

Chapter- 3 Interstate Aspects

3.1 Rivers Basin and Damanganga-Pinjal Link

3.1.1 Damanganga basin

The Damanganga river rises in the Sahyadri hill ranges near village Ambegaon in Dindori taluka of Nasik district of Maharashtra State at an elevation of 950 m above MSL and traverses a total distance of about 131 km before it drains into the Arabian Sea. The important tributaries of the Damanganga river are Dawan, Shrimant, Val, Rayte, Lendi, Vagh, Sakartond, Dongarkhadi, Roshni and Dudhni. The Damanganga basin drains total area of 2331 sq km in Maharashtra State, Gujarat State and the Union Territories of Dadra, Nagar Haveli (DNH) and Daman & Diu before it drains into the Arabian Sea. The Damanganga river flows through Maharashtra State, Gujarat State and U.Ts. of DNH and Daman & Diu, while Vagh river upto Khargihill dam entirely lies in Maharashtra State.

3.1.2 Vaitarna basin

The river Vaitarna is one of the west flowing rivers in the region North of Mumbai and South of the Tapi river. The river rises in the Sahyadri hill range in the Nasik district of Maharashtra State and after traversing a distance of about 171 km in Maharashtra joins the Arabian Sea. The principal tributaries of river Vaitarna are Pinjal, Surya and Tansa. The Pinjal river which is a tributary of Vaitarna river flows entirely in Maharashtra State.

3.2 Statewise distribution of catchment areas

Statewise breakup of the catchment areas in respect of different river basins are given in Table 3.1.

Table 3.1
Statewise catchment area of basins

Sl. No.	Name of River/Basin	Catchment area in sq km			Total
		Maharashtra	Gujarat	U.T.'s of DNH and Daman & Diu	
1.	Damanganga basin (as a whole)	1438	430	463	2331
a)	Damanganga basin upto Bhugad dam site	588	141	---	729
b)	Vagh Sub-basin upto Khargihill dam site	710	---	---	710
2.	Vaitarna basin (as a whole)	3647	---	---	3647
a)	Vaitarna basin upto Pinjal dam site	317	---	---	317

Thus, out of total catchment area of 2331 sq km of Damanganga basin only 18.45% of area i.e. 430 sq km lie in the State of Gujarat and 19.86% of area i.e. 463 sqkm lie in the U.T.s whereas remaining 61.69% of the area i.e. 1438 sq km lie in the State of Maharashtra. The total catchment area of 3647 sqkm of Vaitarna basin lie in the State of Maharashtra. The catchment area of Damanganga river upto the proposed Bhugad dam site falls in Gujarat as well as Maharashtra States. There will be a need for inter-State agreement between Maharashtra and Gujarat for sharing the Damanganga water.

3.3. Need for inter – state agreement

The entire Bhugad-Khargihill and Khargihill-Pinjal tunnel links of the present scheme fall in the territory of Maharashtra only. Further, the conveyance system of transferring water to Mumbai city will also entirely lie in Maharashtra State only. Out of the two reservoirs proposed by NWDA, the submergence area of the Bhugad reservoir falls in both the Gujarat and Maharashtra States but the submergence area of Khargihill reservoir falls only in Maharashtra State. Thus except submergence of 987 ha area pertaining to Gujarat State, there is no direct adverse effect of the present scheme on the Gujarat State. The statewise details of submergence of the reservoirs proposed in Damanganga-Pinjal link are furnished in Table-3.2:

Table-3.2
Statewise break up of submergence areas due to proposed reservoirs under Damanganga – Pinjal link tunnel project

Name of reservoir & State	Catchment area upto dam site (sqkm)	Details of Submergence areas				Population likely to be affected	
		Total area (ha)	Forest (ha)	Cultivable land (ha)	Other land (ha)	No.of villages	Population
I. Bhugad							
Maharashtra	588	916	428	383	105	7	1370
Gujarat	141	987	462	413	112	7	1676
Total	729	1903	890	796	217	14	3046
II. Khargihill							
Maharashtra	710	1558	734	552	272	10	1484
Gujarat	-	0	0	0	0	0	0
Total	710	1558	734	552	272	10	1484
III. Total							
Maharashtra	1298	2474	1162	935	377	17	2854
Gujarat	141	987	462	413	112	7	1676
Total	1439	3461	1624	1348	489	24	4530

As evident from above, submergence of Bhugad Reservoir will have impact on both Gujarat and Maharashtra States. Further, divertable yield of this reservoir at 100% dependability is 287 Mm³. On the basis of proportionate catchment area share of Maharashtra is 231 Mm³ and that of Gujarat is 56 Mm³. Therefore, the consent of Government of Gujarat is needed for diversion of water to Maharashtra in Damanganga-Pinjal link project.

3.4 Existing Interstate agreement on Damanganga water

There is an ongoing major project viz. Damanganga Reservoir Project located across river Damanganga near village Madhuban in Dharampur taluka of Valsad district of Gujarat with Gujarat, Union Territories of Dadra & Nagar Haveli and Daman & Diu as beneficiary States.

As per inter-State agreement signed, Statewise/UT-wise committed utilisations of Madhuban reservoir are furnished at Table-3.3 below:

Table-3.3
State/UT wise committed utilisations of water from Madhuban reservoir

State	Yearly water sharing (Mm ³)		Total (Mm ³)
	Irrigation	Other than irrigation	
Gujarat	332.74	66.36	399.19
UT of DNH	62.16	21.17	83.33
UT of Daman	25.60	8.60	34.20
Total	420.50	96.13	516.63
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