Chapter–3
Inter-State Aspects

3.0 General

The Wainganga (Gosikhurd) - Nalganga (Purna Tapi) intra-state link project is proposed to divert surplus waters available in Wainganga river to the water short western Vidarbha for augmentation of irrigation, domestic and industrial needs in Nagpur, Wardha, Yeotmal, Amravati, Akola and Buldhana districts. The proposed diversion is planned from the existing Gosikhurd reservoir across river Wainganga located on the upstream of Pauni G&D site of CWC in Maharashtra. Wainganga, which is called Pranhita after the confluence of river Wardha, is a major tributary of river Godavari. Wainganga / Pranhita is an inter-state river with Chhattisgarh, Madhya Pradesh, Maharashtra and Telangana being the riparian States. Hence, it is necessary to look into the inter-state aspects of the link project in detail from the perspective of Godavari Water Disputes Tribunal Award and concerned inter-state Agreements.

3.1 States Traversed by the Rivers

The Godavari river

The Godavari is the largest river in Peninsular India and the second largest in India. It originates in Sahyadris, at an altitude of 1067 m above MSL near Triambakeshwar in Nasik district of Maharashtra and flows across Deccan plateau from Western ghats to Eastern ghats. It flows for about 1465 km in south-eastern direction through the states of Maharashtra, Telangana and Andhra Pradesh before it joins Bay of Bengal at about 96 km to the south of Rajahmundry.

The Godavari basin lies between latitudes $16^\circ - 16' \ N$ and $22^\circ - 43' \ N$ and longitudes $73^\circ - 26' \ E$ and $83^\circ - 07' \ E$. 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 percentages of the catchment area of the basin in the States of Maharashtra, Madhya Pradesh, Chhattisgarh, Karnataka, Telangana, Andhra Pradesh and Orissa are 48.6, 10.0, 10.9, 1.4, 18.8, 4.6 and 5.7 respectively. The principal tributaries of the river are Pravara, Purna, Manjra, Maner, Pranhita, Indravati and Sabari.
The Godavari basin has been divided into 12 sub-basins by Godavari Water Disputes Tribunal 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 its 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 administrative map of the Godavari basin is given at Fig. 3.1.
Chapter - 3 Inter-State Aspects
The Purna Tapi river

The river Purna is one of the major tributaries of river Tapi that joins Tapi from the left. It is the principal affluent of the river Tapi. It rises in Betul district of Madhya Pradesh in Gawaligarh hills of eastern Satpura range at an elevation of 900 m at North latitude 21° 38' and East longitude 77° 36'. The river Purna flows first in a South westerly direction for about 60 km through hills and forests before it enters the Purna plains. Flowing in a generally westerly direction for a length of 274 km in Madhya Pradesh and Vidarbha region of Maharashtra, the river Purna joins the Tapi river north west of Edalabad in Maharashtra. The Mun, Murna and Nalganga are the main left bank tributaries of river Purna while Chandrabhaga and Wan are the principal right bank tributaries. Purna drains a total area of 18,929 km² in the states of Madhya Pradesh and Maharashtra. The administrative map of the Purna Tapi basin is given at Fig. 3.2.
Chapter -3 Inter-State Aspects

Fig.3.2 ADMINISTRATIVE MAP OF PURNIA SUB BASIN OF TAPI BASIN
3.1.1 Wainganga/Pranhita river

The river Wainganga/Pranhita is one of the northern tributaries (left bank) of the river Godavari in its middle reaches. The Pranhita sub-basin lies between latitudes 18° - 48' N and 22° - 43' N and longitudes 78° - 03' E and 80° - 53' E.

The river Wainganga after its confluence with river Wardha is called Pranhita. The river Pranhita with its three principal branches viz. the Penganga, the Wardha and the Wainganga, is the largest tributary of the river Godavari. The Pranhita catchment comprises the catchments of the rivers Wainganga, Penganga and Wardha and of the river Pranhita upto the Godavari. However, as the Wardha and Penganga catchments have been considered as separate sub-basins, the truncated Pranhita sub-basin comprises only catchment of the river Wainganga and that of the river Pranhita.

The river Wainganga rises at an altitude of about 640 m in Seoni district of Madhya Pradesh, flows east for a short distance and then south for a length of about 274 km in the Seoni and Balaghat districts of Madhya Pradesh and for a further distance of about 334 km in Maharashtra before the tributary Wardha joins it to form what is known as the Pranhita river. In Madhya Pradesh, the Wainganga river receives from its right the waters of the Sagar, the Hirri and the Chandan rivers. At the boundary of Madhya Pradesh and Maharashtra, it receives the water of the Bagh from its left bank and the waters of the Bawanthari from its right bank. After entering Maharashtra, the Wainganga receives on the right bank the waters of the Kanhan at about 378 km from its source. Further south, the Wainganga receives the waters of the Garhvi on its left and the Andhari on its right at about 483 km and 587 km respectively from its source. The combined waters of the Wainganga and the Wardha i.e., Pranhita, flow for a further distance of 113 km along the boundary of Maharashtra and Telangana before joining river Godavari. The major tributaries of the Pranhita are Dina on the left bank in Maharashtra and Peddavagu on the right in Telangana joining at 632 km and 644 km respectively. The catchment area of the full Pranhita (including that of Penganga and Wardha) is 109079 km² while that of the truncated Pranhita sub-basin (excluding that of Penganga and Wardha) is 61094 km², which is 19.53% of the Godavari basin. The catchment area lies in Madhya Pradesh, Chattisgarh, Maharashtra, and Telangana states.
3.2 State-wise / District-wise distribution of Catchment of Pranhita sub-basin

The state-wise and district-wise break-up of the catchment area of Wainganga/Pranhita sub-basin of Wainganga (Gosikhurd)-Nalganga (Purna Tapi) link project is given in Table 3.1. The administrative map of the sub-basin is given at Fig. 3.3.

Table 3.1
State/district-wise break-up of the catchment area of the Pranhita sub-basin

<table>
<thead>
<tr>
<th>State / District</th>
<th>Total District area in km²</th>
<th>Area within the sub-basin in km²</th>
<th>Percentage of district area in the sub-basin</th>
<th>Percentage to the total area of the sub-basin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madhya Pradesh</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balaghat</td>
<td>9229</td>
<td>7252</td>
<td>78.58</td>
<td>11.87</td>
</tr>
<tr>
<td>Chhindwara</td>
<td>11815</td>
<td>7992</td>
<td>67.64</td>
<td>13.08</td>
</tr>
<tr>
<td>Seoni</td>
<td>8758</td>
<td>6760</td>
<td>77.19</td>
<td>11.06</td>
</tr>
<tr>
<td>Betul</td>
<td>10043</td>
<td>1709</td>
<td>17.09</td>
<td>2.80</td>
</tr>
<tr>
<td>Mandla</td>
<td>5800</td>
<td>853</td>
<td>14.71</td>
<td>1.40</td>
</tr>
<tr>
<td><strong>Sub total</strong></td>
<td><strong>24566</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chhattisgarh</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rajnandgaon</td>
<td>8070</td>
<td>236</td>
<td>2.92</td>
<td>0.38</td>
</tr>
<tr>
<td>Kowardha</td>
<td>4235</td>
<td>35</td>
<td>0.83</td>
<td>0.06</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>271</strong></td>
<td></td>
<td></td>
<td><strong>0.44</strong></td>
</tr>
<tr>
<td>Maharashtra</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nagpur</td>
<td>9892</td>
<td>6564</td>
<td>66.36</td>
<td>10.75</td>
</tr>
<tr>
<td>Bhandara</td>
<td>4087</td>
<td>4087</td>
<td>100.00</td>
<td>6.69</td>
</tr>
<tr>
<td>Gondia</td>
<td>5234</td>
<td>4923</td>
<td>94.06</td>
<td>8.06</td>
</tr>
<tr>
<td>Chandrapur</td>
<td>11443</td>
<td>5898</td>
<td>51.54</td>
<td>9.65</td>
</tr>
<tr>
<td></td>
<td>Garchiroli</td>
<td>Sub total</td>
<td>Telangana</td>
<td>Grand Total</td>
</tr>
<tr>
<td>----------------</td>
<td>------------</td>
<td>-----------</td>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td></td>
<td>14412</td>
<td>8628</td>
<td>59.87</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14.12</td>
<td></td>
</tr>
<tr>
<td><strong>Sub total</strong></td>
<td></td>
<td><strong>30100</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Telangana</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adilabad</td>
<td>16105</td>
<td>6157</td>
<td>38.23</td>
<td>10.08</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td><strong>61094</strong></td>
<td></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
Chapter -3 Inter-State Aspects

Fig. 3.1 ADMINISTRATIVE MAP OF PRANHITA SUB-BASIN OF GODAVARI BASIN

Chhattisgarh  Maharastra  Andhra Pradesh  Telangana
3.3  Godavari Water Disputes Tribunal (GWDT) Award

The Godavari Water Disputes Tribunal (GWDT) was constituted in the year 1969 which gave its final Award in November 1979 and further report in July, 1980. During this period, all the riparian states continued negotiations among themselves and ultimately reached Agreements on the allocation of waters as well as scope of various projects proposed by various States. Ultimately, the Tribunal absorbed these Agreements reached among the riparian States in its final order.

3.3.1  Relevant excerpts from GWDT Award

**FINAL ORDER OF THE TRIBUNAL**

The tribunal hereby passes the following order:

......

Clause IV: Each of the states concerned will be at liberty to divert any of the share of the Godavari waters allocated to it from the Godavari basin to any other basin.

Clause V: The following agreements so far as they relate to the Godavari river and Godavari basin be observed and carried out: -

.....

The extract of the Agreement (concerning Pranhita sub-basin) entered into between the States of Maharashtra, Madhya Pradesh and erstwhile combined Andhra Pradesh on 7-8-1978, which has been incorporated at Annexure B of final order of the GWDT is given at Annexure 3.1. The gist of various provisions concerning Pranhita sub-basin are furnished below:

V.  G-9 Pranhita sub-basin:

(1) Madhya Pradesh

(A) The State of Madhya Pradesh can use all the waters for the various existing, under construction and proposed projects / schemes in the Pranhita sub-basin upto the sites indicated below:
Kanhan sub-valley:

(i) Nandna integrated project.

(a) Nanda dam site across the tributary of river Kanhan, near village Nandna.
(b) Chenkatwari dam site across the river Kanhan near village Piparia.

(ii) Amla integrated project.

(a) Amla dam site across Bel river near village Amla.
(b) Parsadi dam site across the tributary of Bel river near village Parsadi.
(c) Dhutmur dam site across the tributary of Bel river near village Dhutmur.
(d) Mohali dam site across the tributary of Bel river near village Mohali.

(iii) Dokdoh integrated project.

(a) Dokdoh dam site across the Dokdoh nala near village Dokdoh.
(b) Chirkutagondi dam site across the tributary of Jam nala near village Chirkutagondi.
(c) Khairi dam site across the tributary of the Kanhan near village Khairi.
(d) Chhindwani dam site across the tributary of Dokdoh nalla near village Chhindwani.

(iv) Mohgaon integrated project.

(a) Mohgaon dam site across the Sampna nala near village Mohgaon.
(b) Jamlapani dam site across the Satki nala near village Jamlapani.
(c) Khurpara dam site across Khurpara nala near village Ambakhapa.
(d) Jam nalla dam site across the Jam nalla near village Kondar.

(v) Sovana Nalla project.

(a) Sovana dam site across Sovana nalla near village Badosa.

(B) Downstream of the project sites as specified in clause (V)(1)(A) above, the State of Madhya Pradesh can use an additional quantity of 14 TMC for
its existing, under construction and proposed projects/ schemes each using not more than 1.5 TMC annually.

(C) (a) The State of Madhya Pradesh has agreed to construct or augment storage/storages across the Kanhan at sites within its territory, for regulation of 15 TMC of Kanhan flows at 75% dependability for use in the State of Maharashtra between 15th October to 30th June. The cost of such storage/storages shall be borne entirely by the State of Maharashtra.

(d) The State of Maharashtra for its use of 15 TMC as regulated by storage/storages as specified in clause V (1) (C) (a) above, agrees to construct pickup weir, downstream, in its territory with adequate pondage to cater for fluctuating releases in consultation with the State of Madhya Pradesh.

(E) The State of Madhya Pradesh can lift water from river Kanhan and its tributaries within its territory and downstream of storage/storages as specified in clause (V)(1)(A). The use will be within the use of 14 TMC as specified in clause (V)(1)(B) above, and without prejudice to the right of the State of Maharashtra for flow of 15 TMC of regulated water as specified in clause (V)(1)(C)(d) above.

(F) Rest of the Wainganga sub-valley:

The State of Madhya Pradesh can use all waters in the Wainganga sub-valley upto the sites mentioned below:

(a) The Dhuti weir across the river Wainganga near village Dhuti.
(b) The following project sites on the tributaries of the river Wainganga, joining downstream of Dhuti weir:
   (1) Mahakari dam site across the Mahakari river near village Lamta.
   (2) Nahara multipurpose project.
      (i) Nahara dam site across Nahara river near village Warurgota.
      (ii) Diversion site across Nahara river near village Khami.
   (3) Son multipurpose project.
      (i) Son dam site across river Son near village Baigatola.
(ii) Diversion site across Son river near village Sarra.

(4) DeoAma multipurpose project.
   (i) Deo dam site across Deo river near village Sukalpat.
   (ii) Ama dam site across Ama river near village Bithli.
   (iii) Diversion site across Deo river near village Bhagatpur.

(5) Karadi tank across Pandharipat nulla near village Karadi.
(6) Sarathi tank across Sarathi nulla near village Tikari.
(7) Nahlesara tank across Chandan river near village Nahlesara.
(8) Daidburra tank across Katanga nulla near village Daidburra.

(G) The state of Madhya Pradesh can use the waters of river Bagh up to Pujaritola pickup weir and the waters of river Bawanthadi up to Sitekasa dam site; and waters of river Pench up to Totladoh dam, in accordance with the Agreements duly entered into, or as may be agreed to in future, between the States of Madhya Pradesh and Maharashtra for use of waters up to these sites.

(H) Downstream of project sites as specified in clause (V)(1)(F) and (V)(1)(G) above, the State of Madhya Pradesh can use an additional quantity of 59 TMC for its existing, under construction and proposed projects/ schemes each using not more than 1.5 TMC annually.

(1) (i) The State of Madhya Pradesh agreed to make provision of suitable additional storage at one or more than one project/projects out of these specified in clause (V)(1)(F) above to be decided by the State of Madhya Pradesh, for the regulation of 15 TMC of water at 75% dependability for use in State of Maharashtra lower down during 15th October to 30th June. The entire cost of such additional storage/storages or augmentation for the above regulation will be borne by the State of Maharashtra. ……This quantum of 15 TMC would be made available out of the waters which the State of Madhya Pradesh can use as specified in clause (V)(1)(F) above.

(iv) The State of Maharashtra for its use of 15 TMC as specified in clause (V)(1)(F) above agrees to construct a pickup weir downstream in its territory with adequate pondage to cater for the fluctuating releases, in consultation with the State of Madhya Pradesh.
(2) **Maharashtra**

(A) Subject to what has been stated above regarding use of the Pranhita sub-basin waters by the State of Madhya Pradesh, the State of Maharashtra can use all waters of river Wainganga and/or its tributaries upto the following points.

(i) Gosikhurd project site on the Wainganga river near village Gosikhurd.
(ii) Lower Chulbund dam site on the Chulbund river near village Bonde.
(iii) Itiadoh dam on the Garvi river near village Gothangaon.
(iv) Satti project site on the Satti river near village Palasgad.
(v) Lower Tultuli dam site on Khobragadi river near village Tultuli.
(vi) Lower Kathani dam site on Kathani river near village Rajoli.
(vii) Karwappa project dam site on Karwappa nulla near village Nakkaponli.
(viii) Bhimkund dam site on Pohar river near village Kakri.
(ix) Dina dam on Dina river near village Regree.
(x) Butinala dam site on Butinalla near village Panoti.
(xi) Gardi project dam site on Gardi nulla near village Chandgaon Khurd.
(xii) Nimghat dam site on Nimghat Dhoda nulla near village Mendki.
(xiii) Asolamendha dam on Pathri river near village Asolamendha.
(xiv) Ghorajhari dam on Bokardho nulla near village Gorajhari.
(xv) Human nulla dam site on Human nulla near village Chirkhada.
(xvi) Naleshwar dam on Uspa nulla near village Naleshwar.
(xvii) Andhari dam site on Andhari river near village Pahami.

(B) In addition to the use of all waters of river Wainganga and/or its tributaries upto the points as specified in clauses (V)(2)(A)(i) to (V)(2)(A)(xvii) above, the State of Maharashtra can use, from the waters of rest of Pranhita sub-basin 41 TMC for its existing, under construction and proposed schemes/projects using annually not more than 1.50 TMC individually.
(3) **Andhra Pradesh**

(A) The State of Andhra Pradesh can use the remaining waters of the Pranhitab sub-basin.

(B) The States of Andhra Pradesh and Maharashtra agree to have barrage(s) across the Pranhitab river at suitable sites so that they may provide irrigation facilities in their areas. The quantum of water that will be used by Maharashtra from these barrages will be reckoned against 41 TMC as specified in clause (V)(2)(B) above. The joint project(s) for such barrages are to be taken up after reaching separate Agreement(s) for them, between the States of Maharashtra and Andhra Pradesh, either for the benefit of both the States or one State.

3.4 (a) **Effect on Project and of the Project on the Interstate Agreement on sharing of Waters, sharing the Benefits and Costs, Acceptance of submergence in the Upstream State etc., if any**

The Wainganga–Nalganga link project is basically an intra-state link project of Maharashtra. Though the river Wainganga/Pranhita is an inter-state river by nature, the present intra state link project envisages diversion of waters available at existing Gosikhurd dam across Wainganga river, which has been allocated by GWDT to the State of Maharashtra vide clause (V)(2)(A)(i) of Annexure B of Volume – I of the Award. Also, as per GWDT, each of the States concerned will be at liberty to divert any part of the share of the Godavari waters allocated to it from the Godavari basin to any other basin. Therefore, the proposal will not have any impact on the water use of any of the riparian state downstream. There is also no effect on any prevailing Interstate Agreement on sharing of Waters, sharing the Benefits and Costs etc. No new head works/ storage structures or balancing reservoirs are contemplated at off take point as part of the link project. The link off-takes from the Gosikhurd reservoir, utilises Lower Wardha reservoir on Wardha river and Katepurna reservoir on Katepurna river as balancing reservoirs and finally outfalls into Nalganga reservoir on Nalganga river. These three projects viz., Lower Wardha, Katepurna and Nalganga are existing projects. There are, however, about 40 enroute storages/tanks proposed for utilisation of link waters supplied in monsoon period during post-monsoon.
The submergence area under the storages/tanks is in the State of Maharashtra only. Thus, no submergence aspects in any upstream states arise on account of this link project. The entire cost of the project will be borne by the Govt. of Maharashtra, so also the benefits.

The Preliminary Feasibility Report (PFR) of the link project (2009) prepared by NWDA was sent to Govt. of Maharashtra as well as Govt. of erstwhile combined Andhra Pradesh. The comments of erstwhile combined Andhra Pradesh state on PFR of Wainganga-Nalganga link project along with the clarifications of NWDA there on are furnished at Annexure 3.2.

3.4 (b) Effect on Project and of the Project on the Interstate Adjudication, if Any

There is no effect on project and of the project on the Inter-state adjudication that exists on sharing the waters of Pranhita sub-basin, which is a part of GWDT Award.

3.4 (c) Effect on Project and of the Project on the Interstate Aspect of territory, property, etc., coming under submergence, project affected people, rehabilitation, compensation, etc.,

The new area coming under the submergence due to proposed (40 Nos.) enroute storages/tanks in this project, lies entirely in the state of Maharashtra. Due provision towards the rehabilitation and resettlement of project affected people on account of creation of these storages as well as canal alignment is proposed to be provided in accordance with the latest R&R policy of the Centre/State. The details are furnished under Chapter “Environmental Aspects and EMP”.

3.4 (d) Effect on Project and of the Project on the Existing and Sanctioned Projects

The water needs of all existing, under construction and contemplated projects in the catchment of Wainganga upto Gosikhurd have been duly considered for arriving at the water availability for the link project. The waters of Wainganga upto Gosikhurd are allocated to the State of Maharashtra by GWDT.
Moreover, the link project envisages diversion during monsoon months from July to October. As such, the link project may not be affected by any of the existing/sanctioned projects upstream and the link project may not affect any existing/sanctioned projects downstream.

3.5 Summary of Inter-state Aspects of the Link Project

The Wainganga–Nalganga link project envisages diversion of waters available at existing Gosikhurd dam across Wainganga river, which has been allocated by GWDT to the State of Maharashtra. As per GWDT, each of the States concerned will be at liberty to divert any part of the share of the Godavari waters allocated to it from the Godavari basin to any other basin. Therefore, the proposal will not have any impact on the water use of any riparian state downstream. There is also no effect on any prevailing Interstate Agreement on sharing of Godavari Waters, sharing the Benefits and Costs etc.

Further, no new head works/storage structures or balancing reservoirs are contemplated as part of the link project. The submergence area under the 38 storages/tanks proposed for utilisation of link waters during post-monsoon is within the State of Maharashtra only. Thus, no submergence aspects in any upstream states arise on account of this link project. The water needs of all existing, under construction and contemplated projects in the catchment of Wainganga upto Gosikhurd have been duly considered for arriving at the water availability for the link project. As such, the link project may not be affected by any of the existing/sanctioned projects upstream and the link project may not affect any existing/sanctioned projects downstream.

Thus, the link project is duly planned in accordance with the provisions of the GWDT Award and there are no inter-state aspects involved in this link proposal.