

**MAHADAYI WATER DISPUTES TRIBUNAL**

**THE REPORT-CUM-DECISION**

**OF**

**THE MAHADAYI WATER DISPUTES TRIBUNAL**

**(Under Section 5(2) of The Inter-State River Water Disputes Act, 1956)**

**IN THE MATTER OF**

**REFERENCE NO. 1 OF 2011 RELATING TO WATER DISPUTES  
OF THE INTER-STATE RIVER MAHADAYI AND THE RIVER  
VALLEY THEREOF**

**BETWEEN**

**THE STATE OF GOA**

**AND**

**THE STATE OF KARNATAKA**

**AND**

**THE STATE OF MAHARASHTRA**

**VOLUME - XII**

**(V O L U M E S I - XII)**

**New Delhi**

**14<sup>th</sup> August 2018**

# REPORT OF THE MAHADAYI WATER DISPUTES TRIBUNAL

## I N D E X

### VOLUME – I

<u>Sl. No.</u>	<u>D E S C R I P T I O N</u>	<u>PAGE NOS</u>
1.	Introduction and Constitution of Tribunal	1 - 6
2.	Order dated 16.10.2012 passed by the Tribunal in I.A. No.2 of 2012 filed by the State of Goa whereby directions were given to the three States to file their respective Statements of Claims alongwith Replies and Rejoinders	6 - 7
3.	Chronological details of the Statement of cases/claims filed by the States of Goa, Maharashtra and Karnataka, along with Replies and Rejoinders.	7- 9
4.	Issues originally framed by the Tribunal vide Order dated 21.8.2013.	9 - 18
5.	Visit of the Tribunal to different sites and the Report dated 12.02.2014 of the Assessors on the visits of the Tribunal.	19 - 46

- 6. Order dated 04.03.2014 passed by the Tribunal in I.A. No. 19 of 2014 filed by the State of Goa for Amendment of Statement of claims and the consequential Pleadings of the Party States. 46 - 47**
- 7. Order dated 01.04.2014 passed in I.A. No. 21 of 2014 filed by the State of Maharashtra for Amendment of Statement of Claims and consequential Pleadings of the Party States 47 - 48**
- 8. Order dated 17.04.2014 passed in I.A. No. 1 of 2012 filed by the State of Goa for restraining the State of Karnataka not to actually utilize or divert the water under the Kalasa-Bhandura Project. 49 - 52**
- 9. Order dated 03.09.2014 passed by the Tribunal pointing out inconsistencies and discrepancies in the Pleadings of the Party States. 52 - 79**
- 10. Order dated 15.04.2015 passed by the Tribunal in I.A. No. 29 of 2014 permitting the State of Karnataka to withdraw its application for Amendment of its Statement of Claims. 79 - 80**

11.	Details of further Amendments of their respective Statement of cases/claims by the three Party States as well as the Replies and Rejoinders thereto.	80 - 83
12.	Order dated 06.05.2015 passed by the Tribunal in I.A. No. 28 of 2014 filed by the State of Goa directing the State of Maharashtra not to undertake, commence the work of gorge portion of Viridi Dam.	84 - 86
13.	Prayers of the State of Goa	86 - 92
14.	Prayers of the State of Karnataka	92 - 95
15.	Prayers of the State of Maharashtra	95 - 99

**VOLUME – II**

16.	Pleadings of the State of Goa	100 - 341
-----	-------------------------------	-----------

**VOLUME – III**

17.	Pleadings of the State of Karnataka	342 - 487
18.	Pleadings of the State of Maharashtra	488 - 525
19.	Re-framing/Re-casting of Issues vide Order dated 17.07.2015.	525 - 543

20. Order dated 27.07.2016 passed by the Tribunal in IAs. No. 60 of 2015 & 66 of 2016 filed by the State of Karnataka rejecting its prayer to permit it to divert 7 tmc of water. 544 - 586

**VOLUME – IV**

21. Details of oral evidence led by the Party States 587 - 593
- Oral evidence of AW-1 Shri Chetan Pandit for the State of Goa 593 - 698
  - Oral evidence of RW-1 Prof. A.K. Gosain for the State of Karnataka 699 - 756
  - Oral evidence of RW-2 Shri A.K. Bajaj for the State of Karnataka 757 - 803

**VOLUME – V**

Details of oral evidence led by the Party States contd...

- Oral evidence of MW-1 Shri S.N. Huddar for the State of Maharashtra 804 - 836
- Oral evidence of AW-2 Shri Paresh Porob for the State of Goa 836 - 856

	• Oral evidence of AW-3 Dr. Shamila Monteiro for the State of Goa	856 - 865
	• Oral evidence of AW-4 Shri Rajendra P. Kerkar for the State of Goa	865 - 877
	• Oral evidence of AW-5 Shri Subrai T. Nadkarni for the State of Goa	877 - 913
	• Oral evidence of RW-3 Shri S.M. Jamdar for the State of Karnataka	914 - 929
	• Oral evidence of RW-4 Shri G.M. Madegowda for the State of Karnataka	929 - 945
	• Oral evidence of MW-2 Shri B.C. Kunjir for the State of Maharashtra	946 - 954
22.	Evaluation of the oral evidence led by the three Party States	954 - 955
	• Findings on conflicting results arrived at by the Experts relating to water availability	955 - 966
	• Principles governing appreciation of the oral evidence given by the witnesses on Hydrology	966 - 970

- Evaluation of oral evidence of AW-1 Shri Chetan Pandit for the State of Goa 971 - 984
- Evaluation of oral evidence of RW-1 Prof. A.K. Gosain for the State of Karnataka 984 - 1016
- Evaluation of oral evidence of RW-2 Shri A.K. Bajaj for the State of Karnataka 1017 - 1030
- Evaluation of oral evidence of MW-1 Shri S.N. Huddar for the State of Maharashtra 1030 - 1039
- Evaluation of oral evidence of AW-2 Shri Paresh Porob for the State of Goa 1040 - 1052

### VOLUME – VI

Evaluation of the oral evidence led by the three Party States contd...

- Evaluation of oral evidence of AW-3 Dr. Shamila Monteiro for the State of Goa 1053 - 1058
- Evaluation of oral evidence of AW-4 Shri Rajendra P. Kerkar for the State of Goa 1058 - 1066

- Evaluation of oral evidence of AW-5 Shri Subrai T. Nadkarni for the State of Goa 1066 - 1085
- Evaluation of oral evidence of RW-3 Shri S.M. Jamdar for the State of Karnataka 1085 - 1093
- Evaluation of oral evidence of RW-4 Shri G.M. Madegowda for the State of Karnataka 1093 - 1103
- Evaluation of oral evidence of MW-2 Shri B.C. Kunjir for the State of Maharashtra 1103 - 1110

**23. Decision and findings by the Tribunal on important questions.**

- Prejudice 1110 - 1132
- Effect of deletion of paras 28 (iv) and 28 (v) from Goa's complaint dated 09.07.2002. 1132 - 1201
- Findings on whether the Central Water Commission Report of March, 2003 is to be treated as Report of the Central Water Commission. 1201 - 1224

- **Determination of Dependability at which water availability is to be assessed.** **1225 - 1248**
- **Decision relating to mandatory requirements for project implementation.** **1249 - 1290**

### **VOLUME –VII**

**Decision and findings by the Tribunal on important questions contd...**

- **Hydrology and Water Availability** **1291 - 1443**
- **Monthly Rainfall Data for the period from June, 1901 to May, 2013** **1444 - 1500**

### **VOLUME – VIII**

**Decision and findings by the Tribunal on important questions contd...**

- **Daily Rainfall Data for the period from June, 1901 to May, 1940** **1501 - 1735**

## VOLUME – IX

**Decision and findings by the Tribunal on important questions contd...**

- **Daily Rainfall Data for the period from June, 1940 to May, 1976** **1736 - 1952**

## VOLUME – X

**Decision and findings by the Tribunal on important questions contd...**

- **Daily Rainfall Data for the period from June, 1976 to May, 2013** **1953 - 2175**

## VOLUME – XI

**Decision and findings by the Tribunal on important questions contd...**

- **Ecology** **2176 - 2244**
- **Navigation** **2245 - 2276**

**24. Determination of water requirements of the three Party States**

- **State of Karnataka** **2277 - 2443**

## VOLUME – XII

**Determination of water requirements of the three Party States contd...**

- **State of Maharashtra** **2444 - 2481**
- **State of Goa** **2481 - 2545**

**25. Decision on issues framed for determination**

- **Issues Related to Data Availability and Quality of Data** **2546**
- **Issues Related to Hydrological Analysis and Methodology for Assessment of Water Availability** **2546**
- **Issues Related to Dependability for Assessment of Water Availability** **2547**
- **Issues Related to Water Utilization for various Purposes, Projected Demand of Water by the Respective States, and their Allocations** **2547 - 2548**

- **Issues Related to (a) Ecology, Global Warming and its Impact, and (b) Adverse Impact of Development of Water Resources on Ecology etc.** **2548**
  
- **Issues Related to Navigation** **2548**
  
- **Issues Related to Effect to Deletion of Para 28(iv) and 28 (v) from Pleadings of the State of Goa** **2549**
  
- **Issues Related to Need for Prior Consent of Co-basin States for Undertaking Projects/ including Projects for Diversion outside Mahadayi Basin** **2549 - 2550**
  
- **Issues Related to Sharing of the Water and Benefits out of the Water Allocated of Utilization Outside the Basin** **2550 - 2556**
  
- **Issues Related to Adverse Impact of the Proposed Projects of the State of Karnataka on Projects of State of Maharashtra** **2556 - 2558**

	• Issues Related to Over-the Year Storage/Carry Over Storage by the Upper Riparian State	2559 - 2562
	• Issues Related to Project-wise Restrictions on Storages etc.	2562 - 2567
<b>26.</b>	<b>Need for Authority/Board for integrated planning and management of Water Resources of Mahadayi Basin</b>	
	• Issues framed for Determination	2568 - 2578
	• Modified Inter-State River Water Disputes Act, 1956	2579 - 2582
	• Recommendations made by Shri Chetan Pandit	2582 - 2585
	• Narmada Control Authority	2585 - 2590
	• Cauvery River Authority (CRA)	2590 - 2592
	• Cauvery Management Board	2593 - 2596
	• Cauvery Water Regulatory Committee	2596 - 2598
	• Establishment of Cauvery Water Management Authority	2598 - 2612

	• Godavari and Krishna River Management Board	2612 - 2615
	• Krishna Waters Decision – Implementation Board	2615 - 2619
	• Bhakra Beas Management Board	2619 - 2621
	• Vansadhara Supervisory Committee	2621 - 2625
	• Hon’ble Supreme Court Judgment on Babhali Barrage Project reported in 1988 (7) SCC, P-303	2625 - 2628
	• Important Activities Essentially Required to be Undertaken for Sustainable Development of Water Resources of Mahadayi Basin	2629 - 2631
	• Constitution of the Authority	2631 - 2640
27.	Equitable apportionment of Waters of Mahadayi River	2641 - 2666
28.	Water Sharing Mechanism	2667 - 2672
29.	Recommendations	
	• Data Observation and Data Bank	2672 - 2679

	• Guidelines for Hydrological Analysis for Assessment of Water Availability and Training for Professionals	2679 - 2686
	• Suggestions for Reviewing the Provisions of the Inter-State River Water Disputes Act, 1956	2686 - 2691
	• Participation of Union Government in the proceedings of the Tribunals	2691 - 2693
30.	Award and Final Decision of the Tribunal	2693 - 2706
31.	Acknowledgment	2706 - 2711

# REPORT OF THE MAHADAYI WATER DISPUTES TRIBUNAL

## S H O R T I N D E X

### VOLUME – XII

<u>Sl. No.</u>	<u>D E S C R I P T I O N</u>	<u>PAGE NOS</u>
1.	Determination of water requirements of the three Party States contd...	
	• State of Maharashtra	2444 - 2481
	• State of Goa	2481 - 2545
2.	Decision on issues framed for determination	
	• Issues Related to Data Availability and Quality of Data	2546
	• Issues Related to Hydrological Analysis and Methodology for Assessment of Water Availability	2546
	• Issues Related to Dependability for Assessment of Water Availability	2547

- **Issues Related to Water Utilization for various Purposes, Projected Demand of Water by the Respective States, and their Allocations** **2547 - 2548**
- **Issues Related to (a) Ecology, Global Warming and its Impact, and (b) Adverse Impact of Development of Water Resources on Ecology etc.** **2548**
- **Issues Related to Navigation** **2548**
- **Issues Related to Effect to Deletion of Para 28(iv) and 28 (v) from Pleadings of the State of Goa** **2549**
- **Issues Related to Need for Prior Consent of Co-basin States for Undertaking Projects/ including Projects for Diversion outside Mahadayi Basin** **2549 - 2550**
- **Issues Related to Sharing of the Water and Benefits out of the Water Allocated of Utilization Outside the Basin** **2550 - 2556**
- **Issues Related to Adverse Impact of the Proposed Projects of the State of Karnataka on Projects of State of Maharashtra** **2556 - 2558**

- **Issues Related to Over-the Year Storage/Carry Over Storage by the Upper Riparian State** 2559 - 2562
- **Issues Related to Project-wise Restrictions on Storages etc.** 2562 – 2567

**3. Need for Authority/Board for integrated planning and management of Water Resources of Mahadayi Basin**

- **Issues framed for Determination** 2568 - 2578
- **Modified Inter-State River Water Disputes Act, 1956** 2579 - 2582
- **Recommendations made by Shri Chetan Pandit** 2582 - 2585
- **Narmada Control Authority** 2585 - 2590
- **Cauvery River Authority (CRA)** 2590 - 2592
- **Cauvery Management Board** 2593 - 2596
- **Cauvery Water Regulatory Committee** 2596 - 2598
- **Establishment of Cauvery Water Management Authority** 2598 - 2612

	• Godavari and Krishna River Management Board	2612 - 2615
	• Krishna Waters Decision – Implementation Board	2615 - 2619
	• Bhakra Beas Management Board	2619 - 2621
	• Vansadhara Supervisory Committee	2621 - 2625
	• Hon’ble Supreme Court Judgment on Babhali Barrage Project reported in 1988 (7) SCC, P-303	2625 - 2628
	• Important Activities Essentially Required to be Undertaken for Sustainable Development of Water Resources of Mahadayi Basin	2629 - 2631
	• Constitution of the Authority	2631 - 2640
4.	Equitable apportionment of Waters of Mahadayi River	2641 - 2666
5.	Water Sharing Mechanism	2667 - 2672
6.	Recommendations	
	• Data Observation and Data Bank	2672 - 2679
	• Guidelines for Hydrological Analysis	2679 - 2686

**for Assessment of Water Availability  
and Training for Professional**

- **Suggestions for Reviewing the Provisions of the Inter-State River Water Disputes Act, 1956** **2686 - 2691**
  - **Participation of Union Government in the proceedings of the Tribunals** **2691 - 2693**
- 7. Award and Final Decision of the Tribunal** **2693 - 2706**
- 8. Acknowledgment** **2706 - 2711**