India, the land of enviable perennial rivers, is feeling severe crunch of water resources. Numerous inter-state water disputes are an indication to this fact. Some of such important disputes have been described here.

3.1. THE KRISHNA WATERS DISPUTES:

River Krishna and its tributaries flow through Maharashtra, Karnataka and Andhra Pradesh, having drainage area about 2,59,067 sq.kms distributed as follows:

- Maharashtra 69,948 sq.km
- Karnataka 1,13,990 sq. km
- Andhra Pradesh 75,129 sq. km

Until the middle of nineteenth century, there were numerous tanks and small diversion works in operation for irrigation in Krishna basin (Figure 3.1), but no major work had been constructed. The plentiful flow of the rivers during the months of monsoon was wasted to the sea. In 1855 the major irrigation development works were started and upto 1928, the Krishna Delta Canal System, the Kurnool Cuddapah Canal, the Mutha Canals, the Nira Left Canal, the Vanivilas Sagar and Nira Right Canal were constructed. The Tatas also constructed Tata Hydel Works from 1918 to 1930, for generating hydro-power. The supply of water was ample in relation to the demands, therefore,
FIGURE 3.1 - BASIN PLAN OF RIVER KRISHNA
there was no scope for the disputes between the basin states. There were minor disputes relating to Tungabhadra waters, but these were amicably settled in 1892 and 1933. Under the Government of India Act, 1935 specific provision was made for settlement of water disputes. The agreements of June and July, 1944 provisionally settled disputes concerning the sharing of the Tungabhadra waters and enabled the party states to undertake the construction of the Tungabhadra Project, the Rajolibunda Diversion Scheme, the Bhadra Reservoir Project and Tunga Anicut. The Radhanagari Project and Ghataprabha Left Bank Canal were also undertaken before 1950.

Except for the agreement for the Tungabhadra tributary of the Krishna, until 1951, there was no other inter-state agreement relating to the waters of this river system. Whatever developments had been undertaken until then were in the nature of isolated works undertaken by the riparian states without any regard for the effect of one work on another lower down.

After independence, several partner states of the basin sent proposals of the projects to the Government of India for inclusion in the second part of the First Five-Year plan. On 27th and 28th July, 1951, a conference was held in the Planning Commission to make an assessment of the relative merits of these projects. A note prepared by Central Water and Power Commission was the basis for the
discussion. The representatives of the then states of Bombay, Madras, Hyderabad, Madhya Pradesh and Mysore participated in this conference. Several projects of the riparian states were under consideration. Some of these were Krishna Pennar, 825 TMC in Madras; Upper and Lower Krishna, 405 TMC in Hyderabad; Koyna Hydel (with diversion of supplies across the Western Ghats), 173 TMC in Bombay. According to above referred note of Central Water and Power Commission, the total utilisation by these projects was 2670 TMC and the total availability of water was 1700 TMC. This availability was considered at Vijaywada as the "total dependable supply in the river basin."

In the conference this availability was amended to 1715 TMC and was allocated to the States as under:

<table>
<thead>
<tr>
<th>Name of the states</th>
<th>Existing utilisation plus Allocation of supplies required for surplus waters, projects under consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Madras</td>
<td>290 TMC</td>
</tr>
<tr>
<td></td>
<td>470 TMC</td>
</tr>
<tr>
<td>2. Hyderabad</td>
<td>180 &quot;</td>
</tr>
<tr>
<td></td>
<td>280 &quot;</td>
</tr>
<tr>
<td>3. Bombay</td>
<td>176 &quot;</td>
</tr>
<tr>
<td></td>
<td>240 &quot;</td>
</tr>
<tr>
<td>4. Mysore</td>
<td>98.5 &quot;</td>
</tr>
<tr>
<td></td>
<td>10 &quot;</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>744.5 TMC</strong></td>
</tr>
</tbody>
</table>

The balance water available after taking into consideration existing utilisation plus supplies required for projects under consideration came out to be (1715-744.5=) 970.5
TMC and was taken as 1000 TMC. For balance flow in excess of 1000 TMC mentioned above, the allocations made were as follows:

- Madras 39 Percent
- Hyderabad 30 "
- Bombay 30 "
- Mysore 1 "

It was mentioned that, as a result of further engineering scrutiny, the allocation to Mysore might slightly be adjusted to the extent of additional 1%. This addition was to come out of the share of Madras. The above allocations were subject to the condition that the diversion of supplies across the Western Ghats for the Koyna Project would be limited to 67.5 TMC. Also, it was mentioned that "new utilisation have to be adjusted not to interfere with the existing daily utilisation for existing works and agreed utilisation for new works." The allocations made above were to be reviewed after 25 years.

Thus an agreement was drawn up among the four riparian states. The states of Madras, Bombay and Hyderabad ratified the agreement by August, 1951. Mysore did not communicate its ratification; on the contrary, it asked for re-appraisal. After the said conference it appeared that the riparian states have settled their conflicting claims. But, it was not to be so. As the state of Mysore did not ratify the agreement, it was inevitable that disputes regarding
the validity of agreement would arise sooner or later.

In December 1951, the Planning Commission appointed a technical committee to have an enquiry conducted as to the best and most economical manner of utilising the waters of the Krishna and Godavari allocated to the Madras state and to state whether the Krishna-Pennar project is technically sound and economically a better proposition than other schemes considered. This Committee submitted its report in October, 1952 in which it was mentioned that a large area, west of Krishna and Pennar delta had not been included in any project from the Krishna, which in the opinion of the Committee was unreasonable. The Committee did not recommend the Krishna-Pennar Project for execution. The Committee proposed the recasting of Lower Krishna Project of Hyderabad to cater also for areas in Madras. Accordingly, on 8th December, 1952 a meeting was held in the Planning Commission, where it was decided to take up fresh investigations keeping in view the recommendations of the Committee. As a result of these investigations, the Nagarjunasagar Project was approved and in February 1956 work started on it. This project comprised a dam on the Krishna at Nandikonda and canals for the irrigation of 2 million acres in Andhra Pradesh (formerly the Andhra region of Madras and Hyderabad). While the construction work of the project was still in progress, the scope of the project was increased. The other states objected to it.
Meanwhile, the Madras state was split into Andhra state and Madras state under the Andhra State Act, 1953. On further reorganisation of the basin states on 1st November, 1956, under State Recorganisation Act, 1956, the new states of Bombay, Mysore and Andhra Pradesh became the riparian states in place of the old states of Bombay, Hyderabad, Mysore and Madras. A few years later, the state of Bombay as constituted on 1st November, 1956, was split on 1st May, 1960 in Maharashtra and Gujarat; the part of Krishna basin in Bombay, came to lie in Maharashtra.

On the reorganisation of the states, by virtue of Andhra Act, 1953, Madras had lost all claim to the Krishna River and its waters.

3.1.1. KRISHNA-GODAVARI COMMISSION [49]:

In view of the re-organisation of the states, taking into account the political authorities which exercised control over the rivers, the need of reviewing and modifying the 1951 agreement was felt. In May, 1957, the Central Water and Power Commission requested the partner states for an early revision of this agreement, but states did little for this purpose. Seeing the inaction of the states, Central Water and Power Commission itself formulated some proposals for adjustment to the 1951 agreement and circulated these proposals to the state governments. These proposals were not accepted by any of the states some of them desired a de novo examination. Thereupon, in February, 1960, the
Central Water and Power Commission revised its proposals and circulated them afresh to the states. An inter-state conference was held for the purpose in September, 1960, but no agreement could be reached. There was a wide divergence in the position taken by different states. Whereas Andhra Pradesh held to the agreement of 1951, other states wanted a de novo consideration of the entire issue.

In order to review the position in respect of availability of supplies in Krishna and Godavari rivers with a view to determine the extent to which further demands on these waters could be met, the Government of India set up a Commission. The Commission was required to report, interalia, on the requirements of projects in operation in 1951, of those approved for execution thereafter by the Government of India, of other projects proposed by the states and of such minor schemes as had been sanctioned upto March, 1961. The Commission was also asked to examine the feasibility of diverting the surplus supplies from the Godavari to the Krishna. In August 1962, the Commission submitted their report. The Commission found that adequate and reliable flow data were not available and without further data it was not possible to determine the dependable flow accurately. They also found that the supplies available in the Krishna basin were inadequate to meet the demands of all the projects of the state governments. In view of the shortage in the river supplies they indicated the procedure that should be adopted with regard to the projects under construction.
and the new projects which the state governments were anxious to undertake immediately. They put forward proposals for diversion of the Godavari waters into the Krishna and recommended that regular gauging should be carried out at key sites on the river system. The Commission also recommended for inter-state body such as a River Board. In September, 1962, the report of the Commission was circulated to the concerned state government. On 23rd March, 1963, the Union Minister for Irrigation and Power, laid a Statement on the Table of the Loksabha, where in it was stated that, according to the advice available to the Ministry, the agreement of 9151 was legally wholly ineffective and unenforceable and that it must be treated as having become void; if it was not void at least partially ab-initio.

Accepting the recommendations of the Commission, the Union Minister came to the conclusion that this controversy should be settled in the light of the principle that comprehensive river flow data should be collected over a number of years and analysed continuously; also, investigations should be carried out to prepare a project report on the supplies that could be diverted from the Godavari into the Krishna basin. He further stated that new projects should not be held pending final allocation of the Krishna supplies and should be cleared on the ground that the withdrawals of supplies by the then states of Maharashtra, Mysore and Andhra Pradesh should not exceed 400, 600 and
800 TMC respectively, after allowing for 15 TMC for Madras Water Supply. The scheme of things, outlined by the Union Minister in this statement were not agreeable to any of the three governments concerned, each for reasons of their own. Thereafter several futile meetings were held between the Union Minister for Irrigation and power and ministers of the concerned states. Results were not forthcoming. Towards the end of 1963, the then Governments of Maharashtra and Mysore asked for the appointment of a Tribunal under the Inter-State Water Disputes Act. Still, negotiations for a mutual settlement were held, but of no avail. In 1968, the Government of Andhra Pradesh also asked for adjudication of the issues.

Ultimately, a Tribunal was set up in April, 1969, under the Inter-State Water Disputes Act.

3.1.2 TUNGABHADRA DISPUTE : [55]

Tungabhadra is a large tributary of river Krishna. In view of the reorganisation of the states and the redistribution of the Tungabhadra valley between the then states of Mysore and Andhra Pradesh, disputes arose concerning the continuing validity of the earlier Tungabhadra agreements, the use, control and distribution of the Tungabhadra waters and the management of certain existing works on the Tungabhadra. These disputes were also referred to the Krishna Water Disputes Tribunal.
3.1.3. KRISHNA WATER DISPUTES TRIBUNAL [50]

Krishna Water Disputes Tribunal was constituted by the Government of India on 10th April, 1969. The states of Maharashtra, Karnataka (earlier Mysore) and Andhra Pradesh were the parties to the dispute. The states of Madhya Pradesh and Orissa were also made parties as they were interested in the diversion of Godavari waters to the Krishna. On 19th April, 1971, all the parties jointly stated that none of the states would ask for a mandatory order for such diversion. Thereafter, Madhya Pradesh and Orissa were not interested in the Krishna case and they were discharged from the records of the case.

The Tribunal investigated the matters referred to it under Section 5 (1) of the Inter-State Water Disputes Act, 1956 and forwarded its unanimous report and decision under Section 5 (2) of the said Act to the Government of India on 24th December, 1973. Within three months of the aforesaid decision the Government of India and the states of Andhra Pradesh, Karnataka and Maharashtra filed four separate references before the Tribunal under Section 5 (3) of the said Act, to which the Tribunal prepared its further report [15] giving such explanation or guidance as it deemed fit on these matters.

3.1.4. MAIN POINTS OF DISPUTE AND DECISION BY THE TRIBUNAL [50]

(i) There was dispute among the parties on the point
whether any agreement regarding allocation of the Krishna was concluded as a result of the deliberations at the inter-state conference held in New Delhi on the 27th July, 1951 and if so whether the agreement is valid and subsisting.

The Tribunal concluded that since the then states of Bombay, Hyderabad and Madras ratified the agreement on the clear understanding that state of Mysore would also join the agreement and would ratify it, as Mysore did not ratify the agreement, there was no operative and concluded agreement and the ratification by the states were wholly ineffective.

(ii) If there is not a valid and subsisting agreement, how and on what basis the equitable apportionment should be made.

The Tribunal determined the availability of water in Krishna river at 75% dependability for 78 years' flow-series (1894-95 to 1971-72) as 2060 TMC. To this quantity the return-flows in some of the reaches of the river were also added. This water was proportioned between the states of Maharashtra, Karnataka and Andhra Pradesh equitably. Stating further, Tribunal clarified that there is no mechanical formula of equitable distribution applicable to all rivers. The Tribunal relied on the guidelines provided under the Helsinki Rules to limited extent stating that the list of relevant factors given in these Rules, on which equitable apportionment should depend, is illustrative and not exhaustive.
Accordingly, the weight to be given to a relevant factor is a matter of judgement on the pertinent facts of the particular case and no hard and fast rule can be laid down.

(iii) With regard to the Tungabhadra, a tributary of the Krishna, the main point of dispute was whether the agreements of 1892, 1933, June 1944 and July 1944 were valid or subsisting. The agreements of 1892 and 1933 between the then governments of Madras and Mysore imposed the restrictions concerning irrigation/works on the Tungabhadra, the Tunga, the Bhadra, the Vedavathi and their tributaries and several rivers outside the Krishna basin. The agreement of June 1944 was between the then governments of Madras and Hyderabad for the partial utilisation of the Tungabhadra waters. The immediate object of the agreement was to enable the two governments to start the construction of the Tungabhadra project at Mallapuram.

The issues were mutually resolved by the concerned parties by entering into fresh agreements and were not pressed before the Tribunal, hence were considered as dropped.

(iv) On the subject of diversion of Krishna waters outside the Krishna basin, the question raised was: Should diversion of the waters outside the Krishna drainage basin be protected and/or permitted? If so, to what extent and with what safeguards.

The issue was discussed by the Tribunal at length
taking in view the legality of such diversion at national as well as at international level. The Tribunal upheld the diversion of river Krishna outside the river basin. The second proposition laid down by the Tribunal in this regard was that in equitable distribution, future uses requiring diversion of water outside the basin were relevant but more weight should be given to existing uses based on diversion of water inside the basin.

(v) On the subject of the use of underground water-resources by the states, the Tribunal held that all the partner states will be free to make use of underground water within their respective state territories and that the rights, if any, under the law, of private individuals, bodies or authorities relating to the use of underground water, are not altered and that the use of underground water-resources shall not be reckoned as alternative means of satisfying the need of any state and will not be taken into account for the purpose of equitable apportionment of the waters of the river Krishna.

3.2. THE GODAVARI WATERS DISPUTE:

River Godavari and its tributaries flow through Maharashtra, Karnataka, Madhya Pradesh, Orissa and Andhra Pradesh having a drainage area, about 3,13,472 sq. km distributed as follows:
<table>
<thead>
<tr>
<th>State</th>
<th>Area</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maharashtra</td>
<td>1,52,850</td>
<td>sq. km</td>
</tr>
<tr>
<td>Karnataka</td>
<td>5,181</td>
<td>&quot;</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>64,767</td>
<td>&quot;</td>
</tr>
<tr>
<td>Orissa</td>
<td>18,135</td>
<td>&quot;</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>72,539</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

Before the middle of nineteenth century, there were numerous tanks and small diversion works in operation in the Godavari basin (Figure 3.2) but no major irrigation work had been constructed. In the year 1877, the Godavari Delta Canal System was completed in the then province of Madras. In the years 1916 and 1926 the Godavari Canals ex-Nandur-Madheswar and Pravaru canals respectively came into operation in the then province of Bombay. The Wainganga canals of the then Central Provinces and the Nazamasagar Project of the state of Hyderabad came into operation in 1923 and 1931 respectively [13]. The supply of water was ample in relation to the demands, therefore, there was no scope for the disputes between the basin state. In the year 1950, when the new constitution of India came into force, the entire Godavari river basin fell within the territories of the then states of Madras, Bombay, Madhya Pradesh, Hyderabad and Orissa. For more intensive development of water resources of the river basin, several important projects were proposed by the states of Madras, Hyderabad and Madhya Pradesh. As already stated in para 3.1 an inter-state conference was held in the Planning
Commission on 27th and 28th July, 1951, with representatives of the then states of Bombay, Madras, Hyderabad, Madhya Pradesh and Mysore governments to discuss the utilisation of supplies in the Krishna and Godavari river basins. The state of Orissa which was a co-riparian state and was interested in the sharing of the Godavari water was not invited to the conference and did not participate therein. A note prepared by the Central water and power Commission was the basis of the discussion. This note listed projects in different states—under operation, under construction and under investigation of contemplation—all of which added up to a total utilisation of about 2600 TMC against 2750 TMC which was recorded by the Central Water and Power Commission as the "total dependable supply", as at the head of the delta at Dowalaishwaran Anicut. The Planning Commission kept a summary record of the discussion at the conference and a memorandum of agreement allocating the flows of the river basin amongst the concerned states was drawn up and annexed to the summary record of the discussion [54].

The memorandum of agreement was divided into three parts. Part I related to the Krishna, part II related to the Godavari. The dependable annual flow in the Godavari basin was taken as suggested by the note of Central Water and Power Commission i.e. 2500 TMC and allocations were made to different states, on the annual basis, after meeting the requirements of existing utilisations and the requirements
of projects under consideration as follows:

<table>
<thead>
<tr>
<th>States</th>
<th>Allocation of surplus waters</th>
<th>Existing Utilisation plus supplies required for projects under consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bombay</td>
<td>57 TMC 3%</td>
<td>57 TMC</td>
</tr>
<tr>
<td>Hyderabad</td>
<td>494 &quot; 26%</td>
<td>208 &quot;</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>456 &quot; 24%</td>
<td>30 &quot;</td>
</tr>
<tr>
<td>Madras</td>
<td>893 &quot; 47%</td>
<td>300 &quot;</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1900 TMC</strong></td>
<td><strong>595 TMC</strong></td>
</tr>
</tbody>
</table>

The above shown percentages were to apply whether the supplies were in excess of or short of the dependable flow assumed above. The allocations made above were to be reviewed after 25 years. The states of Madras, Hyderabad and Madhya Pradesh ratified the agreement on its receipt from Planning Commission.

Soon after the above mentioned agreement was concluded, the states of Godavari basin were re-organised. In view of the territorial changes, the Central Water and Power Commission drew up a scheme for re-allocation of the Godavari waters in February, 1959 but the scheme was not accepted by the states, some of them desired a de novo examination. Orissa also put in its claims for a share of the Godavari waters. Thereupon, the Central Water and Power Commission revised its earlier proposals and circulated them afresh to the states, in February, 1960 as a basis of discussion and agreement. An inter-state conference was held for the
purpose in September 1960, but no agreement could be reached.

3.2.1. KRISHNA-GODAVARI COMMISSION [49]:

The Krishna-Godavari Commission was appointed by the Central Government on 1st May, 1961. The Commission was required to report, inter alia, on the requirements of projects in operation in 1951, of those approved for execution thereafter by the Government of India, of other projects proposed by the states and of such minor schemes as had been sanctioned up to March, 1961. The Commission was also asked to examine the feasibility of diverting the surplus supplies from the Godavari to Krishna. The Commission submitted its report in August, 1962 and found that without further data it was not possible to determine the dependable flow accurately. They recommended that regular discharge observations should be made at key discharge sites and that river flow data be observed for a number of years. The Commission divided the river system into 12 sub-basins and, in the context of rough estimate of supplies likely to be available in each sub-basin, examined the demands of all projects in operation and proposed. The Commission concluded that the supplies available in upper parts of the Godavari basin were inadequate to meet all the requirements put forward by the basin states, but those in the lower part of the basin were in excess of the demand. The Commission suggested that more than 10 m.a.f. of water would be surplus to the requirements of projects on the Godavari and can be diverted to the Krishna basin, to
the extent supplies can be utilised in the basin. For such diversion of supplies construction of two new canals was proposed by the Commission.

Action was initiated on the recommendations of the Krishna Godavari Commission. Investigations concerning suitable Godavari diversion links were made at the technical level but no agreed formula was arrived at. Then, governments of Maharashtra, Mysore, Orissa and Madhya Pradesh requested the Central government in 1968 to set up Tribunal under the Inter-State Water Disputes Act, 1956, for resolving the disputes.

3.2.2. GODAVARI WATER DISPUTES TRIBUNAL [46] :

Godavari Water Disputes Tribunal was constituted by the Government of India on 10th April, 1969. Disputes regarding the inter-state river Godavari and the river valley thereof were referred to this Tribunal.

3.2.3. MAIN POINTS OF DISPUTE AND DECISION BY THE TRIBUNAL [46] :

Main points of disputes in this case were as given below: -

(i) There was a dispute among the parties on the point whether the agreement of 1951 regarding allocation of the Godavari waters between the party states except Orissa was valid and enforceable.

(ii) Do the waters flowing through any state belong to
that state? If so, with what effect?

(iii) On what basis the available water should be determined?
(iv) How and on what basis should the equitable apportionment be made?

(v) Should disversion or further diversion of the waters outside the river basin be protected or permitted?

In this case, the parties adjusted their claims regarding the utilisation of the waters of the river Godavari and its tributaries through a number of solemn agreements entered into by them from time to time. These agreements were filed by the parties before the Tribunal. The Tribunal decided to enforce these agreements. Accordingly the dispute enlisted above were considered as decided on the basis of these agreements. Two other important orders given by the Tribunal are as under:

(i) All the states can make use of underground water within their respective state territories in the Godavari basin and such use shall not be reckoned as use of the water of river Godavari.

(ii) 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.

3.3 THE NARMADA WATER DISPUTE:

River Narmada and its tributaries flow through Madhya Pradesh, Maharashtra and Gujarat, having drainage area about
98,796 square km distributed between the state as:

- Madhya Pradesh: 85,859 sq. km
- Maharashtra: 1,538 sq. km
- Gujarat: 11,399 sq. km

Not much development works took place on the Narmada basin (figure 3.3) during the pre-independence period[48]. In the year 1947 the Central Waterways and Navigation Commission (CWINC) took up the study of topography and hydrology of the Narmada basin on the request of the then government of Central Provinces and Berar and the then government of Bombay. This study revealed some excellent storage sites on the main Narmada river and its tributaries. On these sites preliminary reconnaissance was held by geologists and engineers and detailed investigations for seven projects were recommended.

An ad-hoc committee was appointed by the Central Ministry of Works, Mines and Power, in the year 1948 to scrutinise the estimates prepared for investigations of the above projects and to recommend priorities. The Committee recommended as an initial step detailed investigations for four projects namely Bargi Project, Tawa Project near Hoshangabad, Punasa Project and Broach Project. These investigations (except for Bargi Project) were carried out by CWINC in the year 1949 and the project reports were prepared.

In the year 1955, the Central Waterways, Irrigation
FIGURE 3.3 BASIN PLAN OF RIVER NARMADA
and Navigation Commission was renamed as Central Water and Power Commission (CWPC). The work of investigation of Bargi project which had been suspended for want of funds was started again by CWPC in November, 1960 and the project prepared in November, 1963. The CWPC also carried out a study of hydro-electric potential of Narmada basin in the year 1955. The report of this study pointed out that, with adequate regulation, it would be possible to generate power of the order of about 1.3 million kw at some 16 sites. As a result of the discussion held on 24th September, 1957 at New Delhi, it was decided that detailed investigations should be carried out by the CWPC at three intermediate sites between Punasa and Broach, namely at Barwala, Harinphal and Keli. A site near Gora was also proposed by the CWPC for construction of a weir with pond level 160' in the first stage. However, after investigations, the Navagam site was finally decided upon for the purpose. In stage I, the FRL was restricted to 160' with provision for wider foundations to enable raising of the dam to FRL 300' in stage II.

In 1959, the then government of Bombay informed the CWC that as Navagam dam was planned to be raised in the second stage to FRL 300', there could be no occasion for the construction of the dam at Keli in between the Harinphal and Navagam. The erstwhile government of Bombay suggested some modifications in the Broach Irrigation project. The main modification suggested related to the raising
of the FRL of the dam from RL 300' to FRL 320' in stage II and provision of a power-house in the river bed and a power-house at the head of the low level canal. Then a panel of consultants was appointed by the Ministry of Irrigation and Power to review the Broach Irrigation Project. The consultants made an important suggestion that the two stages of the Navagam dam should be combined into one and dam be constructed to, its final FRL 320' in one stage only.

The erstwhile state of Bombay was bifurcated into two states, the state of Maharashtra and the state of Gujarat from 1st May, 1960. Consequent upon this reorganisation the Navagam site fell within the territories of Gujarat.

The Planning Commission accepting the Narmada Project in August, 1960 envisaged Navagam dam to be constructed in stage I to FRL 162'. However, the project estimates as well as the planning and lay-out of the FRL 162' dam included obligatory works required for raising of the dam to FRL 320' in stage II. The government of Gujarat accorded administrative approval to stage I of the Narmada Project in February, 1961. The preliminary works such as approach roads and bridges, colonies, staff buildings and remaining investigations for dam foundations were taken up soon after the inauguration of the project. Further investigations undertaken by the government of Gujarat indicated that a reservoir with FRL +460' would enable realisation
of optimum benefits by utilising the untapped flow below Punasa. Accordingly, investigations for a more suitable site for Navagam dam were undertaken and a suitable site selected.

3.3.1. BHOPAL AGREEMENT OF 1963 [9] :

A meeting of Chief Ministers of Gujarat and Madhya Pradesh was taken by the Union Minister of Irrigation and Power in November, 1963 at Bhopal. In this meeting an agreement was arrived at, which is known as Bhopal Agreement. The salient features of this agreement were:

(i) The Navagam dam should be built to FRL 425' by the government of Gujarat and its entire benefits should go to Gujarat.

(ii) The Bargi dam should be built to FRL 1365' in stage I and FRL 1390' in stage II. The Bargi Project should be implemented by the state of Madhya Pradesh.

(iii) The Punasa dam in Madhya Pradesh should be built to FRL 850'.

On 14th February, 1964, the Gujarat government submitted a brief project report envisaging the Navagam dam FRL 425', to the Central Water and Power Commission. But the government of Madhya Pradesh did not ratify the Bhopal Agreement and raised strong objections contending that Navagam should not be constructed to a greater height than FRL 162' because that was the river bed level of Madhya Pradesh border.
Upon rejection of the Bhopal Agreement by Madhya Pradesh, a high level committee of eminent engineers was constituted on 5th September, 1964 by the government of India to overcome the stalemate arising out of this rejection. This committee [10] submitted its report on 1st September, 1965. This report recommended a Master Plan, envisaged 12 major projects to be taken up in Madhya Pradesh and one viz. Navagam in Gujarat with optimum FRL 500'. The 12 major projects to be taken up in Madhya Pradesh were Rosra, Basania, Burhner, Bargi, Chinki, Sitarewa, Barna Hoshangabad, Tawa, Kolar, Narmadasagar and Omkareshwar. Allocation of waters by the high level committee for consumptive use by different states was as under:

<table>
<thead>
<tr>
<th>State</th>
<th>Allocation (m.a.f.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madhya Pradesh</td>
<td>15.60</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>0.10</td>
</tr>
<tr>
<td>Gujarat</td>
<td>10.65</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>0.25</td>
</tr>
</tbody>
</table>

While the government of Gujarat broadly endorsed the recommendations of the above committee, the governments of Maharashtra and Madhya Pradesh rejected them. This disagreement was mainly due to the proposal for the development of the lower Narmada reach and the allocation of water amongst different states.

3.3.2. THE JALSINDHI AGREEMENT:

In April, 1965, while deliberations of the high level
committee were still in progress, the states of Madhya Pradesh and Maharashtra entered into an agreement, known as Jalsindhi Agreement [26]. According to this agreement, Maharashtra was to construct a dam at Jalsindhi, a site on the river where it forms the boundary between the two states. The benefits from the Jalsindhi project were to be shared between Madhya Pradesh and Maharashtra in the same proportions as the costs i.e. \( \frac{a+b}{2} : \frac{b}{2} \) where 'a' is equal to the fall in the river between Harinphal and the point where one bank of the river enters Maharashtra and 'b' is equal to the fall in the river portion where it runs along the boundary between the two states. The site of the dam was between the Harinphal and Navagam sites.

3.3.3. NARMADA WATER DISPUTES TRIBUNAL [51]:

Various round of discussions and high level meetings were held to resolve the disputes amicably, but it was not found possible to arrive at a mutually agreed settlement in regard to the distribution, control and use of the Narmada waters and the height of the Navagam dam. Ultimately, the government of Gujrat requested the Central government to set up a Tribunal under Section 4 of the Inter-State Water Disputes Act, 1956 for the adjudication of the dispute stating that a water dispute had arisedn between the states of Gujrat and the respondent states of Madhya Pradesh and Maharshtra over the use, distribution and control of
the waters of the inter-state river Narmada. The substance of the allegation was that executive action had been taken by Maharashtra and Madhya Pradesh which had prejudicially affected the state of Gujarat. These actions of respondent states related to proposed construction of Maheshwar and Harinphal dams over the river Narmada in lower reach by Madhya Pradesh and an agreement between the states of Madhya Pradesh and Maharashtra to jointly construct the Jalsindhi dam.

Government of India constituted the Narmada Water Disputes Tribunal on 6th October, 1969 and referred the dispute to this Tribunal.

Government of Rajasthan also raised certain matters connected with and relevant to the said water dispute. Central government referred these matters also to the Tribunal for adjudication. The state of Madhya Pradesh, through a Demurrer filed before the Tribunal challenged the constitution of the Tribunal stating that it was ultravires of the 1956 Act. The main contention of the Madhya Pradesh was that there was no "water dispute" within the meaning of, Section 2(c) read with Section 3 of the 1956 Act and also Government of India had no material for forming the opinion that the water dispute could not be settled by negotiation within the meaning of Section 4 of the 1956 Act. It was also contended that Rajasthan not being a basin state had no right to share the waters of river
The state of Maharashtra and Madhya Pradesh prayed before the Tribunal to try these preliminary issues. The Tribunal heard elaborate arguments on these preliminary issues and delivered its judgment on 23rd February, 1972. According to this judgment, constitution of the Tribunal by Central government and making a reference of the water dispute regarding the inter-state river Narmada and the river valley thereof emerging from the complaint of Gujarat was not ultravires of the 1956 Act, but, referring of the matters raised by Rajasthan to the Tribunal by Central government was ultravires of this Act.

Against this judgment of the Tribunal, Madhya Pradesh and Rajasthan preferred appeals to the Supreme Court by special leave and also obtained a stay of the proceedings before this Tribunal to a limited extent. The Supreme Court directed that the proceedings before the Tribunal should be stayed but discovery, inspection and other miscellaneous proceedings may go on. The Supreme Court also permitted the state of Rajasthan to participate in these interlocutory proceedings. (These stay orders were vacated by the Supreme Court on 1.8.1974).

On 22nd July, 1972 the Chief Ministers of Madhya Pradesh, Maharashtra, Gujarat and Rajasthan entered into an agreement to compromise the matters in dispute with the assistance of the Prime Minister of India. The party
states and the Union of India, therefore, prayed for adjournment of proceedings of the Tribunal on 31st July, 1972 and on further subsequent dates which was granted by the Tribunal.

3.3.4. AGREEMENT OF 12TH JULY, 1974 [5]

The partner states of Madhya Pradesh, Maharashtra, Rajasthan and Gujarat arrived at an agreement on a number of issues on 12th July, 1974. The salient features of this Agreement are as given below:

(i) The water dispute referred to the Narmada Water Disputes Tribunal be determined by the Tribunal on the basis of this Agreement between the states of Madhya Pradesh, Maharashtra, Gujarat and Rajasthan.

(ii) The quantity of water in Narmada available for 75% of the years be assessed at 28 m.a.f.

(iii) The requirements of Maharashtra and Rajasthan for use in their territories are 0.25 m.a.f. and 0.5 m.a.f. respectively.

(iv) The net available quantity of water for use in Madhya Pradesh and Gujarat is 27.25 m.a.f. and Tribunal do allocate this water between the two states after taking into consideration various contentions and submissions of the parties.

(v) The height of Navagam dam and level of the canal be fixed by the Tribunal.

(vi) Madhya Pradesh and Rajasthan do withdraw the proceedings filed by them before the Hon'ble Supreme Court arising out of the decision of the Tribunal dated 23rd February,
1972.

(vii) Rajasthan shall be party to the further proceedings before the Tribunal, without prejudice to the legal position regarding the rights of a non-riparian state.

After signing this Agreement the party states prayed to the Tribunal to give appropriate and necessary directions on the basis of this Agreement. Rajasthan and Madhya Pradesh withdrew their appeals on 1st August, 1974, filed before the Supreme Court regarding the judgment of the Tribunal on the preliminary issues.

3.3.5. DECISION OF THE TRIBUNAL [51] :

To the Agreement of 12th July, 1974, the Narmada Water Disputes Tribunal superadded their seal by accepting this Agreement and giving Orders dated 8th October, 1974 based on this Agreement accordingly. The main decisions of the Tribunal are as under:-

(i) Based on the agreement of 12th July, 1974, the Tribunal assessed the utilisable quantum of waters of the Narmada at Navagam dam site on the basis of 75% dependability at 28 m.a.f., and apportioned the supplies between the states as under:-

<table>
<thead>
<tr>
<th>State</th>
<th>Supply (m.a.f.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madhya Pradesh</td>
<td>18.25</td>
</tr>
<tr>
<td>Gujarat</td>
<td>9.00</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>0.50</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>0.25</td>
</tr>
</tbody>
</table>
The supplies in excess or in short of the above are to be shared between the various states in the ratio of 73 for Madhya Pradesh, 36 for Gujarat, 1 for Maharashtra and 2 for Rajasthan.

(ii) The Tribunal determined that the height of the Navagam dam should be fixed for Full Reservoir Level + 455' and Maximum Level at + 460'.

(iii) The Tribunal also determined that the full supply level of Navagam Canal offtaking from Sardar Sarovar should be fixed at + 300' and its head regulator with a bed gradient of 1 in 12000 from head to mile 180, from that point to Rajasthan border the gradient should be 1 in 10000.

(iv) In addition to it the Tribunal decided the issues of sharing of costs and benefits of the power-projects, regulation of releases to be made by the states, land acquisition and rehabilitation of displaced persons etc.

Some clarifications were sought and amendments were suggested by the party states in the Orders of the Tribunal, under section 5(3) of the Inter-State Water Disputes Act, 1956. The Tribunal gave clarifications/guidance wherever necessary in its Further Report submitted on 7th December, 1979 [14]. According to this Report Gujarat and Rajasthan were left at liberty to decide the canal capacity required by each in the light of water which would be expected
to be available within their share. Gujarat was directed to take up and complete the construction of the Sardar Sarovar dam. The party states were directed to make available in annual instalments their share of funds required according to approved construction programme of the project.

3.4. THE RAVI-BEAS WATERS DISPUTE :

Rivers Ravi and Beas are the two tributaries of main river Indus. The total drainage area of the river Indus and its tributaries lying in India is 3,21,289 sq. km. The state-wise distribution of this drainage basin in India is as under:

<table>
<thead>
<tr>
<th>State</th>
<th>Drainage Area (sq. km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jammu &amp; Kashmir</td>
<td>1,93,762</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>51,356</td>
</tr>
<tr>
<td>Punjab</td>
<td>50,304</td>
</tr>
<tr>
<td>Haryana</td>
<td>9,939</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>15,814</td>
</tr>
<tr>
<td>Chandigarh</td>
<td>114</td>
</tr>
</tbody>
</table>

Out of it catchment area of the river Ravi is 14,442 sq.km. and that of river Beas is 20,303 sq.km. The Indus river, one of the greatest rivers of the World, rises in Tibet (32°N and 81°E) behind the great mountain wall of Himalaya, at an elevation and 5,182 m. River Indus is snowfed and hence perennial and so are its tributaries Ravi and Beas. In the Indus basin (figure 3.4) large canal systems were constructed after the middle of 19th
Century. On the river Ravi Upper Bari Doab Canal was constructed in the year 1859. On the River Sutlej, another tributary of river Indus, Sirhind Canal Project was undertaken in 1872-73 and put into operation in 1882. On the river Ravi a permanent headworks was constructed at Madhopur in the year 1874. The Triple Canals Project, comprising the Upper Jhelum Canal, the Upper Chenab Canal and Lower Doab Canal was completed by about 1915. The Sutlej Valley Project, the Sukkur Barrage Project and the Bhakra Project were three other prominent projects proposed by 1919. The Sutlej Valley Project comprised of a system of three headworks and nine Canals from river Sutlej. These canals were meant to irrigate new areas in Punjab, Bahawalpur and Bikaner and were completed upto 1932. The Sukkur Barrage comprised of a barrage across the river Indus. The Bhakra Project intended to irrigate areas in South-East Punjab and Bikaner from a storage of 1.10 million Hectares at Bhakra. The Haveli Project was conceived in 1937 and completed in 1939.

The state of Bahawalpur objected to the Sutlej Valley Project on the ground that since the available waters did not meet with its needs and those of Punjab, no water could be spared for Bikaner, a non-riparian state. To resolve this dispute, a committee of experts known as Anderson Committee was appointed. The recommendations of this committee were accepted by the concerned parties and the government of India in 1937.
The state of Sind objected to the Bhakra Project. According to it the construction of a storage reservoir on the Sutlej at Bhakra would adversely affect the operation of the inundation canals and produce a shortage of water for the Sukkur Barrage Canals. On the complaint of Sind a commission known as Rau Commission was appointed in 1941. The Commission submitted its report in July, 1942. The recommendations of this Commission were not acceptable to both the partner states Punjab and Sind [19] [47]. After prolonged negotiations an agreement was drawn up sometimes in 1945, but before a final decision could be taken, came the partition of the country in August, 1947 and resulted into formation of two independent sovereign nations, India and Pakistan. What was a dispute mainly between two provinces Sind and Punjab, became an international issue between India and Pakistan. These river water disputes between the two countries were resolved by signing 'The Indus Water Treaty'.

3.4.1. THE INDUS WATER TREATY AND SUBSEQUENT DEVELOPMENT:

Under the provisions of Article II (i) of the Indus Water Treaty, 1960, all the waters of the three eastern tributaries of main river Indus namely the Sutlej, Ravi and Beas were acquired by the government of India for unrestricted use in India to the exclusion of Pakistan. India was put under an obligation to let flow all the waters of western tributaries i.e. Chenab, Jhelum and Indus and not to permit any interference with these waters [22].
While the negotiations for the Indus Water Treaty were still in progress, an agreement was reached between the concerned states on the areas to be irrigated and the location of water supplies from the Bhakra Nangal Project. The Bhakra canals were opened by India on 8th July, 1954. Further, in anticipation of a treaty with Pakistan on sharing of Indus waters, the governments of Punjab, Pepsu, Jammu & Kashmir and Rajasthan were required to prepare a development programme for the utilisation of the waters of the Eastern rivers that were to become exclusively available in India. The waters of the river Sutlej were already planned to be utilised in the states of Punjab, Pepsu and Rajasthan through the Bhakra Nangal Project. The surplus waters of the Ravi and Beas, excluding the prepartition use, had to be planned for utilisation by the states of Punjab, Pepsu, Jammu & Kashmir and Rajasthan. This water, which was found to be 15.35 m.a.f. based on the flow-series of 1921-45 exclusive of 3.13 m.a.f. pre-partition rights, was distributed in an Inter-state conference held at Delhi on 29th January, 1955 [18], as under:

<table>
<thead>
<tr>
<th>State</th>
<th>Water (m.a.f.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punjab</td>
<td>5.90</td>
</tr>
<tr>
<td>J &amp; K</td>
<td>0.65</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>8.00</td>
</tr>
<tr>
<td>Pepsu</td>
<td>1.30</td>
</tr>
<tr>
<td>Total</td>
<td>15.85</td>
</tr>
</tbody>
</table>
In pursuance to this agreement, the three states jointly proposed two projects namely the Beas Project Unit I (Beas Sutlej Link), and Beas Project Unit II (Pong Dam) [7].

The erstwhile state of Punjab was recorganised with effect from 1st Nov., 1966 under the Punjab Recorganisation Act, 1966 [40]. Provision for the apportionment of waters between the newly formed states was made under Section 73 of the said Act. In the light of this Act, Haryana government requested the Punjab government to convey their consent for allocation of 4.8 m.a.f. out of 7.2 m.a.f. surplus Ravi-Beas waters to Haryana. Subsequently, at a meeting called by the government of India on 19th September, 1968, a decision was taken on the sharing of Ravi-Beas waters on ad-hoc basis, 35% for Haryana and 65% for Punjab, pending finalisation of the dispute. As the dispute could not be finally settled within the stipulated time by agreement between the two party states, Haryana approached the government of India for a decision under Section 78 of the Punjab Reorganisation Act.

The government of India constituted a committee during April, 1970 to decide the matter. Before this Committee Haryana claimed 4.8 m.a.f. out of 7.2 m.a.f. of surplus Ravi-Beas waters. Punjab claimed entire of this 7.2 m.a.f. This Committee submitted its report on 26th Feburary, 1971 [45]. On this report Central government invited comments of the concerned state governments. These comments were examined by another committee. The dispute, somehow, could
not be resolved. Then the government of India by notification
dated 24th March, 1976 determined the dispute as required
by section 78 of the Punjab Reorganisation Act.

3.4.2. THE 1976 AWARD [18] :

The Central government vide their order dated 24-
3-1976 directed that out of the water which would have
become available to the erstwhile state of Punjab on completion
of the Beas Project (0.12 m.a.f. whereof is earmarked
for Delhi Water Supply), the state of Haryana would get
3.5 m.a.f. and the state of Punjab would get the remaining
quantity not exceeding 3.5 m.a.f. The remaining 0.08 m.a.f.
out of 7.2 m.a.f. was recommended as additional quantum
of water for Delhi Water Supply. This allocation, on completion
of the Beas Project, was based on the 1921-45 flow-series
corresponding to availability of 11.24 m.a.f. in the Beas
at Mandi Plain (after allowing for 1.61 m.a.f. as pre-
partition uses) and the availability of 4.61 m.a.f. in
the Ravi at Madhopur (after allowing for pre-partition
uses and losses in the Madhopur-Beas Link). In order to
make full use of water allocated to Haryana under the
statutory decision, a proposal for the construction of
the Sutlej Yamuna Link (SYL) Canal was mooted [64].

3.4.3. THE 1981 AGREEMENT [6] :

As the state of Punjab was not reconciled to the
allocation made by the government of India under the Orders
of 24th March, 1976, it filed a suit in the Supreme
Court of India challenging these Orders. Haryana too filed a suit for compelling the Punjab to implement the decision. On 31st December, 1981, while these suits were still pending in the Court, the Chief Ministers of Punjab, Haryana and Rajasthan, in the presence of Prime Ministers of India, reached upon an agreement. According to this agreement, the total mean supply of rivers Ravi and Beas was taken as 20.56 m.a.f. and after deducting for the pre-partition uses of 3.13 m.a.f. and transit losses in Madhopur Beas Link of 0.26 m.a.f., the net mean supply was taken as 17.17 m.a.f., as against the corresponding figures of 15.85 m.a.f. for the flowseries of 1921-45, which forms the basis of water-allocation under the 1955 Agreement.

It was agreed to in this agreement that this main supply of 17.17 m.a.f. may be reallocated as under:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Punjab</td>
<td>4.22 m.a.f.</td>
</tr>
<tr>
<td>Haryana</td>
<td>3.50 &quot;</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>8.60 &quot;</td>
</tr>
<tr>
<td>Delhi</td>
<td>0.20 &quot;</td>
</tr>
<tr>
<td>Jammu &amp; Kashmir</td>
<td>0.65 &quot;</td>
</tr>
</tbody>
</table>

Also, according to this Agreement, until such time as Rajasthan is in a position to utilise its full share, Punjab shall be free to utilise the water surplus to Rajasthan's requirement. During this transitional period when Rajasthan's requirements would not exceed 8.00 m.a.f.,
4.82 m.a.f. of water should be available to Punjab in a mean year when availability is 17.17 m.a.f.

It was also agreed to that the Sutlej-Yamuna Link Canal Project should be implemented in a time-bound manner, so far as the canal appurtenant works in the Punjab territory are concerned, within a maximum period of two years from the date of signing of this agreement. Haryana already constructed SYL Canal in its territory up to June, 1980.

The dispute between the states having apparently been settled, Punjab and Haryana filed petitions for withdrawals of the suits from the Supreme Court. A number of applications to intervene and impleading parties to the suits were made. The Supreme Court rejected all these applications and suits were allowed to be withdrawn.

After the signing of this agreement, it was hailed by the Punjab Government by issuing a White Paper on 23rd April, 1982 [69]. Soon thereafter, certain political developments took place in Punjab which ultimately led to the Punjab Legislature Assembly passing a resolution on 5th November, 1985 [39] repudiating the said Agreement of 31st December, 1981 and declaring the White Paper issued on 23rd April, 1982 as redundant and irrelevant. There were prolonged negotiations thereafter, which culminated in the signing of the Punjab settlement on the 24th July, 1985.
3.4.4. THE PUNJAB SETTLEMENT :

An accord called the 'Punjab Settlement' [41] was signed on 24th July, 1985 between the Prime Minister of India and Sant Harchand Singh Longowal, President of Shiromani Akali Dal, a political party having a say in the Punjab affairs at that time. The para 9 of this accord was with reference to sharing of waters of rivers Ravi and Beas. The paragraphs 9.1 and 9.2 of this accord read as under:

"9.1 The farmers of Punjab, Haryana and Rajasthan will continue to get water not less than what they were using from the Ravi-Beas system as on 1-7-1985. Water used for consumptive purpose will also remain unaffected. Quantum of usage claimed shall be verified by the Tribunal referred to in para 9.2 below.

9.2 The claim of Punjab and Haryana regarding the shares in their remaining waters will be referred for adjudication to a Tribunal to be presided over by a Supreme Court Judge__________"

3.4.5. THE RAVI AND BEAS WATERS TRIBUNAL [53] :

The Central government, in exercise of the powers conferred upon it by sub-section (1) and sub-section (2) of Section 14 of the Inter-State Water Dispute Act, 1956, constituted the Ravi and Beas Waters Tribunal on 2.4.1986 for the matters referred to it in paragraphs 9.1 and 9.2 respectively of the Punjab Settlement. This Tribunal
held its meetings from April, 1986 to December 22, 1986 and submitted its Report to the government of India on 30-1-1987.

3.4.6. MAIN DECISIONS OF THE TRIBUNAL [53] :

(1) The Tribunal was of the view that the Indus Basin comprising Parts of Haryana and Rajasthan continues to exist as a geographical fact even after the partition of the country in 1947.

(2) According to the Tribunal, on a true interpretation of paragraphs 9.1 and 9.2 of the Punjab Settlement, the share of Rajasthan fixed under the 1955 Agreement and later modified under the 1981 Agreement, cannot be altered by this Tribunal.

(3) It was held by the Tribunal that the Punjab's contention that it owns the waters of the two rivers, the Ravi and the Beas, in their entirety is unsustainable.

(4) The Tribunal overruled the objection raised by the state of the Punjab that the agreements of 1955 and 1981 are void and inoperative.

(5) The share of Delhi Administration under the 1981 agreement to the extent of 0.2 m.a.f. was not changed by the Tribunal because according to it, this share stands fully protected under the said agreement and Tribunal had no justification to adjudicate on the demand for additional water beyond 0.2 m.a.f. The share of J&K at 0.65 m.a.f. was also
kept unaltered.

(6) According to the Tribunal it is well settled that in deciding water disputes regarding an inter-state river or river valley, the rule of equitable apportionment of the benefits of the river should be applied. "But the concept of equitable apportionment is not capable of a precise definition and cannot be put in any straight jacket formula."

(7) The quantum of water used by the farmers and other consumptive users of the three party states, as on 1st July, 1985 was calculated as under:-

<table>
<thead>
<tr>
<th>State</th>
<th>quantum of water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punjab</td>
<td>3.106 m.a.f.</td>
</tr>
<tr>
<td>Haryana</td>
<td>1.620 &quot;</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>4.985 &quot;</td>
</tr>
</tbody>
</table>

Punjab : 3.106 m.a.f. (This is inclusive of 0.352 m.a.f. of permissive use allowed by Rajasthan under Clause (ii) of 1981 Agreement and subject thereto but is exclusive of the pre-partition use of 1.98 m.a.f. as well as 0.32 m.a.f. in Shahnehar Canal area).

Rajasthan : 4.985 " (This figure is exclusive of the pre-partition use of 1.11 m.a.f.).

(8) The Tribunal allocated the waters to Punjab and Haryana
as under

Punjab : 5.00 m.a.f.
Haryana : 3.83 m.a.f.

(9) As per 1981 Agreement the total availability of surplus Ravi-Beas waters was 17.17 m.a.f., but the Tribunal considered this availability as 18.28 m.a.f. This increase of 1.11 m.a.f. was made possible due to the findings of the Tribunal that 4.613 m.a.f. water was available below rim-stations (i.e. 4.549 m.a.f. between Madhopur and Ravi Syphon and 0.064 m.a.f. between Mandi Plain and Ferozepur). The Tribunal further considered that 60% and 40% of this availability equals to 1.11 m.a.f., which can be immediately used by installation of pumps as a short-term measure.

The findings of the Tribunal could not be notified because concerned parties sought explanations/guidance from the Tribunal under Section 5(3) of the Inter-State Water Dispute Act, 1956. Hearings for the purpose were held on 10-3-1988 and 26-3-1988, when the counsels for government of India, Rajasthan and Haryana argued their cases. The state of Punjab sought adjournment for arguing its case before the Tribunal, which was fixed for 7-7-1988. On this date Delhi argued their case pertaining to Delhi Water Supply, thereafter, the Tribunal adjourned the hearing for 10-10-1988. The Tribunal again adjourned hearings indefinitely.

3.5. THE CAUVERY WATERS DISPUTE:

River Cauvery and its tributaries flow through Kerala,
Karnataka, Tamil Nadu and Pondicherry, having catchment area of about 84,456 sq.km., distributed between the states as follows:

<table>
<thead>
<tr>
<th>State</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerala</td>
<td>2,850 sq.km.</td>
</tr>
<tr>
<td>Karnataka</td>
<td>34,456</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>46,891</td>
</tr>
<tr>
<td>Pondicherry</td>
<td>259</td>
</tr>
</tbody>
</table>

The use and development of Cauvery waters are regulated by the 1892 and 1924 Agreements reached between the erstwhile princely state of Mysore and province of Madras. There was no other party to these agreements.

3.5.1. THE 1892 AGREEMENT [2]:

The Agreement of 1892 was in the nature of restrictions on the Mysore, the Upper riparian, making all developments in that state subject to the consent of the government of the lower riparian state i.e. Madras, failing which to the decision either of arbitrators appointed by both governments or the government of India. There were no reciprocal limitations on developments that might be undertaken by the lower riparian, the state of Madras. In so far as the Madras was the upper riparian on some tributaries of the river, Madras was to be subjected to similar restrictions on Mysore. After signing of the Agreement there were little development works in Madras and Mysore between 1892 and 1910. In 1910, Mysore and Madras governments
proposed some storage works in their areas; but both objected to each-other's projects. The matter was referred for arbitration in 1913-14 to an arbitrator. Even the award given by the Arbitrator could not satisfy the parties. Therefore, this award was suspended and fresh negotiations started, which resulted in signing of 1924 Agreement.

3.5.2. THE 1924 AGREEMENT [3] :

The Mysore government was entitled to construct Krishnarajasagar reservoir on the river Cauvery and for regulation of this reservoir rules were set forth to be strictly followed by the Mysore. The 1924 Agreement also specified that Madras could develop 3,01,000 Acres of additional irrigation from Cauvery waters and Mysore about 2,84,000 Acres of additional irrigation including the benefits under Krishnarajasagar reservoir.

During the period 1928-1971 Tamil Nadu (erstwhile Madras) developed 11.56 lakh Acres additional irrigation and Karnataka (erstwhile Mysore) developed 3.68 lakh Acres. Thus Tamil Nadu developed more than what was envisaged in the Agreement. Because of this, differences again arose among the basin states on the existing uses and on further development of Cauvery waters. In fact, the development projects submitted by any one state were objected to by the other two with the result, the Central government could not clear the proposed development projects of any of the basin states.
3.5.3. CAUVERY FACT FINDING COMMITTEE

With the reorganisation of the states in 1956 the former princely state of Coorg which lay partly in the Cauvery basin (figure 3.5) was merged with Karnataka and some of the area of Malabar in the erstwhile Madras state in the Cauvery basin became part of Kerala. The then French possession of Pondicherry, also served by Cauvery, became a Union Territory. Thus presently Karnataka, Kerala and Tamil Nadu are the three states besides Union Territory of Pondicherry, which are interested in using Cauvery waters to their benefits. Union Ministers of Water Resources and Chief Ministers/Ministers of the three states held several meetings during 1970-75 to discuss various issues. In the inter-state meeting held in May, 1972 consensus was reached among the three states that serious attempts should be made to resolve the differences by negotitations [4]. A Fact Finding Committee was set up to collect the relevant data pertaining to availability and use of Cauvery waters. The Committee submitted its report in December, 1972 [43] and gave the following assessment with respect to the year 1971:

<table>
<thead>
<tr>
<th></th>
<th>Karnataka</th>
<th>Kerala</th>
<th>Tamil Nadu</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area irrigated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in lakh Acres</td>
<td>6.82</td>
<td>0.53</td>
<td>28.21</td>
<td>35.56</td>
</tr>
<tr>
<td>Water withdrawn</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in TMC</td>
<td>177</td>
<td>5</td>
<td>566</td>
<td>748</td>
</tr>
</tbody>
</table>
The Chief Ministers considered this report in the meeting held in April, 1973 and suggested that the Committee be revived to review certain data. The Committee submitted additional report in August, 1973 [1]. This additional report was discussed with the Ministers of Kerala and Tamil Nadu in 1973. It was agreed during the meeting that it was necessary to affect economies in the present utilisation as well as utilisation envisaged under the new schemes. Accordingly, necessary studies were entrusted to the then Additional Secretary in the Ministry of Irrigation and Power. The studies indicated the possibility of savings in the existing uses and consequent augmentation of the existing supplies to the extent of 100 TMC by Tamil Nadu and 25 TMC by Karnataka by modernisation of the canal system, preventing seepage losses and conjunctive use of surface and groundwater etc.

3.5.4. THE 1976 UNDERSTANDING AND FURTHER DEVELOPMENTS:

Union Minister of Agriculture and Irrigation held a meeting with the Governor of Tamil Nadu (then under President's rule), the Chief Minister of Karnataka and Irrigation and Electricity Minister of Kerala on 25/26-8-1976 [65]. All aspects were discussed which led to an understanding. This understanding provided a basis for cooperation and further development of Cauvery waters in the most efficient manner. According to this Understanding, the existing utilisation of the Cauvery waters was agreed to as 671 TMC comprising 489 TMC by Tamil Nadu and Pondicherry, 177 TMC by Karnataka
and 5 TMC by Kerala. Added to that, Tamil Nadu and Karaikal region of Pondicherry were required to take steps to effect a saving of 25 TMC from their present use and within a maximum period of 15 years at the end of which the saving of 125 TMC was to be redistributed among the states as Tamil Nadu 4 TMC, Karnataka 87 TMC and Kerala 34 TMC. The share of Cauvery waters of the three states after the savings were affected, worked out to:

Kerala : 39 TMC
Karnataka : 239 "
Tamil Nadu : 393 "

However, when the elected government came to power in Tamil Nadu at a later date, it did not ratify the Understanding. The next round of discussions with the Chief Ministers was held. At this meeting it was suggested that the 1976 Understanding should be the basis for further discussion. While the Chief Ministers of Tamil Nadu and Kerala were agreeable to this, the Chief Minister of Karnataka wanted de novo examination of this entire issue and for that purpose presented a new approach based on ten principles for sharing of water enunciated by him. After discussions, it was agreed that all the states might suggest amendments and modifications to the 1976 Understanding as well as the approach adopted therein before 26-1-1981. The modifications and proposals so suggested by the states were divergent in nature and also raised new issues. Karnataka
contended that the average yield in the Cauvery was more than that assessed by the Cauvery Fact Finding Committee. While the Tamil Nadu in their proposals stressed on the continuance of 1924 Agreement on sharing of Cauvery waters, Kerala tried to justify their increased requirements and Pondicherry Administration maintained that they should be treated as a distinct party to the dispute and their requirements be made available at the border of Tamil Nadu.

In view of these developments it was considered that it may not be possible to arrive at amicable settlement. Even then on the suggestion of Union Minister of Water Resources, bilateral discussions were held on 14th and 15th October, 1981 between the Chief Ministers of Karnataka and Tamil Nadu. However, these talks were inconclusive. Further attempts for negotiated settlements bore no fruits.

3.5.5. CAUVERY WATER DISPUTES TRIBUNAL:

Government of Tamil Nadu made a formal request to government of India in July 1986, under Section 3 of the Inter-State Water Disputes Act, 1956 for constitution of a Tribunal for adjudication of Cauvery Water Dispute. In the meantime, some Writ Petitions were filed in the Supreme Court by Tamil Nadu Farmers' Association in 1983 and by an individual in 1984, seeking directions of the Court to the Central government to set up a Tribunal.

Efforts were again made to arrive at a negotiated
settlement but without results. Finally, in its judgement dated 4-5-1990 the Hon'ble Supreme Court ordered for constitution of an appropriate Tribunal for adjudication of these water disputes, within one month [34]. In view of the direction given by the Supreme Court of India, Central government, considered the matter in its totality and constituted the Cauvery Water Disputes Tribunal in June, 1990 with its headquarters at New Delhi [33]. The complaint of government of Tamil Nadu dated 6-7-1986 was referred to the Tribunal for adjudication. Tamil Nadu had objected to the construction of Kabini, Hemavathi, Harangi, Swarnavathi and other projects and expanding the ayacut by Karnataka government. They submitted that this act of Karnataka had resulted in materially diminishing the supply of waters to Tamil Nadu, affecting the prescriptive rights of the ayacutdars already acquired and existing and violation of 1892 and 1924 Agreements.

3.5.6. CIVIL MISCELLANEOUS PETITIONS OF TAMIL NADU & PONDICHERRY:

During the hearings of the Tribunal, government of Tamil Nadu filed two applications before the Cauvery Water Disputes Tribunal for injunction praying that :-

(i) State of Karnataka be directed not to impound or utilise the waters of river Cauvery beyond the extent as on 31st May, 1972;

(ii) The state of Karnataka be restrained from undertaking any new dams, projects or canals etc., and/or from proceeding
further with the construction of projects, dams, reservoirs, canals etc. ; and

(iii) The state of Karnataka be directed as an emergent interim measure to release at least 20 TMC of waters as a first instalment (in November, 1990 for the water year 1990-91).

In addition to this the Union Territory of Pondicherry also filed an application before the Tribunal that Karnataka and Tamil Nadu be directed to release 9.355 TMC of water during the months of September to March.

3.5.7. TRIBUNAL’S ORDER OF 5TH JANUARY, 1991:

By its Order dated 5th January, 1991, the Tribunal held that the reference made by the Central government did not seek adjudication of the interim reliefs and that accordingly, the aforesaid petitions for interim reliefs were not maintainable [35]. The Tribunal further observed that there was no provision in the 1956 Act which conferred jurisdiction on the Tribunal to grant any interim relief, in any event, the subject matter of the miscellaneous petitions filed by the state could be adjudicated by the Tribunal only if the same had been referred to it as a water dispute by the Central government. Consequently, the Tribunal ordered that the applications of government of Tamil Nadu and Pondicherry for interim reliefs are dismissed as they are not maintainable in law.
Tamil Nadu moved the Supreme Court against the Order of the Tribunal dated 5th January, 1991 regarding interim relief sought by it. The Supreme Court in its Order dated 26th April, 1991 held that the reliefs prayed by appellants Tamil Nadu and Pondicherry clearly come within the purview of the Disputes referred by Central government and directed the Tribunal to decide the issue on merits [36]. The Supreme Court further observed that the Tribunal has not held that it has no incidental and ancillary powers for granting an interim relief but that it has refused to entertain the petitions on the ground that the reliefs prayed in these applications had not been referred by the Central government. The Supreme Court, therefore, did not consider it necessary to go into the larger question whether a Tribunal constituted under the Water Disputes Act has any power or not to grant interim relief.

After these Orders, the government of Tamil Nadu filed another application before the Tribunal praying for a direction to the state of Karnataka to make timely and adequate releases of waters from its storage reservoirs in the Cauvery Basin in such a manner as to ensure availability of inflows into Tamil Nadu's Mettur Reservoir, on a week to week basis. The Union territory of Pondicherry also filed another application in the Supreme Court praying for an interim order directing the state of Tamil Nadu to release 9.355 TMC of water to it during the period
form July to March every year.

3.5.9. INTERIM ORDER OF 25TH JUNE, 1991 BY THE TRIBUNAL

In pursuance of the direction given by the Supreme Court, the Tribunal heard the matter and passed an interim Order on 25th June, 1991 [37]. In brief the Orders of the Tribunal are as under :-

(i) The state of Karnataka to release water from its reservoirs in Karnataka so as to ensure that 205 TMC of water is available in Tamil Nadu's Mettur Reservoir in a year from June to May. This will be effective from 1st July, 1991.

(ii) The state of Karnataka shall regulate the releases from their reservoirs during the year to ensure monthly inflow into Mettur reservoir given in their Order.

(iii) In respect of each month, the releases are to be made in 4 weeks in four equal instalments.

(iv) 6 TMC of water for Karaikal region of the Union Territory of Pondicherry will be delivered by the state of Tamil Nadu in regulated manner.

(v) The state of Karnataka shall not increase its area under irrigation by the waters of river Cauvery beyond existing 11.2 lakh Acres.

This Order will remain operative till the final adjudication of the dispute, referred to the Tribunal.
The government of Karnataka promulgated an Ordinance called, the Karnataka Cauvery Basin Irrigation Protection Ordinance, 1991, on 25th July, 1991 [38]. Section 3 and 4, which constitute material provisions of Ordinance, read as follows:

"3. Protection of irrigation in irrigable area:

(1) It shall be the duty of state government to protect, preserve and maintain irrigation waters of the Cauvery river and its tributaries in the irrigable area under the various projects specified in the Schedule.

(2) For the purpose of giving effect to sub-section (1) the state government may abstract or cause to be abstracted, during every water year, such quantity of water as it may deem requisite, from the flows of the Cauvery river and its tributaries, in such manner and during such intervals as the state government or any officer not below the rank of Engineer-in-chief designated by it, may deem fit and proper.

4. Over riding effect of the Ordinance:

The provision of the Ordinance, (and of any Rules and Orders made thereunder), shall have effect notwithstanding anything contained in any Order, report of any Court or Tribunal (whether made before or after the commencement of this Ordinance), save and except a final decision under the provisions of sub-section (2) of section 5 read with
Section 6 of the Inter-State Water Disputes Act, 1956.

3.5.11. REFERENCE TO THE SUPREME COURT:

Due to a variety of legal and constitutional issues raised by the Chief Ministers of Tamil Nadu and Karnataka and also by the provisions made in the Ordinance issued by the government of Karnataka on 25th July, 1991, it was considered appropriate by the government of India to refer the matter to the Supreme Court to get their guidance.

On the advice of the government of India, the President of India made a reference to the Supreme Court under clause (1) of Article 143 of the Constitution of India on 28th July, 1991. The following questions have been referred to the Supreme Court of India for the consideration and report thereon:

(1) Whether the Ordinance issued by Karnataka and the provisions thereof are in accordance with the provisions of the Constitution;

(2) (i) Whether the Order of the Tribunal constitutes a report and a decision within the meaning of Section 5(2) of the Act; and

(ii) Whether the Order of the Tribunal is required to be published by the Central government in order to make it effective;

(3) Whether a Water Disputes Tribunal constituted under the Act is competent to grant interim relief to the parties to the dispute.
Tamil Nadu also filed a suit seeking enforcement of interim order of the Cauvery Water Dispute Tribunal directing Karnataka to release water from its reservoirs so as to ensure 205 TMC water to Tamil Nadu every year from 1991. The suit was filed by Tamil Nadu after the apex court judgment on the presidential reference in the wake of the legislation passed by Karnataka seeking to nullify the interim order of the Tribunal. Supreme Court reserved its decision on 11.4.1996.


Cauvery Water Dispute Tribunal through an interim order directed Karnataka to release 11 TMC Water for Tamil Nadu. Following Karnataka's refusal to abide by the decision of the Tribunal, Tamil Nadu moved the Supreme Court to secure the implementation of the Tribunal's award. The Supreme Court asked the Prime Minister of India to settle the dispute within two days. Prime Minister announced a compromise formula asking Karnataka to immediately release 6 TMC of Cauvery water to Tamil Nadu at the rate of 1 TMC per day in addition to the quantity stipulated in the Tribunal's interim order of June, 1991 and acceded to Karnataka's plea for an expert Committee to make on the spot assessments. The report of the expert committee is under consideration of the Indian Government.

Later on, Tamil Nadu filed an emergent petition on
January 23, 1996 in the Supreme Court seeking a direction to Karnataka Government to release 5 TMC of Cauvery waters to the state immediately because storage level in the dams were low and water was needed for saving withering crops.

3.6 SUMMING UP THE ISSUES IN INTERSTATE RIVER WATER DISPUTES

While analysing the river water disputes it can be seen that during the process of deciding apportionment of waters of an interstate river following issues are to be decided, all not necessarily belonging to engineering aspects of the problem: -

(i) As admitted by all the Tribunals the best way of settling such disputes is by way of agreements. But at some stage of development of the interstate river waters, one or other state challenges the validity of such agreements. Thus the first step is to check the validity of existing agreements with respect to the law of land on case to case basis.

(ii) One of the most important issue in such disputes is the determination of availability of water in the interstate river under consideration.

(iii) The other important issue is the determination of the requirements of the partner states.

(iv) Another important issue is to determine the basis of apportionment of available water.

The last three issues have been studied in the present thesis.