottee, PCMC, has a right to decide how and from where it will use its allocation taking various benefits into consideration like saving in transmission loss, saving in water tariff and saving in energy for pumping. A diminution in river flow will no doubt occur due to the pipeline project which will have a bearing of some degree on the quality of river water. We cannot turn a blind eye to this aspect especially as it involves domestic use by people belonging to the lower economic strata of the society.

24.4. *Issue (iv) - if the answer to issue (iii) is in the affirmative, how the apprehensions of the Appellants about deterioration in water quality as a result of the pipeline project are to be addressed?*

24.4.1. We have referred to MPCB standards for unfiltered public water supply which are relevant to the present Appeal as follows:-



Handwritten initials "L.S." and "A.M." with an arrow pointing to the right.

Parameter	Unfiltered public water supply after approved dis-infection	Public water supply with approved treatment (coagulation, sedimentation) and dis-infection
Total solids	1500 mg/lit	1500 mg/lit
Total suspended solid	25 mg/lit	-
BoD	2 mg/lit	5 mg/lit
Coliform bacteria	250 MPN/100 ml	Not greater than 5000

24.4.2. The Appellants have produced water quality data at Ravet bandhara and claim that it is drinkable due to adequate flows. They have also produced data at Chinchwad to show the extent of deterioration after withdrawals at Ravet, the scenario likely in Pavana River after the pipeline project. The water at Ravet is drinkable after disinfection (see Para 21 (xi) for Ravet data). However, to project Chinchwad data as the future scenario is alarmist as the flows below Pavana are not going to dry up after the pipeline project and 136 Mm<sup>3</sup> would continue to flow down the river. There would however be some deterioration in water quality due to loss in dilution benefit.

24.4.3. The Authority had directed PCMC to collect water quality data starting at the dam and upto Ravet including at weir locations. This gives a better picture of the quality of water available today to the villagers of Maval Taluka who are located below the dam but above Ravet bandhara. Data for November & December 2011, January, February, March and April 2012 has been made available. The testing was done at Polytest lab and S&T Park, University of Pune. We find that

- (i) total solids range from minimum 20 to 136 mg/lit
- (ii) total dissolved solids from 15 to 95 mg/lit
- (iii) B.O.D. from 1 to 38 mg/lit
- (iv) DO from 6.2 to 8.5 mg/lit
- (v) coliform bacteria count from less than 2 to 220 MPN/100 ml.

*Ant*



Thus except BOD, the other parameters would not be seriously affected by diminution in supplies and could still be in the range for use after disinfection. However continuous monitoring of water quality would have to continue even after the pipeline project is completed to come to any firm conclusion.

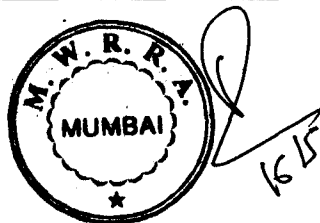
24.4.4. As regards BOD, the recommendations made by various bodies in respect of environmental flows in rivers need be considered since improvement in BOD is a function of such releases. The new draft National Water Policy advocates that a portion of the river flows should be set aside to meet ecological needs. The Report of the New Krishna Tribunal recommends that 0.5% of the 65% dependable flow be released as for environmental flows. The Report of the Cauvery Tribunal recommends releasing 1.35% of the 50% dependable flow for environmental purposes. Keeping in view the data of water quality before us we feel that in Pavana River 1% of the 75% dependable flow of 345 Mm<sup>3</sup> or about 3.5 Mm<sup>3</sup> should be reserved at the end of February for environmental releases in March – May to improve river water quality for drinking purposes. The rate of release and its timing should be decided by WRD based on water quality test results to be collected at regular intervals. This should allay the apprehension of the Appellants about the deterioration in water quality.

24.4.5. As regards the issue raised by the Appellant about absence of an Environmental Impact Assessment for the pipe-line scheme, we are of the view that it is for the funding agency, JNNURM of Gol in this case, to decide as to which studies are required to be undertaken before approving the project.

24.5. *Issue (v) - whether the Authority is required to consider Section 11 (4) relating to water conservation in dealing with this Appeal?*

24.5.1. Section 11 (4) of the MWRRA Act, 2005, mandates the Authority to promote and implement water conservation in the State. Section 11 (4) reads as follows:-

*"The Authority shall, in accordance with the State Water Policy, promote and implement sound water conservation and management practices throughout the State."*



16/5  
AD

16/5

- 24.5.2. While considering the present Appeal, we are of the view that it would not be prudent to consider the water balance only at Pavana dam but it is necessary to consider the availability below the dam as well because a sizable allocation is utilized up to and at Ravet bandhara. As detailed in Para 18.5 of this Order, 91.25 Mm<sup>3</sup> of the allocation is in the kharif season including the 53.92 Mm<sup>3</sup> allocated to PCMC. According to WRD, the allocation for the 75 rainy days of the monsoon is 65.98 Mm<sup>3</sup>. PCMC has already a pump house at Ravet which would be abandoned once the pipeline project is implemented. We see no reason why PCMC should not continue to operate both schemes, namely, the Ravet pump house in the monsoon and the pipeline scheme in the non-monsoon periods. This would make available at least 50 Mm<sup>3</sup> in Pavana as additional storage at the end of monsoon from out of the monsoon flows in the range of 95.7 Mm<sup>3</sup> to 660.9 Mm<sup>3</sup> available below the dam. Instead of levying differential water tariff, PCMC should be charged the same tariff, as applicable for drawal from the dam, for both the monsoon and non-monsoon use.
- 24.5.3. The per capita norms of supply to PCMC need a review. The Appellants have alleged that it is 187 litres against the norm of 135 litres. WRD should get a realistic assessment made of the actual requirement of PCMC as per approved norms. PCMC should also get a study of the line losses done and carry out remedial measures. The allocation of 176.92 Mm<sup>3</sup> to PCMC could be reduced, in our view, by 15 – 20 Mm<sup>3</sup> as a consequence of their re-assessment. For this, we direct that a water audit study by PCMC be carried out expeditiously.
- 24.5.4. In such a system with a large non-irrigation use, there is immense scope for the industrial and domestic users to adopt recycling. The National Water Mission aims at 20% improvement in water use efficiency. Countries like Israel and Singapore have taken up recycling in a mission mode. We direct that no additional allocation be made to existing non-irrigation users and they should all start with a 5% recycling target. No new agreements should be signed for extending existing allocations without the stipulation for recycling. Recycled domestic sewage should be made available for industrial use while industries should recycle to reduce the burden on fresh water.
- 24.5.5. The water so saved from the above exercises should be reserved in the dam to (i) meet the increased rural water demand due to any revision in



per capita norms to 70 lpcd or more due to provision of sanitation or shift to urbanisation, (ii) meet demands of uncovered villages and (ii) meet the needs of environmental releases in summer months in the event of deterioration of water quality due to reduced flows.

24.6. *Issue (vi) -*

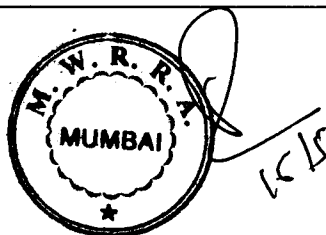
*Does the PDRO's order require intervention?*

24.6.1. The State Water Policy advocates use of dedicated pipelines to draw supplies and the Authority has to work according to the framework of the State policy. Water has been stored at Pavana dam at great cost and should not be frittered away in transmission losses. 1 TMC loss is significant when we are dealing with a flow of about 11 TMC at the dam. The Authority is of the view that the pipe-line project is beneficial to the water sector as a whole and any deleterious effects of the project on other users could be countenanced with remedial measures. Due to the foregoing, as well other reasons mentioned in respect of each of the issues above, we find nothing deficient or erroneous in the impugned order of the PDRO and therefore hold that the impugned order passed by the PDRP does not require our intervention. Consequently, the Prayers to allow ad-interim and interim relief in terms of prayer clause (C)(D) , are rendered infructuous.

25. In the light of the above we give the following directions:

- (i) PCMC should draw their kharif requirement only from Ravet bandhara from the existing pump house. The pipe-line project shall be operated only in non-monsoon periods. WRD shall levy the same tariff as applicable for drawals by pipe line from the dam to PCMC for monsoon use from Ravet bandhara also. The actual dates of the two operations may be decided mutually by WRD and PCMC in such a way that maximum post monsoon flow is utilized even by partial operation of pumps at the two locations viz. dam & Ravet if necessary.
- (ii) WRD should ensure that all existing users below the dam get their sanctioned quota in a normal water year. As stipulated in the sanctioned order of WRD for granting permission to private lift

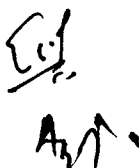
*[Handwritten initials]*

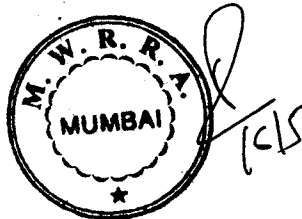




schemes for irrigation, we direct the Entitlement holders to comply with the requirement of installing measuring devices and adopting drip irrigation for perennials, where stipulated, within the required time frame. This will enable WRD to correctly assess the volumetric drawals for irrigation. By adopting drip irrigation for perennials, about 1.60 Mm<sup>3</sup> of water can be saved (50% of the total use of 3.23 Mm<sup>3</sup>) which under Section 14 (4) of the MWRRA Act is to be used first to meet the increased demands of drinking water needs.

- (iii) PCMC shall expeditiously get a water audit study carried out covering per capita norms and line losses and submit this report to WRD and the Authority.
- (iv) PCMC should implement the project for recycling of sewage water starting with 5% of the quantum of sewage to be stepped up to 20% gradually in the coming years. This treated effluent should be used for industrial use. Also in new colonies, dual piping system should be provided for using treated effluent for sanitation and washing purposes and treated raw water being provided only for drinking and cooking. Rooftop rain-water harvesting in such new colonies will also help in augmenting the availability for washing and sanitation purposes.
- (v) Industries should start recycling water, 5% of total use to start with to reduce the burden on fresh water.
- (vi) The water saved at the dam due to meeting of kharif requirement of PCMC from river flow below the dam, water audit by PCMC and adoption of recycling by all other industrial users should be reserved for future domestic water supply needs especially the balance uncovered villages.
- (vii) PCMC shall continue water quality observations at the dam site and the weir sites upto Ravet on a monthly basis during Jan – May every year. The testing should continue even after the pipeline scheme is implemented. The reports must be filed with WRD and the Authority.





- (viii) WRD should make releases of water from the dam during March – May months, out of the 3.5 Mm<sup>3</sup> reserved in the storage, for environmental flows whenever the quality of water below the dam requires improvement in relation to MPCB standards from domestic use considerations.
- (ix) Construction of two KT weirs at the cost of PCMC should be expeditiously completed.
- (x) WRD should take steps to augment the availability at Pavana dam by installing flap gates and this additional storage may be reserved for domestic use. Issues relating to land acquisition, rehabilitation of PAPs, strengthening of dam etc. should be addressed on priority.
- (xi) WRD may explore possibilities of reducing evaporation losses in the system adopting modern technology like use evapo-retardants.
- (xii) WRD should carry out expeditiously a siltation study of Pavana dam to assess loss in dead storage due to siltation in last 40 years.
- (xiii) As a part of long-term planning to meet future demands in water sector, WRD should explore the possibility of creating additional storages on tributaries of Pavana River below Pavana dam and up to Ravet bandhara or through off river storages like natural depression, ponds etc. keeping in view Krishna Water Tribunal Award restrictions

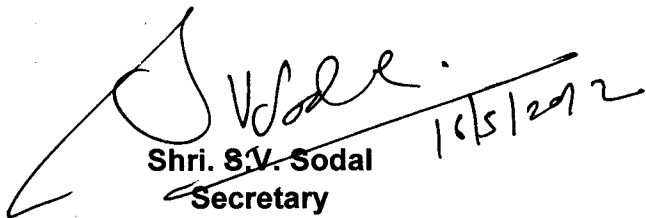
With the above, the Appeal stands dismissed.

Sd/-

**Shri V.V. Gaikwad,**  
**Member (Engineering)**

Sd/-

**Shri A.K.D. Jadhav,**  
**Member (Economy) & Presiding Chairman**

  
**Shri. S.V. Sodal**  
**Secretary**

