Chapter-3
Inter State aspects

3.0 General

The Godavari (Janampet) - Cauvery (Grand Anicut) link project is proposed to transfer unutilised waters of Indravati sub basin in Chhattisgarh, available at the proposed Janampet barrage across river Godavari to the water short areas in Godavari, Krishna, Gundlakamma, Pennar, Palar, Cauvery and other intermediate basins for augmentation of irrigation, domestic and industrial needs in Telangana, Andhra Pradesh. Tamil Nadu directly and Karnataka by substitution. The Godavari, Krishna, Pennar and Cauvery being inter-State rivers, it is necessary to look into the inter-State aspects of the link project in detail. State-wise breakup of the catchment areas of Godavari, Krishna, Pennar, Palar and Cauvery basins is given in **Table 3.1.**

Table 3.1 State-wise break up of catchment area of Various basins.

Sl. No	**Basins**	**State wise catchment area (Sq.km)**									
		Maharashtra	**Karnataka**	**AP & Telangana**	**Chhattisgarh**	**MP**	**Odisha**	**Tamil Nadu**	**Kerala**	**Puducherry**	**Total**
1.	**Godavari Basin**										
(i)	Whole basin	152199	4406	73201	33434	31821	17752	-	-	-	312813
(ii)	Upto Sri Ram Sagar dam site	72183	4406	15162	-	-	-	-	-	-	91751
(iii)	Upto Incham palli dam site	152199	4406	49092	29700	26168	7435	-	-	-	269000
2.	**Krishna Basin**										
(i)	Whole basin	69425	113271	76252	-	-	-	-	-	-	258948
(ii)	Upto Nagarjunasagar dam site	69425	113271	38009	-	-	-	-	-	-	220705
3.	**Pennar basin**	-									
(i)	Whole basin	-	6937	48276	-	-	-	-	-	-	55213
(ii)	Up to Somasila	-	6937	43556	-	-	-	-	-	-	50493

	dam site										
4.	**Cauvery basin**										
(i)	Whole basin	-	34273	-	-	-	-	43867	2866	149	81155
(ii)	Up to Grand Anicut site	-	34273	-	-	-	-	36008	2866	-	73147

Source: Water balance studies of NWDA

3.1 Godavari basin

Godavari is the largest river in South India and the second largest in India. It rises in Sahyadris, at an altitude of 1067m above MSL near Triambakeshwar in Nasik district of Maharashtra and flows across Deccan plateau from Western Ghats to Eastern Ghats. It flows for about 1462 km in south-eastern direction through States of Maharashtra, Telangana and Andhra Pradesh before it joins Bay of Bengal, about 96 km to the south of Rajahmundry.

The Godavari basin lies between latitudes 16º - 16' N and 22º - 43' N and longitudes 73º - 26' E and 83º - 07' E. It is roughly triangular in shape. The basin extends over an area of 312813 Km^2, which is nearly 10% of the total geographical area of the country. The principal tributaries of the river are Pravara, Purna, Manjra, Maner, Pranhita, Indravati and Sabari.

About 64 km from its source, the Godavari receives the waters from Darna river and at a short distance lower down the river, it gets out of the high rainfall zone of the western ghats and there is no further significant contribution to the river flow until about 150km below when it receives the combined waters of the Pravara and Mula rivers. About 483 km lower down, Manjra river joins from the south. The river Pranhita conveying the combined waters of the rivers Penganga, Wardha and Wainganga falls into the Godavari about 306 km below the confluence of Manjra river. About 48 Km further lower, the Godavari receives the water from the Indravati river. Sabari is the last major tributary which falls into Godavari 100 km on the upstream of city of Rajahmundry. Pranhita, Indravati and sabari are the major rivers joining river Godavari on its left bank.

The Godavari basin has been divided into 12 sub-basins by Godavari Water Disputes Tribunal (GWDT) viz. (1) Upper Godavari (from the source to its confluence with the Manjra (2) Pravara, (3) Purna, (4) Manjra, (5) Middle Godavari (from its confluence with Manjra to confluence with Pranhita), (6) Maner, (7) Penganga, (8) Wardha, (9) Pranhita, (10) Lower Godavari (from its confluence with Pranhita upto the sea), (11) Indravati and (12) Sabari.

The physical extent of various sub basins of Godavari basin is indicated in **Table 3.2**

Table 3.2 Physical extent of various sub-basins of Godavari basin

Index	Sub basin	Extent
G-1	Upper Godavari	Includes the catchment from source of Godavari to its confluence with the Manjra. Excludes the catchment areas of the Pravara, the Purna and the Manjra but includes that of all other tributaries which fall into the Godavari in this reach.
G-2	Pravara	Includes the entire catchment of Pravara from the source to its confluence with the Godavari including areas of Mula and other tributaries of the Pravara.
G-3	Purna	Includes the entire catchment of the Purna (from source to its confluence with the Godavari) including all its tributaries.
G-4	Manjra	Includes the entire catchment of Manjra from its source to its confluence with the Godavari including catchment areas of Tima, Karanja, Haldi, Lendi, Maner and other tributaries.
G-5	Middle Godavari	Comprises the catchment of the Godavari from its confluence with Manjra to its confluence with Pranhita. Includes all its tributaries in this reach, except the Maner and the Pranhita.
G-6	Maner	Includes the entire catchment of Maner from its source to its confluence with the Godavari, including all its tributaries.
G-7	Penganga	Includes entire catchment of Penganga from its source to its confluence with Wardha with all its tributaries.
G-8	Wardha	Comprises the catchment of river Wardha from its

		source to its confluence with Wainganga with all its tributaries but excluding the catchment of Penganga
G-9	Pranhita	Comprises the catchment of Wainganga from its source to its confluence with Wardha and the Pranhita up to its confluence with Godavari. Includes all the tributaries of Wainganga and Pranhita except Penganga and Wardha. The Wainganga after its confluence with Wardha is called Pranhita.
G-10	Lower Godavari	Consists of the lower part of Godavari from its confluence with Pranahita up to the sea. Includes direct catchment of the Godavari in this reach with all its tributaries except the Indravati and the Sabari.
G-11	Indravati	Includes all the areas drained by Indravati and its tributaries from its source to its confluence with the Godavari.
G-12	Sabari	Includes entire catchment of Sabari river from its source to its confluence with the Godavari including its tributary Sileru.

Source: Godavari Water Disputes Tribunal (GWDT) Award

3.1.1 State wise breakup of catchment

The catchment of the first three sub-basins viz. the Upper Godavari, the Pravara and the Purna lies entirely in the State of Maharashtra. The drainage area of Manjra sub-basin is contributed by the three States of Maharashtra, Karnataka and Telangana. The middle Godavari sub-basin lies mainly in the State of Telangana. The Manjra sub-basin lies completely within Telangana while the drainage area of Penganga sub-basin is contributed by Maharashtra and Telangana. Madhya Pradesh and Maharashtra contribute to Wardha and Pranhita sub-basins. A part of Chhattisgarh also falls in Pranhita sub-basin. Telangana, Andhra Pradesh and Chhattisgarh contribute to Lower Godavari sub-basin. The catchment area of the Indravati sub-basin lies partly in Chhattisgarh and partly in Odisha. The last sub-basin, Sabari lies in the territories of Andhra Pradesh, Chhattisgarh and Odisha. The State wise breakup of the catchment area of the whole Godavari basin is indicated in **Table 3.3** While the sub-basin/State wise distribution is presented in **Table 3.4.**

Table 3.3 State-wise break up of catchment area of Godavari basin.

Sl. No.	State	Catchment area (Sq.km)	% of the basin area
1.	Maharashtra	152199	48.7
2.	Karnataka	4406	1.4
3.	Madhya Pradesh	31821	10.2
4.	Chhattisgarh	33434	10.7
5.	Telangana	57829	18.4
6.	Andhra Pradesh	15372	4.9
7.	Odisha	17752	5.7
	Total	**312813**	**100.00**

Source: Water balance studies of NWDA

Table 3.4 State wise catchment area of Various Sub-basins

Sl. No.	Sub basin	State wise catchment area (sqkm)						% of the basin area
		Maha rashtra	Kar nataka	MP & Chhattisgarh	Telangana & Andhra Pradesh	Odisha	Total	
1	G-1	33502	-	-	-	-	33502	10.7
2	G-2	6537	-	-	-	-	6537	2.1
3	G-3	15579	-	-	-	-	15579	5.0
4	G-4	15665	4406	-	10773	-	30844	9.9
5	G-5	1122	-	-	16083	-	17205	5.5
6	G-6	-	-	-	13106	-	13106	4.2
7	G-7	22344	-	-	1554	-	23898	7.6
8	G-8	22130	-	1602	355	-	24087	7.7
9	G-9	30100	-	24837	6157	-	61094	19.5
10	G-10	269	-	4308	20292	-	24869	8.0
11	G-11	4951	-	29279	-	7435	41665	13.3
12	G-12	-	-	5229	4881	10317	20427	6.5
	Total	**152199**	**4406**	**65255**	**73201**	**17752**	**312813**	**100.00**

Source: GWDT Award & Water balance studies of NWDA

3.1.2 Net water availability as per GWDT for Telangana/AP

The net availability of water to Telangana / Andhra Pradesh in different sub basins of Godavari and at the project sites has been assessed keeping in view GWDT allocation of water for the upstream States and is given in **Table 3.5** below.

Table 3.5 Yields of various sub-basins and entitlements of Telangana / Andhra Pradesh at 75% dependability (GWDT) with regeneration

Unit: Mcum

Sl. No	Sub basin	Virgin yield	Entitlement of other States	Entitlement of Telangana/ AP	Regeneration	Total
G-7	Penganga	3841	2740	1101	99	1200
G-8	Wardha	4800	4244	556	0	556
G-9	Pranhita	23633	15903	7730	294	8024
G-10	Lower Godavari	6548	575	5973	290	6263
G-11	Indravati	20873	12942	7931	257	8188
G-12	Sabari	11136	6941	4195	178	4373
Total		**70831**	**43345**	**27486**	**1118**	**28604**

Source: DPR of Tupakulagudem Project, Govt. of Telangana,2016

3.2 Various legal aspects on link project

The aspects of inter-State agreements on sharing of waters, submergence, PAPs, R&R, existing and sanctioned projects and other aspects of legal nature are discussed in the following paras.

3.2.1 Sharing of Godavari waters among basin states

The competitive claims of the riparian States for the utilization of the waters of Godavari river system have given rise to disputes among them in sharing of the waters. During 1951, the Planning Commission convened a conference with the representatives of the then riparian States of Bombay, Madras, Hyderabad, Madhya Pradesh and Mysore and brought about an agreement on the utilization of these waters. However, subsequently with extensive territorial changes having come into force with the formation of new

States on account of States Reorganization, the newly formed States of Maharashtra, Karnataka, Madhya Pradesh and Andhra Pradesh became the riparian States in place of the old States of Bombay, Madras, Hyderabad, Mysore etc. In view of such territorial changes in the basin area, non-participation of the State of Odisha in the 1951 agreement and the growing demands towards the utilization of basin waters by the riparian States, application for reference of the dispute to a Tribunal was made by the concerned States.

In April 1969, the Central Government constituted the Godavari Water Disputes Tribunal (GWDT) and referred the disputes for adjudication. Due to the pendency of this case before the Tribunal, it was not possible for any State to get any of its projects on Godavari and its tributaries cleared for taking up implementation, affecting the developmental activities in the basin. However, while the dispute was under adjudication before the GWDT, the party States entered into a number of individual agreements from time to time for mutual adjustment of their claims, to enable sanction of projects for the utilization of the Godavari waters. The Tribunal incorporated these agreements in their final adjudications and award. The allocation of water of Godavari as stipulated in GWDT Award among the party States is given below in **Table-3.6**.

Table 3.6 Allocation of water as per Godavari Water Disputes Tribunal Award (GWDT) NOV.1979

Sl. No	Sub basin	Operative agreement	Maharashtra	Andhra Pradesh (including Telangana)	Karnataka
1.	Upper Godavari	Clause I: Agreement between AP & MS dated 6-10-1975	All waters upto Paithan dam (Jayakwadi dam)	-	-
2.	Pravara		All waters of Pravara sub basin	-	-
3.	Purna		All waters upto Siddeswar dam	-	-
4.	Manjra	Clause II &III of Agreement between MS &	622 Mm^3 (22 TMC) above Nizamsagar dam by 6-10-1975 (Total 30	i) 1642 Mm^3 (58 TMC) for Nizamsagar	i) 370 Mm^3 (13.10

		AP dated 6-10-1975	TMC)	project ii) 113 Mm^3 (4 TMC) for Singur project for Hyderabad water supply	TMC) for Karanja project ii) 33 Mm^3 (1.17 TMC) Chulinala project iii) 28 Mm^3 (1.0 TMC) Lift irrigation iv) 70 Mm^3 (2.5 T.M.C) below Nizamsagar (Total 17.77 TMC)
	G-1,G-2, G3 and G-4		1699 Mm^3 (60 TMC) share in water below Paithan (G-1), Siddeswar (G-3) and Nizamsagar (G-4), over and above sanctioned projects by 6-10-1975 (Total 102 TMC)	All remaining waters	-
5	Middle Godavari	Clause I of Agreement between MS, MP & AP dated 19-12-1975	11.33 Mm^3 (0.4TMC) downstream of Pochampad (SRSP)	All remaining waters	-
6	Maner	Clause II of Agreement between MS,AP &MP dated 19-12-	_ .	All the waters	-

		1975			
Sl. No	**Sub basin**	**Operative agreement**	**Madhya Pradesh (including Chhattisgarh)**	**Maharashtra**	**Andhra Pradesh (including Telangana)**
7.	Penganga	Clause III of Agreement between MS, AP &MP dated 19-12-1975	- .	i) All waters upto Lower Penganga, Waghadi and Saikheda projects ii) 255 Mm^3 (9 TMC) below the above projects	i) All remaining waters
8.	Wardha	Clause IV of Agreement between MS, AP & MP dated 19-12-1975	i) 255 Mm^3 (9.0TMC) above Upper Wardha project ii) 28.3 Mm^3 (1.0 TMC) in the remaining portion	i) All waters upto Tulana, Chargaon, Nirguda and Bandara projects ii) 736.24 Mm^3 (26 TMC) downstream of the above project sites	All remaining waters
9.	Pranhita (G-9)	Clause V of Agreement between Maharashtra, AP & MP dated 19-12-1975	i)All waters upto 5 specified projects in Kanhan sub-valley. ii)396.44 Mm^3 (14TMC) downstream of the above projects iii) All waters upto Dhuti weir and 8 specified projects in Wainganga sub-valley. iv) All waters upto Pujaritola project on Bagh river.	i) All waters upto 17 specified project sites. ii) 1161 Mm^3 (41 TMC) downstream of the above projects iii) 425 Mm^3 (15 TMC) as regulated supply from MP	i) All remaining waters

			v) All waters upto Sitekasa dam on Bawanthadi river. vi) All waters upto Totaldoh on Pench river vii) 1670.70 Mm^3 (59TMC) downstream of the above projects,		

Sl. No	**Sub Basin and Operative Agreement**	**Maharashtra**	**Andhra pradesh (including Telangana)**	**Madhya Pradesh (including Chhattisgarh)**	**Orissa**
10.	Lower Godavari (G-10) Clause VI of Agreement between Mah, AP & MP Dtd 19-12-1975	28.3 Mm^3 (1TMC)	i)141.59 Mm^3 (5TMC) for Taliperu project ii)2406.95 Mm^3 (85TMC) for Inchampally project iii)All Remaining waters	i) All waters upto 5 specified project sites ii) 255 Mm^3 (9TMC) downstream of the above projects.	-
11.	Indravati (G-11) Clause VII of Agreement between Mah, AP & MP Dtd 19-12-1975 Clause G11 of Agreement between Orissa and MP Dtd11-7-1979	i)962.78 Mm^3 (34TMC) upto Bhopalapatnam Project. ii)198.22 Mm^3 (7TMC) downstream of Bhopalapatnam.	i)All remaining waters downstream of Bhopalapatnam project.	i)7730.54 Mm^3 (273TMC) upto Bhopalapatnam project. ii)All waters upto chintavagu, Jallavagu and Kothapalli. iii)538 Mm^3 (19TMC) additional	i)All waters upto Upper Indravati Project sites. ii) Balance waters upto Upper Indravati project

				water downstream of the project sites specified in (i) &(ii)	after ensuring 45 TMC at Madhya Pradesh Border.

Sl. No	Sub Basin and Operative Agreement	Andhra Pradesh	Madya Pradesh (including Chhatisgarah)	Orissa
12.	Sabari (G-12) Clause VIII of Agreement between Maharashtra, AP & MP Dtd 19-12-1975 Clause G12 of Agreement between Orissa & MP Dtd 11-7-1979 Clause II of Agreement between AP & Orissa Dtd 15-12-1978	(i)56.63 Mm^3 (2TMC) upto Machkund project and 56.63Mm^3 between Machkund and Balimela Dam (ii)All Remaining waters.	(i)All waters upto Barunadi, Mupari, Goralinadi, Saileru vagu, Ordeltong and Janavagu Integrated projects. (ii) 509.71 Mm^3 (18TMC) downstream of above projects. . (iii) 283.1 Mm^3 (10 TMC) for evaporation losses of the power projects.	(i)All waters upto common boundary with Madhya Pradesh. (ii)All waters upto Govindapalli, Satiguda, Parasanapalle and Potteru projects. .(iii) 1132-68 Mm^3 (40 TMC) downstream of above projects. (iv) 764.56 Mm^3 (27 TMC) downstream of the common boundary. (v)283.17 Mm^3 (10 TMC) for evaporation losses for joint Hydro-electric projects. .(vi) 56.63 Mm^3 (2 TMC)between Machkund and Balimela Dams.

Source: Godavari Water Disputes Tribunal (GWDT) Award

3.2.2 Submergence, PAPs and R&R

The proposed barrage at Janampet has 6327 ha of submergence at FPL of 67m and the same is totally confined to river. Thus, there will be no

submergence of any habitations and no R&R issues involving project affected persons will be involved.

3.2.3 Existing and proposed projects between Kaleswaram and Dowlaiswaram

The erstwhile State of Andhra Pradesh proposed the Inchampalli multipurpose project with a gross storage of 10374 Mm^3 (367 TMC) at full reservoir level of 112.77 m. The reservoir would submerge 92555 ha of land in Telangana, Chhattisgarh and Maharashtra States of which 21734 ha is forest land. Keeping in view the environmental concerns of the proposed project, the erstwhile Andhra Pradesh proposed a barrage at Kanthalapalli with FPL of 85m to utilize 100 TMC.

Govt of Telangana shelved the earlier proposal of Inchampalli dam with FRL of 112.77m with live storage 4285 Mcum and put forth several alternate water resources development schemes for optimum utilization of Godavari waters between SRSP and Dummugudem. The Kanthalapally project site is also changed to Tupakulagudem by Govt. of Telangana which is being constructed about 25km u/s of the earlier location of Kanthalapalli. The status of these schemes along with quantity of water is furnished in **Table 3.7 below.**

Table 3.7: Existing, ongoing and proposed projects between Kaleswaram and Dowlaiswaram

Sl. No.	Name of the scheme	Quantity (Mcum) / TMC	Status
	Telangana		
1	**Kaleswaram**	5100 / 180	Ongoing
	Medigadda barrage		
	Annaram barrage		
	Sundila barrage		
2	**Tupakulagudem**		Ongoing
	Devadula LIS	2832/ 100	
	Tupakulagudem barrage		
	PVNR Kanthalapally		
3	**Sitarama LIS *(Dummugudem)***	1499/ 53	Ongoing
	Total	**9431**	

	Andhra Pradesh		
4	Polavaram	9203	Ongoing
5	Dowlaiswaram	7510	Existing
6	Torrigedda	68	Existing
7	Vegeswarapuram	28	Existing
8	Polavaram LIS	133	Ongoing
9	Chagalnadu LIS	81	Existing
	Total	**17023**	

Source: Irrigation &CAD department, Govt. of Telangana

Kaleswaram project is planned to utilize about 180 TMC of water from Pranhita river out of the 282 TMC of estimated availability at Medigadda barrage under Kaleswaram project by CWC. The Tupakulagudem barrage being constructed at about 24 km downstream of the earlier proposed Inchampalli dam, acts as headworks for the Devadula LIS and the PVNR Kanthalapally Sujala Sravanthi, to tap and utilize about 100 TMC (as per DPR of Tupakulagudem) of waters from the remaining waters of Pranhita. Thus, the Pranhita waters are completely exhausted by the Kaleswaram and Tupakulagudem projects.

The Indravati waters are added to the tune of 8193 Mcum at Tupakulagudem and the same are available for downstream requirements in the rest of Lower Godavari sub basin. The contribution from the intermediate catchment between the Inchampalli low dam site (More or less the location is same as that of Tupakulagudem) and Dowlaiswaram barrage estimated at 75% dependability is 5864 Mcum (pro-rata basis). In addition to this, 8933 Mcum of surplus flows from Sabari sub basin at 75 % dependability are also available. Thus, the water availability downstream of Tupakulagudem is about **22990** Mcum.

The total downstream requirements at the proposed Janampet barrage are 18522 Mcum (1499 + 17023). Thus, the water balance available for further planning downstream of Tupakulagudem is about 4468 Mcum at 75 % dependability. However, about 7000 Mcum of water is proposed from Janampet barrage including the unused waters of Chhattisgarh in Indravati sub-basin.

The line diagram showing projects on Godavari between SRSP and Dowlaiswaram is shown in **Plate 3.1.**

3.3 Net yield at Janampet

The hydrological studies are carried out for the Godavari basin between Kaleswaram project site (Medigadda barrage) and Janampet barrage site. The study carried in two alternatives viz:

1. Considering only Indravathi flows
2. Considering flows from Indravathi and Lower Godavari upto Janampet

The net availability of water at 75% dependability at the proposed Janampet barrage site has accordingly been assessed considering the observed data for the period 1966 - 67 to 2010-11 of the CWC G&D sites at pathagudem on Indravathi and Perur on river Godavari, strictly sticking to Godavari Water Dispute Tribunal Award (GWDT). The net availability at the proposed barrage site has been assessed and appended in **Chapter 5: Hydrology and Water Resources.**

3.4 Impact of link project on Tribunal awards

The Godavari (Janampet) - Cauvery (Grand Anicut) link project traverses through Godavari, Krishna, Pennar, Palar and Cauvery basins. There are Tribunal Awards and Inter-State agreements regarding sharing of waters for these basins. The link project proposes to utilise existing major reservoirs in these basins and take over the existing commands for stabilisation. All these aspects need due attention keeping in view the Awards and Agreements as described in the following paras.

3.4.1 Godavari Water Disputes Tribunal (GWDT) Award

The GWDT was constituted in the year 1969 but commenced the hearings from the riparian States in January 1974 after completion of the proceedings in Krishna Water Disputes Tribunal (KWDT). GWDT gave its final Award in November 1979. Meanwhile, all the riparian States continued negotiations among themselves and ultimately reached Agreements outside the Tribunal on the allocation of waters as well as scope of various projects proposed by them. Clause IX of the final Award provides for modification of all or any clauses by agreement between the parties or by Legislation by Parliament. Hence, concurrence of all co basin states of Godavari basin will be required to transfer water to Krishna, Pennar and Cauvery basins.

Relevant excerpts from GWDT Award

Andhra Pradesh and Telangana

The Agreement entered into between the States of Maharashtra, Madhya Pradesh and Andhra Pradesh as incorporated at Annexure B of GWDT Award, presents the following excerpts which are relevant to the link project.

1. The State of Andhra Pradesh cannot divert more than 85 TMC, directly from Inchampalli reservoir. No part of reservoir losses at Inchampalli shall be debitable to the shares of water agreed to for the States of Maharashtra and Madhya Pradesh (Hereafter Chhattisgarh)

Maharashtra in Lower Godavari

(VI) (1) The State of Maharashtra can use upto 1 TMC for its existing, under construction and proposed schemes/ projects in Lower Godavari sub basin.

(VI) (D) (d) State of Maharashtra 4 TMC by lifting water from Inchampalli reservoir in their own territory without bearing any cost of the storage.

Maharashtra in Indravati

(VII) (D) The State of **Maharashtra** can use only **7 TMC** below Bhopalapatnam I HEP for its existing, ongoing and proposed projects each using not more than 1.5 TMC annually.

Chhattisgarh in Indravati

(VII) (A) (i) The State of Madhya Pradesh (Chhattisgarh) can use 273 TMC for its use upto Bhopalapatnam Hydroelectric Project for its various existing, under construction and proposed projects. This includes share of evaporation losses of the State at Bhopalapatnam.

(VII) (B) The State of Madhya Pradesh (Chhattisgarh) can use all waters upto Chintavagu project, Jallavagu project, Kothapalli integrated project across Chintavagu (Kothapalli project plus Minur project).

(VII) (C) The State of Madhya Pradesh (Chhattisgarh) can use an additional quantity of 19 TMC downstream of the projects as specified in clauses (VII) (A) (i) and (VII) (B) for its existing, under construction and proposed projects / schemes using not more than 1.5 TMC annually

Chhattisgarh in Lower Godavari

(VI) (D) (d) The State of Madhya Pradesh (Presently Chhattisgarh) is free to use 3 TMC by lifting water from Inchampalli reservoir in their own territory without bearing any cost of the storage. The quantum of this use will be accounted for against the provision under the clause (VII) (C) above.

Requirements of Telangana

Telangana, The 29th State of India, is newly formed on 2nd June 2014 and is the youngest among Indian States and union Territories. The State has initiated several projects all along the river Godavari. These projects irrespective of their status and stage of development are considered while assessing the transferable quantity. As stated by Govt of Telangana, the continuous development of water resources in Telangana till its allocated share is exhausted is duly recognised while preparing this DPR.

3.4.2 Krishna Water Disputes Tribunal-II (KWDT-II) Award

Krishna Water Disputes Tribunal-II freshly assessed the yearly yields in the Krishna and determined the award on the basis of the yearly yield at 65% dependability which was assessed at a total of 2,293 TMC. The average yield of the basin is estimated to be 2578 TMC. The Tribunal allocated this quantity among the riparian states as indicated in **Table 3.8.**

Table 3.8: State-wise allocation of water as per KWDT II Award

Sl.No.	State	KWDT Allocation	KWDT II	KWDT II 2010
		75% dependability	65% dependability	Average Yield
1	Maharashtra	560+25		666
2	Karnataka	700+34		911
3	Andhra Pradesh	800+11		1001
	Total	**2060+ 70**	**2293**	**2578**

The 65% dependability flows which is over and above 2130 TMC that was distributed in KWDT works out to (2293-2130=**163 TMC**) and the surplus flows of (2578-2293 = **285 TMC**) are further distributed among the basin states as furnished in **Table 3.8 (a)** below.

Sl.No.	State	65% flow over and above 2130 TMC	Surplus flow (2578-2293= 285 TMC)	Minimum flow made available in stream out of 65%	Total Allocation of KWDT at 75% +Col (3 + 4+ 5)
1	**2**	**3**	**4**	**5**	**6**
1	Maharashtra	43	35	3	666
2	Karnataka	65	105	7	911
3	Andhra Pradesh	39	145	6	1001
	Total	**147**	**285**	**16**	**2578**

As per the GWDT Award, the State of Andhra Pradesh can divert a quantity of 80TMC (2265 Mm^3) of Godavari water at 75% dependability from Polavaram project into Krishna river above Prakasam barrage to substitute the releases from Nagarjunasagar project for Krishna delta, thus enabling the use of

the said 80TMC for projects upstream of Nagarjunasagar. The States of Andhra Pradesh , Karnataka and Maharashtra agreed to share this quantity of 80TMC in the proportion of 45 TMC (1274 Mm^3), 21 TMC (595 Mm^3) and 14TMC (396 Mm^3) respectively, for use in the projects upstream of Nagarjunasagar.

3.4.3 Pennar river

Inter-State agreements between the erstwhile Govts. of Madras and Mysore were made on 18.02.1892 for "Irrigation works Mysore State-restoration and construction of certain rules and schedules" and later on for "Sharing of waters of inter-State rivers – Pennar waters" on 5.09.1933. The agreements are mainly for certain streams and are project specific. No new inter-State agreements exist between Karnataka and Andhra Pradesh States on sharing of Pennar river waters.

3.4.4 Palar river

Inter-State agreements between the erstwhile Govts. of Madras and Mysore were made on 18.02.1892 for "Irrigation works Mysore State-restoration and construction of certain rules and schedules" followed by for "Sharing of waters of Palar" on 5.09.1933. Further, an inter-State meeting between the Govts. of Mysore (now Karnataka), Govt. of Madras (now Tamil Nadu) and Govt. of India was held on 29.06.1956 and a decision was arrived at on Palar water disputes. The agreements and water disputes involved are for certain streams and specific projects only.

3.4.6 Cauvery Water Disputes Tribunal (CWDT) Award

An agreement between the then Mysore Government (now Karnataka) and the then Madras Government (now Tamil Nadu) was made in 1892 regarding sharing of Cauvery water. This agreement was reviewed in 1924 and was in force upto 1974. In 1991, the Cauvery Water Dispute Tribunal (CWDT) was formed and an interim award was given. Later on, the final award was delivered during February 2013 by CWDT. As per the final award, 205 TMC of water is to be ensured at Mettur reservoir in Tamil Nadu by the Government of Karnataka by releasing water from its reservoirs as per the monthly schedule given below in **Table 3.9.**

Table 3.9 Monthly flows to be ensured at Mettur reservoir as per Final Award of CWDT

Sl.No.	Month	Allocation in	
		Mm^3	TMC
1.	June	287.70	10.16
2.	July	1210.83	42.76
3.	August	1549.50	54.72
4.	September	831.38	29.36
5.	October	854.32	30.17
6.	November	454.48	16.05
7.	December	293.64	10.37
8.	January	71.07	2.51
9.	February	61.45	2.17
10.	March	67.96	2.40
11.	April	65.70	2.32
12.	May	56.92	2.01
	Total	**5804.95**	**205.00**

Source: Final Award of Cauvery Water Disputes Tribunal

Out of 5804.95 Mm^3 (205 TMC), Government of Tamil Nadu will deliver 170 Mm^3 (6 TMC) of water to Karaikal region of Pondicherry (UT).

3.4.7 Supreme court verdict

The Supreme Court on 16 February 2018 delivered its verdict in the decades-old Cauvery water dispute, allocating more water to the state of Karnataka. The top court ordered the Karnataka government to release 177.25 TMC of Cauvery water to Tamil Nadu from its inter-state Biligundlu dam. The judgment clarified that Karnataka will now have an enhanced share of 14.75 TMC water per year while Tamil Nadu will get 404.25 TMC, which will be 14.75 tmcft less than what was allotted by the tribunal in 2007. Earlier, in accordance with the 2007 award of the Cauvery Water Dispute Tribunal (CWDT), Karnataka had a share of 270 tmcft of Cauvery water. This will now increase to 284.75 tmcft. Final allocation of 740 TMC of Cauvery waters is as under:

(i) Karnataka : 284.75 (270 + 14.75) TMC

(ii) Tamil Nadu : 404.25 (419 – 14.75) TMC

(iii) Kerala : 30 TMC

(iv) UT of Pondicherry : 7 TMC

(v) Environmental Protection : 10 TMC

(vi) Inevitable escapagaes into sea : 4 TMC

3.5 Provision of water through link project

Keeping in view the deficit of water in Krishna, Pennar and Cauvery basins and the consistent thrust being given by Govt. of Tamil Nadu, the Govt. of India, as a first step towards speedy implementation of the peninsular component of interbasin water transfer, negotiated about the link proposal with various States at appropriate level. Based on the feedback from various States and duly taking care of their apprehensions, the detailed project report of the Godavari (Janampet) - Cauvery (Grand Anicut) link project is taken up for transfer of 7000Mcum of water from Godavari river. The State wise water utilisation under the link project is furnished in the **Table 3.10.**

Table 3.10: State wise water utilisation under the link project

Unit: Mcum

Sl. No.	Name of State	Irrigation		Domestic supply	Industrial supply	Tran loss	Total
		New area	Stabilisation				
1	Telangana	204	795	45	62		1106
2	Andhra Pradesh	1159	1552	144	195		3050
3	Tamil Nadu	873	1025	195	264		2357
	Total	**2237**	**3371**	**384**	521	487	7000

3.6 Impact of Godavari (Janampet)-Cauvery (Grand Anicut) link project on Peninsular component

1. Since, the water balance of Godavari basin at Janampet has been assessed duly taking into account requirement of all the existing, ongoing and future projects in the catchment, the proposed water

transfer through the Godavari (Janampet) - Cauvery (Grand Anicut) link project will not affect planning process of any State.

2. The link project stabilizes vast areas of command under Nagarjunasagar, Somasila and Grand Anicut projects which are suffering from low inflows due to rigorous development in the upstream and the change in rainfall patterns.

3. Besides, 4.31 lakh ha of new command enroute the 1251.59 km long link canal will be served. Many of these areas are taken as envisaged in various links of the Peninsular component.

4. No major reservoirs are proposed as the existing reservoirs at Nagarjunasagar, Somasila and Grand Anicut are optimally utilized.

5. The link canal serves the upper reaches of Cauvery basin on the left flank of Coleroon river, thus meeting the demands of one of the most chronic drought areas in the country..

6. Balanced development of all the regions is an essential feature of Indian planning process. The link canal is supporting this idea and is envisaging to serve the areas lying in upper reaches, This project an essential start up link of Peninsular component of National Perspective Plan (NPP) is thus supporting the necessity of inter-basin water transfer in the interest of the Nation.