Chapter 3
Inter-State Aspects

3.1 States traversed by the rivers

Both the Mahanadi and the Godavari rivers are interstate rivers. The Mahanadi river originates in the Chhattisgarh State and flows through the States of Chhattisgarh and Odisha before joining the Bay of Bengal. The Godavari river originates in the State of Maharashtra and flows through Maharashtra, Telangana and Andhra Pradesh before joining the Bay of Bengal.

State-wise break-up of the catchment areas of the Mahanadi and the Godavari rivers is given in **Table 3.1.**

Table 3.1:
State-wise catchment areas of the Mahanadi and the Godavari rivers

Catchment area in km^2

Sl. No.	Name of the river	Jhar-khand	MP	Chhatt isgarh	Maha-rashtra	Odisha	Karn ataka	Telan gana	A.P.	Total
1	Mahanadi (as a whole)	126	107	75229	238	65889	--	--	--	141589
2	Mahanadi upto Barmul	126	107	75229	238	46754	--	--	--	122454
3	Godavari (as a whole)	--	26168	39087	152199	17752	4406	57829	15372	312813
4	Godavari (upto Dowlaiswaram Barrage)	--	26168	39087	152199	17752	4406	57829	12117	309558

3.2 Inter-State Agreements

3.2.1 Mahanadi River

The inter-state agreements between Odisha and the erstwhile Madhya Pradesh (Chhattisgarh) States on sharing of Mahanadi waters are furnished in **Table 3.2**.

Table 3.2
Inter State Agreement between Odisha and erstwhile Madhya Pradesh (Chhattisgarh)

S. No.	Name of the Project	River	Date of Agreement	Agreement Contents
1	2	3	4	5
1	Ib dam Project	Ib	28.4.83	M.P. will spare 25% runoff from the catchment from the area inside M.P. Odisha will fix the FRL at 272.50 m. Land in M.P. will be acquired upto RL 273 m for back water impact. In case of damage caused to the area laying above RL 273 m due to floods. Odisha will pay compensation. M.P. may generate hydro power at the head works of Ib Project at its own cost without paying for the cost of storage.
2	Kurnalla Project	Kur nalla		This will be executed as a joint scheme by both the States. Cost of head works will be shared in proportion to the ultimate irrigation benefits derived by each State.
3	Upper Jonk	Jonk		Odisha will supply water through the left bank canal of the project at Odisha-M.P. border to irrigate 2000 acres in M.P. on charges to be determined. M.P. may meet its requirement by utilizing the waters of the tributaries of Jonk river, upstream of Lower Jonk Project draining that area subject to a maximum utilization of 40 sq. miles of catchment.
4	Lower Jonk Project	Jonk		It will be jointly executed near Girina. The cost of the dam, reservoirs & available run-off will be shared in the ratio of 30% by Odisha & 70% by Madhya Pradesh.
5	Ong Project	Ong		M.P. will spare runoff from its catchment area within M.P. for use by Odisha. Odisha will fix the FRL at 219 m.
6	Jeera Project	Jeera		M.P. will spare runoff from 14.25 sq. miles of its catchment for use by Odisha with FRL 697.5 ft.
7	Tel joint project Complex (Tel dam, Suktel Banjari dam Tel barrage	Tel, Suktel & Banjari	Proposed	This is a joint proposed project, whose details have not been finalized. This would provide additional irrigation benefits (10,000 acres) to M.P. as well as to Odisha (8000 acres). This is an integrated project connecting Tel dam, Suktel dam, Banjari dam & Tel barrage.

8	Upper Udanti Project	Udanti Project	Proposed	This is a future project benefiting M.P. as well as Odisha. The details have not yet been finalized.

3.2.1.1 Godavari River

The Godavari Water Dispute Tribunal (GWDT) has allocated Godavari waters among the riparian States viz., Madhya Pradesh (bifurcated into Madhya Pradesh and Chhattisgarh), Maharashtra, Karnataka, Andhra Pradesh, Telangana and Odisha. The Mahanadi-Godavari link canal diverts surplus waters of Mahanadi to Godavari, upstream of Dowlaiswaram barrage. Thus, this link canal augments the surplus water availability in Godavari basin for further transfer to Krishna basin and beyond.

Allocation of water as per GWDT award in the Godavari basin is given below in **Table 3.3.**

Table 3.3
Allocation of water as per Godavari Water Dispute Tribunal Award in the Godavari basin

Sub-basin	State-wise allocations				
	Maharashtra	**Andhra Pradesh**	**Madhya Pradesh**	**Karnataka**	**Odisha**
Upper Godavari (G-1)	(i) All waters upto Paithan dam. (ii) Share of 60 TMC (1699 Mm^3)	--	--	--	--
	below Paithan dam, Siddeswar and Nizamsagar.				
Pravara (G-2)	(i) All waters of the entire Prava-ra sub-basin.	--	--	--	--
Purna (G-3)	(i) All waters upto Siddeswar dam + (ii) Share of 60 TMC below Paithan, Siddeswar and Nizamsagar.	--	--	--	--
Manjira (G-4)	(i) 22 TMC (622 Mm^3) above Nizamsagar dam. +	(i) 58 TMC (1642 $Mm^{3)}$ for Nizamsagar	--	(i) 13.10 TMC (370 $Mm^{3)}$ for Karanja	--

	(ii) Share of 60 TMC below Paithan Siddeswar and Nizamsagar.	Project. + (ii) 4 TMC (113 Mm^3) for Singur project for Hyderbad water supply		project. (ii) 1.17 TMC (33 Mm^3) for Chulkinala project. (iii)1 TMC (28 Mm^3) for lift irrigation. (iv) 2.5 TMC (70 Mm^3) below Nizamsagar.	
Middle Godavari (G-5)	(i) 11.33 Mm^3 (0.4 TMC) (ii) Share of 60 TMC below Paithan, Siddeswar & Nizamsagar.	All remaining water	--	--	--
Maner (G-6)	--	All water	--	--	--
Penganga (G-7)	(i) All water upto Lower Penganga, Waghadi & Saikhadi dam projects (ii) 255 Mm^3 (9 TMC) below the above sites.	(i) All remaining waters of Pen-ganga sub-basin	--	--	--
Wardha (G-8)	(i) All waters upto Tulana, Chargam, Nirguda & Bhandara projects (ii) (-)283.17 Mm^3(10TMC) (iii) 736.24 Mm^3 (26TMC) downstream of above projects	(i) All remaining waters of Wardha Sub-basin	(i) 255 Mm^3 (9 TMC) above Upper Wardha project. (ii) 283 Mm^3 (10 TMC) in remaining portion.	--	--

Pranhita (G-9)	(i) All waters upto 17 specified project sites. (ii) 1161 Mm^3 (41 TMC) below the above projects. (iii) 849.51 Mm^3 (30 TMC) reserved for Maharashtra as regulated supply from M.P.	(i) All remaining waters	(i) All waters upto 5 specified projects in Kanhan valley. (ii) 396.44 Mm^3 (14 TMC) below above projects. (iii) All waters upto Dhute weir and 8 specified projects in Wainganga valley (iv) All waters upto Pujaritola project on Bagh river. (v) All waters upto Sitekasa dam on Dhanwantari. (vi) All waters upto Totladoh on Pench river. (vii) 1670.70 Mm^3 (59 TMC) below above projects. (viii) 849.51 Mm^3 (30 TMC) reserved for Maharashtra regulated supply.	--	--

Lower Godavari (G-10)	113.30 Mm^3 (4 TMC)	(i) 141.50 Mm^3 (5 TMC) for Taliperu project (ii) 2406.95 Mm^3 (85 TMC) for Inchampalli project. (iii) All remaining waters.	(i) All waters upto 5 specified project sites in the Award. (ii) 255 Mm^3 (9 TMC) below above projects	--	--
Indravati (G-11)	(i) 962.78 Mm^3 (34 TMC) upto Bhopal-patnam project. (ii) 198.22 Mm^3 (7 TMC) below Bhopalpatnam.	(i) All remaining waters of Indravati Sub-basin down-stream of Bhopal-patnam project.	(i) 7730.54 Mm^3 (273 TMC) upto Bhopalpatnam project. (ii) All waters upto Chintavagu, Jallavagu & Kottapalli. (iii) 19 TMC additional	--	(i) All waters up to Madhya Pradesh border. (ii) (-)45 TMC to be let at Odisha Madhya Pradesh border.
Sabari (G-12)	--	(i) 56.63 Mm^3 (2 TMC) upto Machkund project & 56.63 Mm^3 between Machkund and Balimela dam. (ii) All remaining water of Sabari Sub-basin	(i) All waters upto Barunadi, Mupari, Goralinadi, Saileruvagu, Ordeltong & Janavagu. (ii) 509.71 Mm^3 (18 TMC) below above projects	--	(i) All waters upto common boundary with M.P. (ii) All waters upto Govindapalli, Satiguda, Parasanapalle & Potteru project. (iii) 1132.68

					Mm^3 (40 TMC) down-stream of above projects (iv) 764.56 Mm^3 (27 TMC) below above projects (v) 283.17 Mm^3 (10 TMC) for evaporation losses for joint hydroelectric project. (vi) 56.63 Mm^3 (2 TMC) between Machkund and Balimela dam.

3.2.3 Implications of Mahanadi - Godavari link proposal

The Mahanadi basin is assessed to be surplus at Barmul dam site and these surplus waters are proposed for diversion through Mahanadi (Barmul)- Godavari (Dowlaiswaram) link to Godavari basin besides providing enroute irrigation in Odisha and Andhra Pradesh States.

A diversion of 10105 Mm^3 of water is proposed through the link canal from Barmul, out of this, a quantity of 5046 Mm^3 and additional 1454 Mm^3 from MSTG contribution, total 6500 Mm^3 will be dropped into Godavari river upstream of the Dowlaiswaram barrage for usage in the existing Godavari delta system. The additional surpluses available in Godavari basin by meeting the delta requirements with Mahanadi waters along with surplus Godavari waters will be further diverted by substitution to water short basins lying further south.

The Mahanadi (Barmul) - Godavari(Dowlaiswaram) link is a part of the major peninsular river link system connecting Mahanadi – Godavari – Krishna – Pennar – Cauvery – Vaigai - Gundar rivers under the peninsular rivers development component of the National Perspective Plan, which is intended for the transfer of surplus Mahanadi and Godavari waters for use in the deficit river basins of Krishna, Pennar, Cauvery, Vaigai and other smaller basins. It may not be possible to cover these large scale transfers under the existing inter-state agreements or tribunal awards.

In view of the above, a consensus has to be arrived at among all the riparian States of the Peninsular river basins, for the implementation of the Peninsular rivers link system including the Mahanadi - Godavari link. After such a consensus, separate interstate agreements will have to be drawn among all the concerned States for equitable sharing of the surplus waters. The existing inter-state agreements for various river basins will also have to be reviewed and modified accordingly.