GOVERNMENT OF INDIA
KRISHNA WATER DISPUTES TRIBUNAL

FURTHER REPORT

OF

THE KRISHNA WATER DISPUTES TRIBUNAL

NEW DELHI
1976

GOVERNMENT OF INDIA

KRISHNA WATER DISPUTES TRIBUNAL

FURTHER REPORT

OF

THE KRISHNA WATER DISPUTES TRIBUNAL UNDER SECTION 5(3) OF THE INTER-STATE WATER DISPUTES ACT, 1956.

NEW DELHI

1976

COMPOSITION OF THE KRISHNA WATER DISPUTES TRIBUNAL

(During the hearing of the References under section 5 (3) of the Inter-State Water Disputes Act, 1956).

Chairman

Shri R. S. Bachawat.

Members

Shri Shamsher Bahadur (Up to 21-7-1975).

Shri D. M. Bhandari.

Shri D. M. Sen (Judge of the Gauhati High Court until 5th February, 1976). (From 20-9-1975).

Secretary

Shri R. P. Marwaha.

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GOVERNMENT OF INDIA

KRISHNA WATER DISPUTES TRIBUNAL

D-27, New Delhi South Extension, Part-II, New Delhi.

No. 18 (l)/76-KWDT. Dated the 27th May, 1976.

To

The Secretary to the Government of India, Ministry of Agriculture and Irrigation, (Department of Irrigation), NEW DELHI.

Sir,

The Krishna Water Disputes 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 the 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.

Vacancy in the office of a Member of the Tribunal was filled by fresh appointment made by the Government of India **vide** Notification No. S.O. 518(E), dated the 16th September, 1975.

The Tribunal has prepared its further Report giving such explanations or guidance as it has deemed fit on the matters referred to it under section 5(3) of ii the said Act.

The unanimous further Report of the Tribunal is forwarded herewith.

Yours faithfully,

(R. S. BACHAWAT).
Chairman.

(D. M. BHANDARI),
Member.

(D. M. SEN).
Member.

End : Report as above.

REPRESENTATIVES OF THE GOVERNMENT OF INDIA AND THE STATE iii
GOVERNMENTS BEFORE THE KRISHNA WATER DISPUTES TRIBUNAL AT THE HEARING OF THE REFERENCES UNDER SECTION 5 (3) OF THE INTER-STATE WATER DISPUTES ACT, 1956.

I. For the Government of India

Advocates

1. Dr. V. A. Seyid Muhammad, Senior Advocate (from 20-7-1974) to 24-12-1975).
3. Smt. Shyamala Pappu, Senior, Advocate (from 21-1-1976).
3. Shri O. N. Mahindroo, Advocate (from 30-5-1974 to 2-1-1976).
4. Shri V. P. Nanda, Advocate - (from 27-1-1976).

II. For the State of Maharashtra

Advocates

1. Shri H. M. Seervai, Advocate General (up to 3-9-1974).
2. Shri T. R. Andhyarujina, Advocate.
3. Shri K. J. Chokshi, Solicitor.

Other representatives

1. Shri B. A. Kulkarni, Secretary.
2. Shri E. C. Saldanha, Chief Engineer and Joint Secretary.
3. Shri M. G. Padhye, Chief Engineer and Joint Secretary.
4. Shri K. S. Shankar Rao, Deputy Secretary.
5. Shri N. M. Jog, Under Secretary.
6. Shri S. G. Joshi, Special Officer.

III. For the State of Karnataka

i

v Advocates

1. Shri R. N. Byra Reddy, Advocate General (up to 19-1-1975).
2. Shri Sachindra Chaudhuri, Senior Advocate (from 10-3-1975).
3. Shri M. P. Chandrakanth Raj Urs, Government Advocate (from 20-1-1975).
4. Shri S. S. Javali, Advocate.

Other representatives

1. Shri S. G. Balekundry, Cheif Engineer (up to 9-3-1975).
2. Shri S. P. Bhat, Chief Engineer (from 10-3-1975).
3. Shri B. Subramanyam, Superintending Engineer.
4. Shri G. M. Shivashankar, Executive Engineer.

IV. For the State of Andhra Pradesh

Advocates

1. Shri P. Ramachandra Reddy, Advocate General.
2. Shri Anwarulla Pasha, Advocate.
3. Shri D. V. Sastri, Advocate.

Other representatives

1. Shri B. Gopalakrishna Murthy, Special Officer..
2. Shri G. K. S. lyengar, Superintending Engineer.
3. Shri K. Gunda Rao, Superintending Engineer (from 18-11-1974).
4. Shri Y. Suryaprakasha Rao, Deputy Director (from 18-11-1974).

v 5. Shri M. Seetharama Sastri, Special Officer and Chief Engineer (Retired), Technical Adviser.

6. Shri Mir Jaffer Ali, Chief Engineer (Retired), Technical Adviser (from 18-11-1974).

CHAPTER I

PRELIMINARY CHAPTER

Reference No. I of 1974 by the Government of India.

Reference No. II of 1974 by the State of Andhra Pradesh.

Reference No. III of 1974 by the State of Karnataka.

Reference No. IV of 1974 by the State of Maharashtra. In this Report, unless otherwise mentioned :—

(a) The expression " Report", " Original Report " or " our Report" means the Report of this Tribunal under section 5 (2) of the Inter-State Water Disputes Act, 1956;

(b) The expression " This Report" or " This further Report" means the Report of this Tribunal under section 5 (3) of the said Act;

(c) The expressions " MR Note ", " MY Note " and " AP Note " mean notes filed by the States of Maharashtra, Mysore (Karnataka) and Andhra Pradesh respectively in the references under section 5(1);

(d) The expressions " MR Reference Note", " KR Reference Note" and " AP Reference Note " mean notes filed by the States of Maharashtra, Karnataka and Andhra Pradesh respectively in the references under section 5 (3).

The Krishna Water Disputes Tribunal investigated the matters referred to it under section 5 (1) of the Inter-State Water Disputes Act, 1956 and forwarded its unanimous decision and Report to the Government of India on the 24th December, 1973. The Government of India and the States of Andhra Pradesh, Karnataka and Maharashtra filed References Nos. I, II, III and IV of 1974 respectively under section 5 (3) of the said Act by the 23rd March, 1974. The replies to the references were filed by the 31st May, 1974. The hearing of the references started on the 23rd July, 1974 and continued till the 27th August, 1974, but the arguments could not be concluded as Counsel for one of the parties could not be present. After repeated adjournments, fresh arguments of all the parties were heard in the references from the 20th March, 1975 up to the 8th May, 1975. Before the Report under section 5(3) could be finalised, one of the members of the Tribunal suddenly died on the 21st July, 1975. The vacancy in the office of the member was filled on the 20th September, 1975. After several adjournments, fresh arguments of the parties in the references were heard from the 7th January up to 11th March, 1976. The delay in the disposal of the references was due to circumstances beyond our control.

Elaborate arguments were addressed to us by Counsel for the parties regarding the ambit of the powers of the Tribunal under section 5 (3) of the Inter-State Water Disputes Act, 1956.

3 The contention of the Advocate General of the State of Karnataka is that (a) when the Tribunal forwarded its Report and decision under section 5 (2) of the Act, the Tribunal did not render a decision which acquired the character of finality and became operative and binding on the parties and the Tribunal retains full powers over the case until its dissolution under section 12, (b) when the matter is referred again to the Tribunal under section 5 (3) for further consideration, the Tribunal has seism of the matter all over again and it may give such explanation or guidance as it deems fit without any limitation on its powers to do so, (c) the decision of the Tribunal under section 5 (2) is in the nature of a preliminary decision furnishing the parties a basis for seeking under section 5 (3) in their own right explanations on things contained in the decision and guidance on points not originally referred to the Tribunal and the entire matter requires fresh investigation and reconsideration by the Tribunal under section 5 (3), (d) the word " explanation " used in section 5 (3) should not be construed narrowly , and (e) under section 5 (3), the Tribunal can correct clerical errors or errors arising from any accidental slip or omission and any error of law or fact apparent on the face of record or any error in the decision by reason of its being inconsistent or incompatible with any material on record and any error arising from omission to consider any relevant matter or to decide any question arising for decision

4 Learned Advocate General of Maharashtra has argued that (a) once a report setting out facts found by the Tribunal and giving its decision on the matters referred to it has been forwarded to the Central Government under section 5 (2) of the Act, the decision of the Tribunal cannot be altered or modified, except as provided under section 5(3), (b) the power of the Tribunal is limited to giving explanation and guidance on the matters which have been referred to it under section 5 (3), (c) in giving explanation or guidance under section 5 (3), the Tribunal cannot assume the power to review its decision and reconsider the matter afresh , (d) the Tribunal can give explanations by supplying details or by making the decision plain or intelligible, or by removing any inconsistency in the decision or by clearing any obstruction or difficulty arising out of it but the Tribunal cannot go beyond giving an explanation as understood either in law or in common parlance , (e) the Tribunal does not possess any inherent power or any power of amending, altering or modifying its decision apart from section 5 (3), and (f) only the matters referred to the Tribunal under section 5 (3) can be the subject matter on which explanation or guidance can be given and such explanation or guidance cannot be given on any other matter

5 Learned Advocate General of the State of Andhra Pradesh has made his valuable contribution to the arguments but they are on the lines of the arguments urged on behalf of the State of Maharashtra and need not be reiterated After a careful consideration of the matter we give our findings

An ordinary Civil Court cannot alter a signed judgment pronounced in open Court save as provided by section 152 or on review, see Order 20 Rule 3 of the Code of Civil Procedure but (a) it may correct clerical or arithmetical mistakes in judgments, decrees or orders or errors arising therein from any accidental slip or omission under section 152 of the Code (b) it may review its judgment under section 114 read with Order 47 Rule 1 of the Code and (c) its inherent power to do justice is preserved by section 151 of the Code, see janakiram Iyer v. P M

Nilakantha Iyer (1962) Supp (1) S.C.R. 206. 229-231; Shivdeo Singh v. The State of Punjab AIR 1963 S.C. 1909, 1911 ; Mulla's Code of Civil Procedure 13th Edition, page 587.

But a Tribunal constituted under a special statute has no common law or inherent power, see Kamaraja Nadar v. Kunju Thevar (1959) S.C.R. 583, 596 (Election Tribunal). However, if authorised by the statute by which it was constituted, it may review its decision, see Sree Meenakshi Mills Ltd. v. Their Workmen (1958) S.C.R. 878, 888 (Labour Appellate Tribunal under the Industrial Disputes Act, 1947); Mulla's Code of Civil Procedure 13th Edition, page 1669 ; and may correct an accidental omission, see Tulsipur Sugar Company Ltd v. State of U.P. (1970) 1 S.C.R. 35, 37, 41-45 (Labour Court under U.P. Industrial Disputes Act, 1947). 6

This Tribunal is set up under the Inter-State Water Disputes Act, 1956. Its powers are circumscribed by the provisions of that Act. It has no inherent powers. It has some trappings of a Court. Section 9 of the Act gives the Tribunal some powers of a Civil Court and also enables it to regulate its practice and procedure. But the powers under section 151, 152 or under section 114 or Order 47 Rule 1 of the Code of Civil Procedure have not been conferred on it. Section 5(1) of the Act provides for reference of a water dispute and any matter appearing to be connected with or relevant to the water dispute to the Tribunal for adjudication. Section 5 (2) directs the Tribunal to investigate the matters referred to it and forward to the Central Government a report setting out the facts as found by it and giving its decision on the matters referred to it.

At pages 512 to 513 of Vol. II of the Report we have pointed out that a Tribunal appointed under the Inter-State Water Disputes Act, 1956 is not a permanent body and it cannot retain jurisdiction to modify its decision, apart from its statutory power to do so upon a reference made to it under section 5 (3) of the Act within three months of the decision.

Section 5 (3) of the Act provides :—

" If, upon consideration of the decision of the Tribunal, the Central Government or any State Government is of opinion that anything therein contained requires explanation or that guidance is needed upon any point not originally referred to the Tribunal, the Central Government or the State Government, as the case may be, may, within three months from the date of the decision, again refer the matter to the Tribunal for further consideration ; and on such reference, the Tribunal may forward to the Central Government a further report giving such explanation or guidance as it deems fit and in such a case, the decision of the Tribunal shall be deemed to be modified accordingly." 7

If there is anything contained in the decision of the Tribunal given under section 5 (2) which in the opinion of either the Central Government or any State Government requires explanation or if in the opinion of any of them guidance is needed upon any point not originally referred to the Tribunal, the matter may again be referred to the Tribunal by the Central Government or a State Government under section 5 (3) for further consideration. On such a reference, the Tribunal has seisin over the original decision and may make a further report

giving such "explanation" or "guidance" as it thinks fit. If it gives any explanation or guidance, the decision of the Tribunal is deemed to be modified accordingly.

The dictionary meaning of the word " explain" is (1) to make plain or intelligible; to clear of obscurity or difficulty; (2) to assign a meaning to, state the meaning or import of; to interpret; (3) to make clear the cause, origin or
8 reason of ; to account for; see Murray's Oxford English Dictionary; (4) (a) to say in explanation that (b) to speak one's mind against, upon, see The Shorter Oxford English Dictionary, 3rd Edition, page 657. The word " explanation" means (1) the act of explaining, expounding, or interpreting ; exposition ; illustration ; interpretation ; the act of clearing from obscurity and making intelligible ; (2) the process of adjusting a misunderstanding by explaining the circumstances; reconciliation ; see Webster's New Twentieth Century Dictionary, 2nd Edition, page 646 ; (3) explaining, esp. with view to mutual understanding or reconciliation ; statement, circumstance, that explains, see The Concise Oxford Dictionary, 5th Edition, page 426; (4) that which explains, makes clear, or accounts for ; a method of explaining, see The Shorter Oxford English Dictionary, 3rd Edition, page 657 ; (5) something that explains or that results from the act or process of explaining, see Webster's Third New International Dictionary Vol. I (1966) page 801.

The word "guide" means (1) to point out the way for; direct on a course; conduct; lead ; (2) to direct (the policies, action, etc.) of ; manage ; regulate ; govern. The word " guidance " means the act of guiding, or leading ; direction, see Webster's New Twentieth Century Dictionary, 2nd Edition, Vol. I page 808.

In intepreting section 5(3) we must bear in mind that the jurisdiction of all Courts is barred in respect of any water dispute which has been referred to the
9 Tribunal and that on publication in the Official Gazette, the decision of the Tribunal will be final and binding on the parties to the dispute. In this background, section 5 (3) should be construed liberally and the amplitude of the powers given by it should not be cut down by a narrow interpretation of the words " explanation " and " guidance ".

The matters arising for consideration under section 5(3) in these references are of such a varied nature that instead of giving a rigid and exhaustive definition of the word " explanation " used in section 5(3) we prefer to enumerate some of the explanations that may be given with regard to things contained in the original decision. For example, explanations may be necessary (1) to make the original decision intelligible by correcting arithmetical or clerical mistakes or errors arising from accidental slips or omissions, (2) to correct mistakes arising from allowance of water in respect of any claim more than once by inadvertance, (3) to make explicit the meaning and intention of any direction or observation in the original Report, (4) to interpret or give the meaning of any word or technical term. An omission to give necessary directions or to consider and take into account relevant material or relevant factors in arriving at any conclusion on any particular point or any lacuna in the decision may require explanation. For example, an explanation may be necessary in respect of (1) the omission to consider whether the
10 restrictions on the uses of any State in any area require revision as and when return flows become progressively available for its use and to consider the effect of any

revision of such restrictions on the uses of other States, (2) the omission to provide guidelines for the operation of the Tungabhadra Reservoir which is the common source of supply for several projects of the States of Karnataka and Andhra Pradesh, (3) the omission to take into consideration the effect of prolonged and continuous irrigation on return flow and on the quantum of dependable flow available for distribution among the parties, (4) the omission to consider relevant matters in respect of Clause XIV(B) of the Final Order.

If the Tribunal gives any explanation, the Tribunal may also give all consequential directions and reliefs arising out of such explanation.

The illustrations given above are not exhaustive. For purposes of this case, it is not necessary to define exhaustively the ambit of our powers under section 5(3) of the Act and it is sufficient to say that all the explanations and directions given by us in this Report are within the ambit of our powers under section 5(3).

However, we may point out that we have examined on merits all the contentions raised by the Government of India and the States of Maharashtra, Karnataka and Andhra Pradesh in these references and even on such examination we find that there are no merits in those contentions except as mentioned in this Report 11

Directions for costs with regard to the reference under section 5(1) of the Inter-State Water Disputes Act, 1956 were given at pages 771 and 791 of Vol. II of the original Report. We propose to give similar directions for costs with regard to the references under section 5(3) of the said Act. For this purpose, we direct that in Clause XVIII of the Final Order at page 791 of Vol. II of the Report.

(a) " (A)." be added at the beginning of the 1st line of Clause XVIII so that the existing Clause XVIII will become sub-clause (A) of Clause XVIII.

(b) at the end of sub-Clause (A) of Clause XVIII, the following sentence be added :—" These directions relate to the reference under section 5(1) of the Inter-State Water Disputes Act, 1956."

(c) After sub-Clause (A) of Clause XVIII, the following sub-Clause (B) be added :—" (B). The Government of India and the Governments of Maharashtra, Karnataka and Andhra Pradesh shall bear their own costs of appearing before the Tribunal in the references under section 5(3) of the said Act. The expenses of the Tribunal in respect of the aforesaid references shall be borne and paid by 12 the Governments of Maharashtra, Karnataka and Andhra Pradesh in equal shares."

To bring the directions for costs in Clause XVIII (A) in conformity with the language of section 9(3) of the Inter-State Water Disputes Act, 1956 and Clause XVIII(B), we direct that the words " Governments of Maharashtra, Karnataka and Andhra Pradesh" be substituted for " aforesaid three States" in Clause XVIII(A) at page 791 of Vol. II of the Report.

CHAPTER II

Reference No. I of 1974 by the Government of India

This reference bears No. 5/18/74-WD, Government of India, Ministry of Irrigation and Power. In this reference, the Government of India seeks explanation and guidance on the points mentioned and dealt with below :

Clarification No. l(a)

The Government of India submitted as follows :—

" Considerable quantities of water are required for cooling and other purposes in thermal and nuclear power plants. The Tribunal may kindly consider as to whether such use should be included in the " industrial" use in Clause VI of their final order or elsewhere, and specify the percentage thereof which should be considered as consumptive use."

On the 7th May, 1975, Dr. V. A. Seyid Muhammad, Counsel for the Government of India, stated that he was confining his clarification No. I only to the water required for cooling and other purposes in thermal power plants and that he was not pressing the clarification in so far as it related to the quantity of water required for cooling and other purposes in nuclear power plants.

The State of Maharashtra contends that the use of water for cooling and other
1 4 purposes in thermal power plants is industrial use within the meaning of Clauses VI and VII of our Final Order. The State of Andhra Pradesh at first contended that such use was not industrial use, but on the 7th May, 1975, Counsel for the State of Andhra Pradesh stated that such use was industrial use.

The State of Karnataka relying on Clause VI of the Final Order contends that the use of water for thermal power plants is use for production of power and is not industrial use as contemplated by Clause VI of the Final Order. It argues that consequently the use of water for thermal power plants is not industrial use as envisaged by the third paragraph of Clause VII of the Final Order and that accordingly such use should be measured by the actual depletion of the waters of the river Krishna in accordance with the first paragraph of Clause VII.

Clause VI of the Final Order provides that beneficial use includes use for production of power and industrial purposes. The expression " production of power " in Clause VI refers to use of water for production of hydro-power and not to use of water for thermal power plants.

The provision for measurement of industrial use in the third paragraph of
15 Clause VII(A) of the Final Order is based on the agreed statement of the three

States made on the 20th August, 1973, see Report Vol. III page 62, Vol. I page 290. In our opinion the expression " industrial use " in the aforesaid paragraph includes use of water required for cooling and other purposes in thermal power plants.

Clarification No. l(b) 16

The Government of India has submitted as follows:-

" While the Tribunal have laid down restrictions on the use of water in certain sub-basins as well as the total use by each State, there may be locations where hydro power generation (within the basin) may be feasible at exclusively hydro sites or at sites for multi-purpose projects. At such sites, part of the waters allocated to the States, as also water which is to flow down to other States could be used for power generation either at a single power station or in a series of power stations. The Tribunal may kindly give guidance as to whether such use of water for power generation within the Krishna basin is permitted even though such use may exceed the limits of consumptive use specified by the Tribunal for each State or sub-basin or reach, and, if so, under what conditions and safeguards."

At page 447 of Vol. II of the Report we have observed that where the tail-race water after generation of electricity is returned to the river, the hydro-electric use is non-consumptive, except for losses in the water conductor system and storages.

All beneficial uses of water including uses for production of hydro-power are permitted to the extent specified in Clause V and subject to the conditions and restrictions mentioned in the Final Order. No State is entitled to use water in excess of the limits specified in the Final Order. Consequently the explanation asked for in this clarification does not arise.

In A.P. Reference Notes Nos. 9 and 10 and M.R. Reference Note No. 9, the 17
question was raised whether any limitation should be placed on the storages of the upper States constructed for production of hydropower and for other purposes but on 8th March, 1976, the States of Andhra Pradesh and Maharashtra withdrew the aforesaid Notes. The State of Karnataka also does not want any clarification on the subject of storages. Accordingly we find no ground for any further clarification.

Clarification No. 2(a) 18

The Government of India has submitted with reference to Clause V(A) of the Final Order as follows :—

".....It is not clear whether in computing the 7 1/2 per cent figure the average annual utilisation should include evaporation losses from projects using 3 T.M.C. or more; or whether the evaporation losses from such projects should be excluded. Clarification and guidance is requested from the Tribunal on this point."

All the three States have conceded before us that for the limited purpose of Clause V of the Final Order, evaporation losses from reservoirs of projects using

3 T.M.C. or more annually shall be excluded in computing the 7 1/2 per cent figure of the average annual utilisations mentioned in sub-Clause A(ii), A(iii), A(iv), B(ii), B(iii), B(iv), C(ii), C(iii) and C(iv) of Clause V. For reasons given in this Report we have increased the aforesaid figure of 7 1/2 per cent to 10 per cent.

For purposes of clarification, we direct that the following sub-Clause V (D)(iii) be added after Clause V(D)(ii) after deleting the full stop at the end :—

(iii) evaporation losses from reservoirs of projects using 3 T.M.C. or more annually shall be excluded in computing the 10 per cent figure of the average annual utilisations mentioned in sub-Clauses A(ii), A(iii), A(iv), B(ii), B(iii), B(iv), C(ii), C(iii) and C(iv) of this Clause."

19 Clarification No. 2(b)

The Government of India has submitted as follows :—

" The Tribunal have in Clause IX of their final order laid down certain restrictions on various States with regard to use of waters in particular sub-basins and rivers. It has also been stated that these restrictions come into effect from 1st June after the publication of their decision. Guidance may kindly be given by the Tribunal whether, after a period of years when return flows from the irrigated areas would progressively become available, the ceilings specified by the Tribunal require any corresponding revision."

This clarification is considered and disposed of under clarifications Nos. XV, XVI, XVII and XIX in Reference No. III of 1974.

20 Clarification No. 2(c)

The Government of India has submitted with reference to sub-Clause (D) (i) of Clause V of the Final Order as follows :—

" The Tribunal have, in sub-Clause (D) (i) of Clause V of the final order declared the utilisations for irrigation in the Krishna basin in the water year 1968-69 from projects using 3 T.M.C. or more annually in the three States. As details of these figures would be necessary in regulating the sanction of the future projects as well as uses, the Tribunal are requested to give the break-up of these figures projectwise."

The figures of utilisations for irrigation in the Krishna river basin in the year 1968-69 from projects of the three States using 3 T.M.C. or more annually and mentioned in Clause V(D)(i) of the Final Order were fixed by agreement between the parties, see Report Vol. I, pages 277-278, 288, Vol. II, page 782.

It is not possible to give the break-up of these figures as the details have not been supplied by all the three party States.

21 Clarification No. 2(d)

The Government of India has submitted as follows :—

" Some of the projects of the States presently irrigate or may in future irrigate some areas outside the Krishna basin and regeneration from these areas

would not be available lower down in the Krishna basin itself. In such cases, the Tribunal may kindly give guidance whether the average annual utilisations for irrigation at such subsequent point or points of time should be computed by considering only such utilisations as are made only in areas lying physically within the Krishna basin ; or whether the total use of Krishna water from such projects should be considered, irrespective of whether such utilisation for irrigation is made in the Krishna basin or elsewhere. In the former case, the Tribunal may kindly specify the method by which account should be kept of such utilisations by the States in terms of Clause XIII of their final order."

Clause V of the Final Order clearly provided that the annual utilisations for irrigation within the Krishna river basin only from projects using 3 T.M.C. or more annually shall be taken into account for computing the 7 ½ per cent figure.

Clause XIII(A) (a) and (f) provides that each State shall prepare and maintain annually for each water year, complete detailed and accurate records of (i) annual water diversions outside the Krishna river basin and (ii) annual uses for irrigation within the Krishna river basin from projects using 3 T.M.C. or more annually. 22

We see no ground for any further clarification.

Clarification No. 3 23

The Government of India has submitted as follows:—

" The Tribunal have advised in Chapter V of their Report that until another control body is established, the Tungabhadra Board should control the maintenance and operation of the entire Tungabhadra Dam and reservoir and spillway gates on the left and the right sides; and that the existing practice with regard to the preparation of the working tables of the Tungabhadra reservoir by the Tungabhadra Board and regulation of discharges from the reservoir in accordance with such working tables should be continued. The Tribunal may kindly clarify that the Tungabhadra Board is to be assigned the task of controlling and regulating the water in all the canals, both on the left and the right sides."

We have found that there is no ground for taking away the administration and control of the Tungabhadra Left Bank Canals and their headworks from the Karnataka Government and vesting them in the Tungabhadra Board or any other joint control body, see Report Vol. I page 166. In view of this finding, the task of controlling and regulating the water in the canals on the left side could not be assigned to the Tungabhadra Board.

At page 166 of Vol. I of the Report, after stating that the control over the maintenance of the entire Tungabhadra Dam and reservoir and spillway gates on the left and right sides should be vested in a single control body but that this may be done by suitable legislation we said that " until another control body is established **such control** may be vested in the Tungabhadra Board ". We must point out that our intention was to say that until another control body is established, such control as is already vested in the Tungabhadra Board may continue to be vested in the Tungabhadra Board. 24

With a view to make plain our intention we direct that:—

(a) the following sentence in lines 16 and 17 at page 166 of Vol. I of the Report be deleted :—

" Until another control body is established, such control may be vested in the Tungabhadra Board " ; and

(b) the following sentence be added after the words " if necessary " in line 22 at page 166 of Vol. I of the Report:—

" Until another control body is established, such control as is already vested in the Tungabhadra Board may continue to be vested in the Tungabhadra Board."

Our attention is drawn to the fact that the statement " The arrangement suggested in this working table is purely ad hoc and without prejudice to the rights, claims and apportionment of Tungabhadra waters or of the regulation of Tungabhadra Reservoir in future years " appearing at the foot of the working tables prepared
25 by the Tungabhadra Board and mentioned in lines 11 to 15 at page 167 of our Report Vol. I will be inappropriate in a working table prepared after our Report.

We direct that the statement " The arrangement..... in future years" mentioned above be not added in the working tables prepared hereafter by the Tungabhadra Board or any other authority established in its place.

We direct that the preceding paragraph be added at the end of page 167 of Vol. I of the Report.

26 **Clarification No. 4**

The Government of India has submitted as follows :—

" In Clause IX of the final order, the Tribunal have laid down the restrictions on the use in any water yet in the Tungabhadra sub-basin by the States of Karnataka and Andhra Pradesh.

It is not inconceivable that in some years, the Tungabhadra reservoir may be low and the inflows into the reservoir in pre-monsoon and early monsoon or in other periods may not be adequate to meet the requirements of both Karnataka and Andhra Pradesh from the Tungabhadra river/reservoir and/or to build up the storage.

It is not clear whether the States concerned in the Tungabhadra Project are entitled to proportionate share of water during each crop season and according to the water requirements of crops for their areas depending on the Tungabhadra reservoir, which is to be operated by a Central agency, **viz.,** the Tungabhadra Board. There should be no occasion for any State to utilise the inflows into the reservoir during the months of June, July or August (to quote an instance) exclusively for its own irrigation or for building up the storage on the ground that the State would still be within the limits set by the Tribunal both in respect of Krishna River system and the Tungabhadra sub-basin. Clarification and guidance of the Tribunal are requested in this matter."

This clarification is considered and disposed of under clarifications Nos. XV, XVI, XVII and XIX in Reference No. III of 1974.

Clarification No. 5 **27**

The Government of India has submitted as follows :—

" There are several diversion schemes on the Tungabhadra river below the Tungabhadra Reservoir. They are Vijayanagar Channels, Rajolibunda Diversion Scheme and the Kurnool-Cuddapah Canal. There are no storage at the head-works of these schemes, and regulated releases from the Tungabhadra reservoir are necessary for the irrigation thereunder during Kharif as well as Rabi season, to supplement the inflows between the reservoir and the headworks of these schemes. At present, these requirements are being met from the releases into the river from the reservoir.

While dealing with the issue relating to the releases for Rajolibunda Diversion Scheme and Kurnool Cuddapah Canal at page 602 of the Report, the Tribunal have observed as follows :

' With regard to issue No. IV(B)(a) we may mention that we have divided only dependable flow of the river Krishna between the States of Maharashtra, Mysore and Andhra Pradesh and we have also placed restrictions on the use of water by the States of Mysore and Andhra Pradesh in the Tungabhadra sub-basin (K-8) as mentioned hereinbefore. In our opinion no further directions are necessary for the release of the waters from the Tungabhadra dam :

(i) for the benefit of the Kurnool Cuddapah Canal;
(ii) for the benefit of the Rajolibunda Diversion Scheme ; and
(iii) by way of contribution to the Krishna river.

Issue No. IV(B)(a) is decided accordingly.'

At page 371 of the Report, while dealing with Rajolibunda Diversion Scheme, the Tribunal have however observed ' We think that the requirement of the Project can be met fully from the intermediate yield below Tungabhadra dam and regulated releases from the dam. Moreover, in allocating the Krishna waters, we have, as far as possible, taken into account the return flow from irrigation.'

Explanation and guidance is requested from the Tribunal whether, in view of the finding at page 371 of the Report, the Tungabhadra reservoir working tables should be prepared by the Tungabhadra Board to release, whenever necessary, water from the Tungabhadra reservoir for the diversion works to supplement the intermediate flows for ensuring the utilisation on these diversion works to the extent they have been accepted by the Tribunal." **28**

This clarification is considered and disposed of under clarifications No. XV, XVI, XVII and XIX in Reference No. III of 1974.

Clarification No. 6 **29**

The Government of India has submitted as follows :—

" In Scheme A, which has been ordered for implementation, the Tribunal have made **en bloc** allocations of water for consumptive use in a 75 per cent dependable year to various States. However, in a lean year, the flows would be less than the aggregate of the quanta of water which have been allocated to the various States. The Tribunal have indicated at page 542—Volume II of the

Report—that they have not expressly provided for the sharing of deficiency. It, however, needs to be pointed out that the acuteness of shortages would vary depending upon the percentage dependability of the flow which occurs in any particular year and conflicts could be avoided if the Tribunal kindly consider the matter further and indicate some **modus operandi** to ensure that shortages are shared in a fair and equitable manner. The Tribunal may also kindly consider giving directions on provisions of adequate river sluices or other arrangements for releasing waters from reservoirs in the lower reaches of the rivers in the Krishna basin,"

The question of sharing of shortages has been dealt with in the original Report submitted under section 5(2) of the Inter-State Water Disputes Act, 1956, and elsewhere in this Report. Scheme ' B ' which provides for sharing of both surplus and deficiency in the entire Krishna river basin could not be implemented for reasons given in the Report and on account of the opposition by Andhra Pradesh, In the scheme of allocation embodied in the Final Order, Andhra Pradesh will be
30 at liberty to use the excess flow in surplus years and at the same time will have to bear the burden of the deficiency in lean years save as indicated in this Report. We see no ground for further clarification in the matter of sharing the deficiency.

The question of providing adequate river sluices in the dams of the upper States was mooted in the supplementary pleadings of the parties, see SP-IV pages 15-17, 20, 29-31, 47-48. Andhra Pradesh asked for directions for adequate river sluices in the dams of the upper States to provide timely supplies for irrigation in Andhra Pradesh having regard to the fact that there were no river sluices in the dams of Tata Hydel Works at Khopoli and Walwan and in Ujjani and Hidkal Dams, that adequate river sluices were not provided in the Koyna Dam, Bhadra Reservoir and the dam of the proposed Malaprabha Project and that it was doubtful if they would be provided in the Narayanpur and Almatti dams of Upper Krishna Project. Karnataka contended that the requirement of irrigation in Andhra Pradesh would have to be regulated by it from reservoirs available in its own State, that water may be released from a reservoir nor only from river sluices but also from canals, power turbines and spillways and that only such directions might be given as would be necessary to ensure the proper working of the allocations to be made by the
31 Tribunal. Maharashtra submitted that the question of providing sluices in Tata Hydel Works which were constructed long ago did not arise, that Ujjani dam was cleared by the Planning Commission without any provision for river sluices, that Koyna Project was cleared without providing larger number of river sluices, that the question of provision of sluices in all dams and anicuts was a question of fact and evidence in each case, that some of the questions to be considered were (a) the cost of providing river sluices, (b) the safety of the dam and (c) whether river sluices would in any manner secure any reasonable or substantial benefit and that in the absence of particulars or evidences, the prayer of Andhra Pradesh should be rejected.

The common draft of Part II of Scheme ' B' provided that the Krishna Valley Authority should determine necessary sluicing capacities required for the releases from reservoirs (existing as well as new) for the purpose of proper regulation and should ensure that necessary works for the same be carried out immediately.

As Scheme 'B' could not be implemented, it was realised that in the absence of any particulars or evidence, no direction could be given regarding river sluices and_other arrangements for release of water from reservoirs of upper States. Consequently we did not give any direction in our Final Order regarding this matter.

However, the three party States made further submissions in their replies filed **32** in this reference. Andhra Pradesh sought the clarification that while giving technical clearance, the Central Water and Power Commission might fix provision for adequate sluices in dams keeping in view the requirements of the projects and the necessity for letting down the waters for downstream projects after obtaining the views of the lower States and that the upper States should construct their dams strictly in accordance with Central Water and Power Commission specifications. Karnataka reiterated the submission made in SP-IV pages 47-48. Maharashtra submitted that in the scheme of allocation embodied in the Final Order, there was no question of providing any river sluices or other arrangement for releasing water for reservoirs of the lower States.

We are aware of the necessity for provision of river sluices and/or other arrangements for release of water from dams. It is to be observed that the Central Electricity Authority and Central Water Commission are expert technical bodies and are fully competent to advise on the question of the adequacy of river sluices. We trust that they will give particular attention to the matter and while giving technical clearance to projects give suitable directions for the provision of **33** river sluices and/or such other arrangements for release of water from the dams of such projects as may be necessary for the safety of these dams as also for the benefit of downstream projects.

CHAPTER III

REFERENCE No. II OF 1974 BY THE STATE OF ANDHRA PRADESH

In this reference, the State of Andhra Pradesh seeks clarification, explanation and guidance on the points mentioned and dealt with below :—

Clarification No. 1

The State of Andhra Pradesh submitted as follows :—

" In Clause 5 (c) of the final order of this Honourable Tribunal the State of Andhra Pradesh was given the liberty to use in any water year the water remaining after meeting the specific allocations to Maharashtra and Karnataka under sub-clause (a) and (b) of Clause 5. -

This general scheme may not obviously apply as far as the allocations under the Tungabhadra Sub-basin are concerned for the following reasons :

(a) The benefits under Tungabhadra Right Bank High Level and Low Level Canals and the Rajolibunda Diversion Scheme have to be shared in the particular proportions as were agreed to between the States of Karnataka and Andhra Pradesh **(vide** pages 155 and 156 and 170 and 171 of the Report).

(b) Under Clause 9(b)(i) and (c)(i) the quantities that can be utilised from K-8 and K-9 Sub-basins by Karnataka and Andhra Pradesh are also fixed. Under Clause 9(d)(ii) it was clarified that the restrictions under Clause c(i) do not apply to the water flowing from Tungabhadra into River Krishna.

In view of the above express provision in Clause 9 (page 785 of the Report) and the agreements referred to above, it may be explained and clarified that all
35 the projects of either State in the Tungabhadra and Vedavathi Sub-basins should rank equally and share the water available in proportion to the quantities fixed therefor under the decision of this Honourable Tribunal, subject to the restrictions indicated in Clause 9."

This clarification is considered and disposed of under clarifications Nos. XV, XVI, XVII and XIX in Reference No. III of 1974.

36 **Clarification No. 2**

The State of Andhra Pradesh has submitted as follows :—

" On the Tungabhadra river there are the following diversion schemes below the Tungabhadra Dam :

(i) Vijayanagar Channels of both Karnataka and Andhra Pradesh **(Vide** page 366 of the Report).

(ii) Rajolibunda Diversion Scheme jointly for Karnataka and Andhra Pradesh.

(iii) K. C. Canal—Andhra Pradesh.

The utilisations under these schemes are protected by this Honourable Tribunal **(vide** pages 389 to 392 of the Report). There are no storages at the headworks of these diversion schemes and for the protected irrigation thereunder during kharif as well as rabi seasons, regulated releases from the reservoir are necessary to supplement inflows between the reservoir and the headworks of these schemes. The need for such regulated releases and assistance from the reservoir was recognised by the concerned States and was mentioned in the 1944 Agreement between the Hyderabad and Madras States **(vide** page 161 of the Report), and was also agreed to in principle in the meeting of the Chief Engineers of the States of Karnataka and Andhra Pradesh **(vide** page 163 of the Report).

While dealing with the specific issue regarding directions for the releases for K. C. Canal and Rajolibunda diversion scheme, this Honourable Tribunal was pleased to state as follows :

' With regard to Issue No. IV(B)(a) we may mention that we have divided only the dependable flow of the river Krishna between the States of Maharashtra, Mysore and Andhra Pradesh and we have also placed restrictions on the use of water by the States of Mysore and Andhra Pradesh in the Tungabhadra sub-basin (K-8) as mentioned herein before. In our opinion no further directions are necessary for the release of the waters from the Tungabhadra Dam. 37

(i) for the benefit of the Kurnool-Cuddapah Canal;

(ii) for the benefit of the Rajolibunda Diversion Scheme;' **(vide** page 602 of the Report).

While dealing with Rajolibunda Diversion Scheme this Honourable Tribunal was pleased to observe at page 371 of the Report:

' We think that the requirement of the project can be met fully from the intermediate yield below Tungabhadra dam and regulated releases from the dam. Moreover, in allocating the Krishna waters we have, as far the possible, taken into account the return flow from irrigation.'

At present the releases needed for these works are being met from the releases into the river from the reservoir by the Tungabhadra Board. The State of Andhra Pradesh submits that this Honourable Tribunal may be pleased to explain and clarify that the finding given on issue IV(B)(a) does not amount to denial of the right to regulated releases for the said diversion schemes from the Tungabhadra Reservoir to supplement the Intermediate flows for ensuring the utilisation there-under with the quantities sanctioned for these projects by this Honourable Tribunal."

This clarification is considered and disposed of under clarifications Nos. XV, XVI, XVII and XIX in Reference No. III of 1974.

38 Clarification No. 3

Andhra Pradesh contended that as the total allocation in Tungabhadra (K-8 sub-basin) to Karnataka is 289.87 T.M.C., Clause IX(B) should have restrained the State of Karnataka from using more than 290 T.M.C. in any water year and that the figure 290 T.M.C. be substituted for 295 T.M.C. in Clause IX(B)(i) of the Final Order.

On the 23rd August, 1974, the learned Advocate General of Andhra Pradesh stated that the Tribunal need not deal with this clarification and that the clarification was not pressed by him for the reason that the ceiling of 295 T.M.C. was fixed taking into consideration the total requirements of the State as assessed from the demands which have been protected or which have been held as worth consideration including also their share in the return flow.

Therefore, there is no need for any further clarification.

39 Clarification No. 4

Andhra Pradesh contended that there was overlapping allocation of 1.865 T.M.C. for bandharas (Item No. I(j)(iii) of MRPK-XXXI) under the Koyna-Krishna Lift Irrigation Scheme at page 643 of the Report and under bandharas at page 702 of the Report. Andhra Pradesh submitted that the allocation of Maharashtra be reduced by 1.865 T.M.C. and this quantity of water be allocated to the State of Andhra Pradesh.

On the 5th March 1976, the learned Advocate General of the State of Andhra Pradesh made the following statement:—

" In view of the contention of the State of Andhra Pradesh concerning the scope of section 5(3) of the Inter-State Water Disputes Act, 1956, and that the allocations are **en bloc,** the State of Andhra Pradesh is not pressing clarification No. 4 of Andhra Pradesh Reference No. II/1974."

Therefore, there is no need for any further clarification.

40 Clarification No. 5

The State of Andhra Pradesh submitted that the maximum quantity that could be utilised in K-5 and K-6 sub-basins of the States of Maharashtra and Karnataka should be specified without reference to specific utilisations on any particular tributary in the said sub-basins and that the maximum quantity that could be utilised for minor irrigation in K-5 and K-6 sub-basins may be indicated.

On the 23rd August, 1974 the learned Advocate General of Andhra Pradesh stated that he did not press this clarification as there was no material on record on which he could substantiate it.

Therefore, there is no need for any further clarification.

Clarification No. 6 41

The State of Andhra Pradesh prays that the Tribunal should declare that preferred uses are entitled to priority over contemplated uses. On the 23rd August, 1974, the learned Advocate General of Andhra Pradesh stated that the point raised in this clarification was covered by the finding of the Tribunal at page 322 of the Report and it was, therefore, not pressed by him.

Therefore, there is no need for any further clarification.

Clarification No. 7 **42**

Andhra Pradesh rightly points out that the four works mentioned at the bottom of page 384 of Vol. I of the Report, though committed as on September 1960, came into operation subsequently. We direct that lines 1 to 4 at page 385 of Vol. I of the Report be deleted and in their place the following passage be substituted :—

" The above mentioned four works were under construction in September, 1960 and as they came into operation subsequently, their utilisations are not reflected in the figure of utilisations under minor irrigation works in Krishna basin in Mysore State for the decade 1951-52 to 1960-61. However, as these works Were committed as on September, 1960, their utilisations also may be protected. Adding the utilisations for the above works, 'the sub-basin wise utilisations under minor irrigation works in Krishna basin in Mysore State committed as on September, 1960 were as follows:—"

Andhra Pradesh suggests corrections of certain clerical errors. **We** find that there are several other typographical and/or clerical errors in the original Report. We direct that all the typographical and/or clerical errors set forth in Appendix B of Chapter VI of this Report be corrected.

CHAPTER IV

REFERENCE No. III OF 1974 BY THE STATE OF KARNATAKA

Learned Counsel for the State of Karnataka stated that the Tribunal has correctly laid down the principles for resolving water disputes under the Inter-State Water Disputes Act, but he contended that the Tribunal had erred in the application of those principles. In this reference, the State of Karnataka seeks clarification, explanation and guidance on the points mentioned and dealt with below.

Clarification No. I

Karnataka seeks clarification whether the Tribunal may be pleased—

(i) to provide for a machinery for the determination of the realistic 75 per cent dependable flows ; and

(ii) to allocate the 75 per cent dependable flows, if any, in excess of 2060 T. M. C. in such proportion as the Tribunal may be pleased to decide.

The parties agreed that the 75 per cent dependable flow be adopted as 2060 T.M.C. Accordingly the Tribunal has determined that the 75 per cent dependable flow of the river Krishna up to Vijayawada is 2060 T.M.C., see Report Vol. 1 pages 260-262, Vol. II page 776. Our estimate of the dependable flow may need revision in the light of the flow data that may be available in future, see
44 Report Vol. II page 509. The necessity for such revision is one of the reasons for providing review by a competent authority or Tribunal under Clause XIV of the Final Order, see Report Vol. II pages 513, 790. The determination and allocation of the dependable flow at a future date can be done by this Tribunal or by-another Tribunal appointed under the Inter-State Water Disputes Act, 1956. We cannot delegate this power to any other authority appointed by us as suggested by Karnataka (KR Reference Note No. I).

In our Report, we have held that the 75 per cent dependable flow 2060 T.M.C. will be augmented by return flow from time to time and by Clause V of our Final Order we have provided for distribution of such additional depenable flow. Counsel for the State of Karnataka has contended that (a) the Tribunal has estimated that 7 ½ per cent of the excess utilisation for irrigation after 1968-69 from projects using 3 T.M.C. or more annually will be the additional 75 per cent dependable flow due to return flow available for distribution from time to time but in making this estimate the Tribunal has omitted to consider the effect of continuous and prolonged irrigation before and after 1968-69 on the magnitude of return flow and (b) on a consideration of all relevant materials, the Tribunal should have found that more than 7 ½ per cent of the excess utilisations would be added to the 75 per cent dependable flow from time to time and should have

made the allocations accordingly. Learned Counsel for the State of Andhra **45** Pradesh has submitted that (a) in the reference application of the State of Karnataka, it is not alleged that the estimate of the Tribunal regarding the additional dependable flow by reason of return flow is erroneous, (b) the Tribunal had no power to modify its estimate of the return flow and (c) the State of Andhra Pradesh will suffer if too high an estimate of return flow is made. Learned Counsel for the State of Maharashtra has submited that under section 5(3) of the Inter-State Water Disputes Act, 1956, the Tribunal may not revise its estimate of return flow. We give below our findings.

At pages 48-49 of its Reference application, the State of Karnataka asks for determination and allocation of the 75 per cent dependable flow in future in excess of the agreed quantity of 2060 T.M.C. For establishing that the omission by the Tribunal to take into consideration relevant materials has resulted in too low an estimate of the additional dependable flow arising from return flow, the State of Karnataka has relied on the materials on the record of this case. We are satisfied that the aforesaid contentions of Karnataka are not outside the scope of its reference application and we must examine them on their merits.

The parties agreed that a percentage of the excess utilisation for irrigation in the Krishna basin from projects using 3 T.M.C. or more would appear as **46** return flow and would augment the 75 per cent dependable flow of 2060 T.M.C. We found that this return flow could safely be taken to be 7 ½ per cent of the excess utilisation after 1968-69, see Report Vol. I pages 275-280. We may point out how we came to make this estimate.

At pages 275-276 of Vol. I of the Report, we observed that the 75 per cent dependable flow was determined to be 2060 T.M.C. after taking into account the flow series from 1894-95 to 1971-72 in which flow series the upstream utilisations for the years 1969-70 to 1971-72 were assumed to be the same as in 1968-69 disregarding the extra utilisations, if any, after 1968-69. We then pointed out that after 1968-69 there would be gradually increasing utilisations for irrigation in the Krishna basin and the excess utilisation for irrigation after 1968-69 would yield substantial return flow no part of which was reflected in the dependable flow of 2060 T.M.C. and we found that this return flow could be safely taken to be 7 ½ per cent of the excess utilisation for irrigation after 1968-69. In making this estimate, we took into account the return flow appearing within five years of the diversions for new irrigation after 1968-69. But we omitted to take into account the unimpeachable and uncontradicted evidence on the record that return flow on reaching full magnitude after 10 to 30 years from the beginning **47** of irrigation would be much more than the return flow appearing within five years, sec Report Vol. I page 268 and the authorities cited in Footnote (14) at that page, Framji's evidence pages 322-323, 338-339, 450.

It is to be observed that new irrigation from projects such as the Ghod Dam and Radhanagari Projects of Maharashtra, Ghataprabha Project Stage I, Bhadra Reservoir, Bhadra Anicut, Tunga Anicut, Tungabhadra Project Left Bank Low Level Canal, Tungabhadra Project Right Bank Low Level and High Level Canals

of Karnataka and Tungabhadra Project Right Bank Low Level and Rajolibunda Diversion Scheme of Andhra Pradesh was gradually increasing between 1951 and 1968-69, see MRDK-VIII pages 1 to 24 and return flow from a large part of such new irrigation had not reached their full magnitude by 1968-69. As a matter of fact, the utilisation for irrigation in the Krishna basin from projects using 3 T.M.C. or more annually had increased from 163.83 T.M.C. in 1964-65 to 407.50 T.M.C. in 1968-69 (see Report Vol. I pages 277-278) and return flow from the new irrigation since 1964-65 could not have been stabilised in 1968-69. We omitted to take into account the fact that the entire return flow from new irrigation before 1968-69 was not reflected in the dependable flow of 2060 T.M.C. and that a large part of return flow from the diversions for irri-

48 gation before 1968-69 would increase the dependable flow of 2060 T.M.C. after 1968-69. Moreover there will be new irrigation from many projects after 1968-69. By May, 2000, a large part of this new irrigation would be continued for 10, 20 or 25 years and return flow from a part of this new irrigation would reach full magnitude. In estimating the return flow as 7 ½ per cent of the excess irrigation after 1968-69, we omitted to take into account the effect of this continuous and prolonged irrigation on the magnitude of the return flow.

Maharashtra's expert witness Mr. K. K. Framji has pointed out that in U.S.A., the ultimate stabilised return flow varies from 1/3 to 2/3 of annual diversions and was much larger than the return flow appearing within five years of the new irrigation but taking into account the differences in conditions in U.S.A. and Krishna basin. 10 per cent of annual diversions appearing within five years from the beginning of irrigation may be taken to be the reasonably minimum allowance for return flow which would be added to the dependable flow available for distribution in the Krishna basin, see Framji's evidence pages 451-452, 458-459, 1649-1650, Report Vol. I pages 273-274. This part of the evidence of Mr. Framji was not shaken in cross-examination nor is there any rebutting

49 evidence on the record. In estimating the return flow as 7 ½ per cent and not 10 per cent of the excess utilisation for irrigation after 1968-69, we omitted to take into account the effect of prolonged and continuous irrigation in the Krishna basin from projects using 3 T.M.C. or more annually since 1951 up to 1968-69 and after 1968-69. Had we considered this aspect of the matter we would have estimated the return flow as 10 per cent of the excess utilisations after 1968-69. On consideration of all relevant materials we hold that on a safe and conservative estimate 10 per cent of the utilisations for irrigation in the Krishna basin after 1968-69 from projects using 3 T.M.C. or more annually over the utilisations for such irrigation in 1968-69 from such projects will appear as return flow in the Krishna basin and will augment the 75 per cent dependable flow of 2060 T.M.C. of the river Krishna up to Vijayawada. We also hold that the allocations to the parties under Clause V of the Final Order should be increased accordingly.

Accordingly we direct that the figure " 10 " be substituted for the figure "7 ½" in line 2 at page 280, lines 17 and 27 at page 283, line 10 at page 284, line 4, 15 and 25 at page 285, line 24 at page 286, lines 9 and 20 at page 287 of Vol. I of the Report.

We also direct that the figure " 10 " be substituted for the figure " 7 ½" in our final Order in lines 4, 14 and 23 at page 778, lines 15 and 25 at page 779, line 8 at page 780 and lines 4, 14 and 23 at page 781 of Vol. II of the Report. **50**

After hearing arguments, we are of the opinion that by the water year 1998-99, if full utilisations for irrigation in the Krishna river basin from projects using 3 T. M. C. or more annually as mentioned in the original Report and this Report are made by Maharashtra and Karnataka and if full utilisation for irrigation of the ayacut of the Projects of Andhra Pradesh using 3 T.M.C. or more annually within the Krishna river basin as given by Andhra Pradesh is made by it, the return flow within the Krishna river basin from the utilisations of Maharashtra. Karnataka and Andhra Pradesh would be near about 25 T.M.C., 34 T.M.C. and 11 T.M.C. respectively and the total allocations to them respectively would then be near about 585 (560+25) T.M.C., 734 (700+34) T.M.C. and 811 (800 +11) T.M.C. respectively under Clause V of the Final Order modified as a result of the explanations given in this Report under section 5(3) of the Inter-state Water Disputes Act. 1956.

Clarification No. II **51**

Karnataka prays that this Tribunal may be pleased to clarify its decision having regard to the terms of reference and to direct the implementation of Scheme 'B' irrespective of the consent of parties, subject to the clarifications sought in clarification No. III.

On behalf of the State of Karnataka it is submitted that the dependable flow of the river Krishna as well as the surplus flow in excess of dependable flow should be divided between the parties and that the allocation of waters at 75 per cent dependability only between the riparian States is not an adjudication in terms of the Inter-State Water Disputes Act, 1956, particularly in view of the pleadings of all the three States, their complaints to the Government of India and the Reference made by the Central Government to the Tribunal. The omission to divide all the waters, it is submitted, is an error apparent on the face of the record and should be corrected by allocating all the available waters of the river Krishna between the three States.

It is further submitted that Scheme 'B', subject to such modifications as the State of Karnataka has suggested, has the advantage of dividing the entire utilisable water of the river Krishna every year. The Tribunal had declined to implement Scheme 'B' and to constitute the Krishna Valley Authority on ground of propriety rather than on grounds of legality. The contention of the State of Karnataka is that the Tribunal should have by its order constituted an authority to implement Scheme ' B' without the consent of the parties. **52**

In our original Report we have discussed Scheme ' B ' and have pointed out that Scheme ' B ' provides for the fuller utilisation of the waters of the river Krishna and for the sharing of the surplus and the deficiency in every water year by all the three States. For the successful implementation of Scheme 'B', if is essential that the Krishna Valley Authority should be established and should function harmoniously. On the 26th July, 1973, Counsel for the States prepared,

subject to approval of the Stale Governments, a common draft of Part II of Scheme 'B' laying down the manner in which the Krishna Valley Authority would be constituted and the powers of the said Authority, sec Report Vol III, pages 99—110 Appendix 'R' It was considered that agreement between the parties on Part II of Scheme 'B' as drafted by them giving the constitution and powers of the Krishna Valley Authority was necessary and essential for the imple-

53 mentation of Scheme 'B' However, one of the States did not agree to Part II of the Scheme, see Report Vol II pages 521-522 We have pointed out that it, is unwise and impractical to impose an administrative authority by a judicial decree without the unanimous consent and approval of the parties, see Report Vol II page 539 Even to day, the State of Andhra Pradesh is opposed to the implementation of Scheme 'B' and to the constitution of Krishna Valley Authority Consequently the Krishna Valley Authority which includes a nominee of Andhra Pradesh as envisaged by the common draft of Part II of Scheme 'B' cannot be constituted Unless the Krishna Valley Authority is constituted, Scheme ' B' cannot implemented

The best method of creating an administrative authority for regulating the distribution of the waters of an inter-State river and river valley including the waters available for use from inter-State projects is by agreement between the interested States or by a law made by Parliament The Government of India has promoted agreements between the States concerned for setting up the Bhakra, Chambal, Gandak, Mahi, Bansagar and other Control Boards for the efficient execution of specific joint projects, see Government of India, Ministry of litigation and Power Resolutions No DW II-22(3), dated 25-9-1950, No F 11(2) 54-DWI, dated 14-4-1955, No DWI-25(1)/60, dated 8-8-1961,

54 No DWI/72(l)/71, dated 27-11-1971 and No 8/17/74-DW-1I, dated 30-1-1974 The Control Boards were set up with the active participation of the States concerned and consisted of nominees of the State Governments and the Government of India. In U S A , administrative authorities for the implementation of inter-state compacts regarding the use, control and distribution of the waters of the whole or part of inter-State rivers and river valleys have been set up by compacts between the interested States, see the Arkansas River Compact 1948, the Arkansas River Basin Compact 1965, the Bear River Compact 1955, the Canadian River Compact 1948, the Costilla Creek Compact 1963, the Delaware Basin River Compact 1948, the pecos River Compact 1948, the Red River of the North Compact 1948, the Rio Grande Compact 1948, the Upper Colorado River Compact 1948, and the Yellowstone River Compact 1950 In the present case, we have been unable to secure an agreement between the three riparian States for the establishment of the Krishna Valley Authority

Administrative authorities for the development of inter-State river valleys and for completion, maintenance and operation of inter-State projects have been constituted by or under the authority of Central Acts The Damodar Valley Corporation for the development of the inter-State Damodar Valley was constituted by the Damodar Valley Corporation Act, 1948 The Tunga-bhadra Board was constituted by directions issued by the President in the

55 exercise of his powers under sub-section (4) of section 66 of the Andhra State

Act, 1953 for the completion, operation and maintenance of the inter-State Tungabhadra Project defined in sub-section (5) of section 66. The Bhakra. Management Board was constituted by the Central Government under section 79 of the Punjab Re-organisation Act, 1966 for the administration, maintenance and operation of the inter-State Bhakra-Nangal Project. But no administrative authority has been constituted as yet by any Act for the development and regulation of the inter-State Krishna river and river valley.

The administrative authority envisaged by Scheme 'B' should have jurisdiction over the water resources of the entire Krishna river and river valley. At present the Tungabhadra Board constituted by the President under section 66 of the Andhra State Act, 1953 exercises jurisdiction over the water resources concerning the Tungabhadra Project mentioned above. This tribunal has no power to abolish the Tungabhadra Board. "

In these circumstances, we do not think it proper that Scheme 'B' should be implemented by our order.

We cannot agree with Karnataka's contention that the scheme of allocation called Scheme 'A' as embodied in the Final Order is not a scheme for the **56** division of water in accordance with the provisions of the Inter-State Water Disputes Act, 1956. The Act nowhere requires that the dispute referred to it should be decided in a particular manner. The Tribunal has been given ample powers to decide the dispute in any manner it deems fit. Scheme 'A' embodied in our Final Order is a recognised mode of division of the dependable supply of water in an inter-State river water dispute, see Wyoming V Colorado 259 U.S. 419-496 (1922).

Counsel for the State of Karnataka argued that it was the duty of the Tribunal under the Inter-State Water Disputes Act. 1956 to divide not only the 75 per cent dependable flow of the river Krishna but also the excess supply in surplus years. We cannot accept this argument. The average river flow is the theoretical upper limit of the utilisable river supply that can be developed by storage and regulation, see the National Water Resources Washington 1968 pages 3-2-5, First Five Year Plan pages 335-338. Without further study it is not possible to say that water can be impounded in storages to such an extent that river flow of 50 per cent dependability can or should be distributed, see Report Vol. II page 503. The average flow of the river Krishna is of the order of 2390 to 2394 T.M.C, see Report Vol. III pages 80, **57** 88, 98 But until a chain of reservoirs having sufficient carry-over storages is constructed in the Krishna basin, it is not possible to utilise or distribute the river flow to the full extent. Nor is it possible to provide for the sharing of the surplus or deficiency in the absence of a regulating authority. We have pointed out why we could not appoint such an authority. In these circumstances Clause V of our Final Order provides for distribution of 75 per cent dependable flow of 2060 T.M.C. and the estimated augmentation of the dependable flow by reason of return flow from time to time.

Under the present circumstances, the criterion of 75 per cent dependability of river flow is the most suitable for irrigation projects in the Krishna basin and has been adopted by us for purposes of allocation for the reasons given

at pages 235 to 238 of Vol. I of the Report. The parties including the State of Karnataka have themselves agreed to the figure of 2060 T.M.C. on the basis of 75 per cent dependability. The argument that the method of allocation adopted by us is improper or illegal has no force. The apportionment of water of the inter-State river Krishna must be adapted to the peculiar characteristics of the river system, see Report Vol. I pages 305-306. We may also point out that until 1971-72 less than 1000 T.M.C. was utilised in the
58 entire Krishna basin, see MRDK-VIII pages 1 to 24 and until the entire dependable supply of 2060 T.M.C. is fully utilised, the complaint regarding the apportionment of the remaining water is unrealistic.

All the three States are bound by the decision of the Tribunal and it is not expected that they will do anything in breach thereof. If there is goodwill and spirit of co-operation among the three States, there will be no difficulty in implementing the decision of the Tribunal. If necessary, in order to advise the States concerning the regulation and development of the inter-State Krishna river and river valley and in relation to the co-ordination of their activities with a view to resolve conflicts among them, the Central Government may establish a River Board under the River Boards Act, 1956 charged with the responsibility of advising the States on the implementation of the Tribunal's decision. It is expected that such advice will be followed by all the States. If any dispute arises among the State Governments concerned with respect to any advice tendered by the Board, the dispute may be resolved by arbitration under section 22 of the Act.

59 Clarification No. Ill

(a) Karnataka seeks clarification and/or explanation that this Tribunal may be pleased to give directions as to the modifications necessary to be effected in the clauses of the Final Order, for the implementation of Scheme ' B'.

(b) Karnataka seeks clarification and/or explanation—

(i) that the provision for equal distribution of surplus waters under Scheme ' B ' is liable to be modified, providing for the equitable allocation of the said waters consistent with the findings relating to the needs and resources within the Krishna basin in respect of each State;

(ii) that the shares of Andhra Pradesh and Maharashtra as provided in Scheme ' B' are liable to be reduced accordingly consistent with the findings recorded by this Tribunal; and

(iii) that consequently the allocation to Karnataka from the surplus waters under Scheme ' B' are liable to be raised.

Paragraph 2 of Scheme ' B' at pages 604-605 of Vol. II of the Report provides for division of water in excess of 2060 T.M.C. between the three States equally. Considering that in the Original Report Scheme ' B' was intended to remain in operation for the period up to the 31st May, 2000, when it will be subject to review by a competent authority or Tribunal and in view of the fact that up to the year 1971, only 996 T.M.C. was utilised by all the three States

and it was unlikely that more than 2060 T.M.C. will be utilised by them before the 31st May, 2000. we stated that the excess over 2060 T.M.C. should be **60** shared by the three States equally. However, now we have omitted the provision relating to review in respect of Scheme ' B' and consequently it has now become necessary to modify the provisions in scheme ' B ' with regard to sharing of the excess over 2060 T.M.C.

After hearing full arguments on the question of distribution of water in excess of 2060 T.M.C. under Scheme 'B' and on a consideration of all the relevant circumstances, we direct that:

(a) the words "T.M.C. " in lines 22, 23 and 24 at page 604 of Vol. II of the Report be deleted; and

(b) sub-paragraph (B) of paragraph 2 in lines 25 to 28 at page 604 and lines 1 to 4 at page 605 of Vol. II of the Report be deleted and in its place the following sub-paragraph (B) of paragraph 2 be substituted :—

" (B) If the total quantity of water used by all the three States in a water year is more than 2060 T.M.C., the States of Maharashtra, Mysore and Andhra Pradesh shall share the water in that water year as mentioned below :— **61**

(i) Up to 2060 T.M.C. as stated in paragraph 2(A) above and excess up to 2130 T.M.C. as follows:—

State of Maharashtra	..	35% of such excess.
State of Mysore	..	50% of such excess.
State of Andhra Pradesh	..	15% of such excess.

(ii) Up to 2130 T.M.C. as stated in paragraph 2(B)(i) above and excess over 2130 T.M.C. as follows:—

State of Maharashtra	..	25% of such excess.
State of Mysore	..	50% of such excess.
State of Andhra Pradesh	..	25% of such excess."

While fixing the shares of the three States in the waters used in excess of 2060 T.M.C. under Scheme ' B ', we have taken into account the following matters :—

(a) the share of each State should be fair and equitable;

(b) under Scheme ' B ' all the States would share the surplus as well as the deficiency; and

(c) as far as possible, the shares of the States under Scheme ' B' should be in consonance with their shares under Scheme ' A ' and water for irrigation should be provided in the first instance for all areas within the Krishna river basin.

After hearing full arguments, we have thought it proper to make certain other changes in Scheme ' B '. We direct that the following corrections regarding **62** Scheme ' B' in the body of the Report be made:—

(a) " (A)" in line 17 at page 606 and the whole of sub-paragraph (B) of paragraph 7 at lines 1 to 5 from bottom at page 606 and lines 1 to 5 at page 607 of Vol. II of the Report be deleted.

(b) The words " and as often as the Krishna Valley Authority thinks fit" be inserted after the words " last week of May" and before the words " the Krishna Valley Authority" in paragraph 8 in lines 6 and 7 at page 607 of Vol. II of the Report.

(c) The word " May" in paragraph 9(A) (ii) in line 22 at page 607 of Vol. II of the Report be deleted and in its place the word " July " be substituted.

(d) In line 23 at page 616 of Vol. II of the Report at the end of the para graph beginning with the words " In the first case the State of Andhra Pradesh ", the words " share equally" be deleted and in their place the words " share equitably" be substituted.

Having given the broad outlines of Scheme ' B ' at pages 604 to 609, we have
63 mentioned at the end of paragraph 11 at page 608 of Vol. II of the Report that Clauses II, VI, VII. IX, X, XI, XIV, XV, XVI and XVII of Scheme ' A' with such modifications as may be deemed necessary may form part of Scheme ' B'.

The words " with such modifications as may be deemed necessary" were used because some changes would be necessary in several Clauses of Scheme 'A' if they are to form part of Scheme ' B '. The State of Karnataka has submitted that the necessary modifications should be indicated by the Tribunal.

On the 8th May, 1975, Dr. Seyid Muhammad, Counsel for the Government of India, made the following statement before this Tribunal:—

" The Government of India have examined both Schemes ' B' and ' A'. They feel that Scheme ' B' is better and easier to implement than Scheme ' A' . If Scheme ' B 'comes as part of the final order of this Hon'ble Tribunal, the Government of India will take necessary steps for putting it into operation. Scheme ' B' may be put as part of the final order in the manner as the Hon'ble Tribunal feels fit. We would like to have a complete scheme formulated by this Hon'ble Tribunal."

As mentioned in our Report, Scheme ' B' provides for a fuller and better utilisation of the waters of the river Krishna. But we cannot make Scheme 'B' part of our Final Order as requested by learned Counsel for the Government of India, because the Final Order should contain only such provisions as may be
64 implemented independently of any agreement or law made by Parliament. After hearing the parties, we have drawn up a complete Part I of Scheme ' B ' with all necessary modifications.

The complete Scheme ' B ' drawn up by us is given below :

Part I of the Scheme

Clause I.—This Scheme shall come into operation on.....

Clause II.—On the coming into operation of this Scheme, an Inter-State Administrative Authority to be called " The Krishna Valley Authority " shall be established having the constitution as laid down in Part II of this Scheme and having the powers and duties as mentioned in Parts I and II of this Scheme.

Clause III.—As from the water year following the date on which the Krishna Valley Authority is established, the waters of the river Krishna shall be divided between the States of Maharashtra, Karnataka and Andhra Pradesh for their beneficial use as mentioned hereinafter :

(A) In case the total quantity of water used by all the three States in any water year is not more than 2060 T.M.C., the States of Maharashtra, Karnataka and Andhra Pradesh shall share the water in that water year in the following proportions :—

State of Maharashtra	..	560
State of Karnataka	..	700
State of Andhra Pradesh	..	800

65

(B) If the total quantity of water used by all the three States in a water year is more than 2060 T.M.C., the States of Maharashtra, Karnataka and Andhra Pradesh shall share the water in that water year as mentioned below :

(i) Up to 2060 T.M.C. as stated in Clause III(A) above and excess up to 2130 T.M.C. as follows:—

State of Maharashtra—35 per cent of such excess.

State of Karnataka—50 per cent of such excess.

State of Andhra Pradesh—15 per cent of such excess.

(ii) Up to 2130 T.M.C. as stated in Clause III (B) (i) above and excess over 2130 T.M.C. as follows :—

State of Maharashtra—25 per sent of such excess.

State of Karnataka—50 per cent of such excess.

State of Andhra Pradesh—25 per cent of such excess.

Clause IV.—Beneficial use shall include any use made by any State of the waters of the river Krishna for domestic, municipal, irrigation, industrial, production of power, navigation, pisciculture, wild life protection and recreation purposes.

Clause V.—The Krishna Valley Authority is charged with the duties of ensuring that from time to time the waters of the river Krishna are made available for the beneficial use of the States of Maharashtra, Karnataka and Andhra Pradesh in accordance with the provisions contained in these Clauses and of maintaining the account of the use made by each State in each water year.

66

Clause VI.—It is hereby declared that the States of Maharashtra, Karnataka and Andhra Pradesh will be free to make use of underground water within their respective State territories in the Krishna river basin.

This declaration shall not be taken to alter in any way the rights, if any, under the law for the time being in force of private individuals, bodies or authorities.

Use of underground water by any State shall not be reckoned as use of the water of the river Krishna.

Clause VII.—(A) If, in any water year, any State is not able to use any portion of the water allocated to it under Clause III during that year on account of the non-development of its projects, or damage to any of its projects or does not use it for any reason whatsoever :—

(i) that State will not be entitled to claim the unutilised water in any subsequent water year; and

(ii) any other State may make use of the unutilised water, and such use
67 shall not be charged to the share of that other State, but thereby it shall not acquire any right whatsoever in any such use.

(B) Failure of any State to make use of any portion of the water allocated to it during any water year shall not constitute forfeiture or abandonment of its share of water in any subsequent water year nor shall it increase the share of any other State in any subsequent water year even if such State may have used such water.

Clause VIII.—(A) Except as provided hereunder a use shall be measured by the extent of depletion of the waters of the river Krishna in any manner whatsoever including losses of water by evaporation and other natural causes from man made reservoirs and other works without deducting in the case of use for irrigation the quantity of water that may return after such use to the river.

The uses mentioned in column No. 1 below shall be measured in the manner indicated in column No. 2.

Use	*Measurement*
Domestic and municipal water supply.	By 20 per cent of the quantity of water diverted or lifted from the river or any of its tributaries or from any reservoir, storage or canal.
Industrial use.	By 2.5 per cent of the quantity of water diverted or lifted from the river or any of its tributaries or from any reservoir, storage or canal.

68

The water stored in any reservoir, across any stream of the Krishna river system shall not of itself be reckoned as depletion of the water of the stream except to the extent of the losses of water from evaporation and other natural causes from such reservoir. The water diverted from such reservoir by any State for its own use in any water year shall be reckoned as use by that State in that water year.

(B) Diversion of the waters of the river Krishna by one State for the benefit of another State shall be treated as diversion by the State for whose benefit the diversion is made.

Clause IX.—Unless otherwise directed by the Krishna Valley Authority the provisions of Clause IX of the Final Order of the Tribunal set forth in this Report shall be observed.

Clause X.—(1) The State of Maharashtra shall not out of the water allocated to it divert or permit the diversion of more than 67.5 T.M.C. of water outside the Krishna river basin in any water year from the river supplies in the Upper Krishna (K-l) sub-basin for the Koyna Hydel Project or any other project.

Provided that the State of Maharashtra will be at liberty to divert outside the Krishna river basin for the Koyna Hydel Project water to the extent of 97 T.M.C. **69** annually during the period of 10 years commencing on the 1st June, 1974 and water to the extent of 87 T.M.C. annually during the next period of 5 years commencing on the 1st June, 1984 and water to the extent of 78 T.M.C. annually during the next succeeding period of 5 years commencing on the 1st June, 1989.

(2) The State of Maharashtra shall not out of the water allocated to it divert or permit diversion outside the Krishna river basin from the river supplies in the Upper Bhima (K-5) sub-basin for the Projects collectively known as the Tata Hydel Works or any other project of more than 54.5 T.M.C. annually in any one water year and more than 213 T.M.C. in any period of five consecutive water years commencing on the 1st June, 1974.

(3) Except to the extent mentioned above the State of Maharashtra shall not divert or permit diversion of any water out of the Krishna river basin.

Clause XI.—(A) This Scheme will supersede—

(i) the agreement of 1892 between Madras and Mysore so far as it related **70** to the Krishna system ;

(ii) the agreement of 1933 between Madras and Mysore so far as it related to the Krishna river system;

(iii) the agreement of June, 1944 between Madras and Hyderabad ;

(iv) the agreement of July, 1944 between Madras and Mysore, so far as it related to the Krishna river system;

(v) the supplemental agreement of December, 1945 among Madras, Mysore and Hyderabad ;

(vi) the supplemental agreement of 1946 among Madras, Mysore and Hyderabad.

(B) The regulations set forth in Annexure 'A' (i) to this Scheme regarding protection to the irrigation works in the respective territories of the State of Karnataka and Andhra Pradesh in the Vedavathi sub-basin be observed and carried out.

(C) The benefits of utilisations under the Rajolibunda Diversion Scheme be shared between the States of Karnataka and Andhra Pradesh as mentioned herein below :—

Karnataka	..	..	1.2 T.M.C.
Andhra Pradesh	.'.	..	15.9 T.M.C.

(1) Annexure ' A' to the Scheme is the same as Annexure ' A' to the Final Order.

71 **Clause XII.—**For the fuller utilisation of the waters of the river Krishna, the States of Maharashtra, Karnataka and Andhra Pradesh may construct such storages and at such places as may be determined by Krishna Valley Authority for impounding water which would otherwise go waste to the sea.

Clause XIII.—The Krishna Valley Authority shall collect the details of the uses made by each State from time to time and after such scrutiny as it deems proper it shall, subject to the provisions contained in Clause VII, charge each State with the use made by it.

Clause XIV.—In every water year in the second week of October, last week of December and last week of May and as often as the Krishna Valley Authority thinks fit, the Krishna Valley Authority shall determine tentatively the quantity of water which is likely to fall to the share of each State in accordance with the aforesaid Clauses and adjust the uses of the parties in such a manner that by the end of the water year each State is enabled, as far as practicable, to make use of the water according to its share.

72 **Clause XV.**—For giving effect to the aforesaid provisions, the Krishna Valley Authority may from time to time direct the transfer of water from the project of an upper State to the project of a lower State and may take any other steps for ensuring that each State may use in each water year, the quantity of water allocated to it in that water year.

During the period 1st of July to 30th of September in any water year the Krishna Valley Authority shall not direct transfer of water from any project in any upper State, except in times of acute water shortage and for urgent need of water by a lower State, but it shall take care that thereby the project of the upper State from which water is directed to be transferred is not placed in worse position than the project of the lower State to be benefited by such transfer.

When directing the transfer of water the Krishna Valley Authority may give appropriate directions regarding the manner in which the water so transferred shall be used by the State receiving the water.

73 **Clause XVI.**—If it is found on final accounting at the end of the water year that the water used in the water year by any State is in excess of or less than its share as determined under Class III, the said Authority may, subject to the provisions of Clause VII. take such steps as it deems necessary to adjust the water accounts of the parties by regulating the extent of the use of water to be made by each State in succeeding years.

Clause XVII.—If the water stored in one State is released for use of any other State by the directions of the Krishna Valley Authority, the State using the water shall be charged with the losses due to evaporation after it has received the water in its storage, but the losses incidental to the diversion, impounding or conveyance of water in one State for use in another State shall be deducted from the total water available for distribution.

Clause XVIII.—Nothing in this Scheme shall impair the right or power or authority of any State to regulate within its boundaries the use of water, or to

enjoy the benefit of waters within that State in a manner not inconsistant with this Scheme.

Clause XIX.—In this Scheme,

(a) Use of the water of the river Krishna by any person or entity of any **74**
nature whatsoever within the territories of a State shall be reckoned as use by that State.

(b) The expression " water year " shall mean the year commencing on 1st June and ending on 31st May.

(c) The expression " Krishna river " includes the main stream of the Krishna river, all its tributaries and all other streams contributing water directly or indirectly to the Krishna river.

(d) The expression "T.M.C. " means thousand million cubic feet of water.

Clause XX.—Nothing contained herein shall prevent the alteration, amendment or modification of all or any of the foregoing Clauses by agreement between the parties.

Clause XXI.—Upon the establishment of the Krishna Valley Authority this Scheme shall supersede the Final Order of the Tribunal except Clause XVIII thereof.

The common draft of Part II of Scheme ' B' giving the constitution and powers of the Krishna Valley Authority prepared by Counsel for the States of Maharashtra, Karnataka and Andhra Pradesh will be found at pages 99 to 110 of Vol. III of the Report. At the concluding stages of the arguments in this Reference, it was suggested that the Krishna Valley Authority should be vested by law with the power to hold property and to sue or be sued in its own name. It will be for the parties to consider whether the Krishna Valley Authority should be vested with such power.

Clarification No. IV **75**

Karnataka prays that this Tribunal may be pleased to clarify and/or explain—

(i) that the allocation of 50.84 T.M.C. made to Andhra Pradesh towards contemplated uses is inconsistant with the findings recorded by this Tribunal;

(ii) that the said quantity of 50.84 T.M.C. is liable to be deducted from the allocations made to Andhra Pradesh as being inconsistent with the findings recorded by this Tribunal ; and

(iii) that the said quantity of 50.84 T.M.C. is liable to be allocated to the State of Karnataka consistent with the findings recorded by this Tribunal.

We have pointed out that although Andhra Pradesh has already appropriated large quantities of water, the door should not be entirely closed to it for allotment of some water out of the dependable flow, see Report Vol. II page 570. We have allocated 749.16 T.M.C. to Andhra Pradesh for its protected uses, see Report Vol. I page 392. Karnataka submits that we should not have allocated an additional 50.84 T.M.C. to Andhra Pradesh comprising 33 T.M.C. for Srisailam Hydro-Electric Project and 17.84 T.M.C. for Jurala Project. These two allo-

cations are the subject matter of clarifications Nos. XIV and XXII and will be
76 considered under those clarifications.

Clarification No. V

77 Karnataka prays that this Tribunal may be pleased to clarify and/or explain—

(i) that a quantity of about 34 T.M.C. being 7 1/2 per cent of 110 T.M.C. of westward diversion by Maharashtra and 350 T.M.C. diverted or likely to be diverted outside the basin by Andhra Pradesh, is liable to be deducted out of the allocations made to Maharashtra and Andhra Pradesh by reason of their permanent loss to the river system and the basin ;

(ii) that the aforesaid quantity of 34 T.M.C. is liable to be considered for allocation to Karnataka in order to compensate the denial of allocations, to the extent possible ;

(iii) that the quantity of return flows from the utilisations made by Andhra Pradesh within the Krishna basin from out of the remaining waters in excess of its allocation under Clause V (C) may be directed to be assessed and determined ; and

(iv) that Andhra Pradesh is not liable to acquire any right to the return flows by utilisations of the remaining waters in excess of its allocation in Clause V (C) from projects utilising 3 T.M.C. or more.

78 All the parties agreed to the protection of west ward diversions of 67.5 T.M.C. from the Koyna Project and 42.6 T.M.C. from the Tata Hydel Works by Maharashtra without stipulating that Maharashtra should bear the loss of return flow in respect of such diversions, see Report Vol. I page 330, Vol. II page 413. In answer to the objections raised in AP Note 7 para 5 and MY Note 8 para 13, Maharashtra stated in MR Note 13 para 11 and MR Note 14 para 2 with reference to its claims for westward deversion in excess of 119.6 T.M.C. that it was agreeable to be debited with the regenerated water lost by such diversion. However, Maharashtra was not allowed to divert westward water in excess of 119.6 T.M.C.

All the parties agreed that certain utilisations from the Guntur Channel and Tungabhadra Project Right Bank High Level Canal Stages I and II should be protected without stipulating that Andhra Pradesh should be debited with the return flow from the out-of-basin diversions from these projects, see Report Vol. I page 332. There would be diversions outside the basin also from Krishna Delta Canals, Nagarjunasagar Right Bank Canal and K.C. Canal (see Report Vol. II page 409), but we have made the allocations bearing in mind the fact that water diverted to another water-shed is wholly lost to the basin and no part of it appears as return flow in the basin, see Report Vol. II page 402, Vol. I page 270. Morever, under Clause V of the Final Order, each State gets the benefit of the additional 75 per cent dependable flow on account of return flow from the utilisations for
79 irrigation within the Krishna basin from its own projects using 3 T.M.C. or more annually, see Report Vol. I page 281, Vol. II pages 777-782. There is no need for any further clarification on paragraphs (i) and (ii) of clarification No. V.

We see no reason for clarifying our decision with regard to return flow arising from use of water by Andhra Pradesh in excess of 800 T.M.C. as asked for under clarification No. V (iii) and (iv). In this connection, reference may be

made to the following statement of the learned Advocate General of Maharashtra recorded in the order dated the 19th August, 1974 :—

"In connection with the clarification No. V(iii) and (iv) sought by the State of Karnataka in its Reference to this Tribunal, the Advocate General of Maharashtra States that the right, if any, which may be acquired by the State of Andhra Pradesh in the additional 75 per cent dependable flow on account of the return flows until the Tribunal's order is reviewed by a competent authority at any time after May 31, 2000 arising from the use of water in excess of 800 T.M.C. allotted to the State of Andhra Pradesh by the Tribunal, will be unsubstantial in view of the following considerations :—

(1) the cost of constructing projects utilising 3 T.M.C. and more of water;

(2) the time likely to be taken in constructing such projects and the develop ment of irrigation;

(3) that the right to return flows is restricted to the use of water for irrigation in excess of 170 T.M.C. of water used by Andhra Pradesh for the water year commencing from June 1, 1968 and ending on May 31, 1969; and

(4) that the right to return flows is restricted to return flows from the use of the water for irrigation inside the basin."

We are in substantial agreement with this statement.

Clarification No. VI

The State of Karnataka seeks clarification as to— 80

(i) whether Clause XIV (B) should be amended providing for review or revision of allocations immediately after the Krishna waters are augmented; and

(ii) whether the Tribunal may be pleased to decide the contentions of Karnataka as to the adjustment of equities and for additional allocations in the event of augmentation of the Krishna waters, on the basis of proportionate allocations.

Karnataka seeks adjustment of equities and additional allocations of water in the event of augmentation of the Krishna waters by diversion of waters of any other river. In our opinion, readjustment of the shares of the three States in the Krishna Waters in the event of its augmentation by diversion of the waters of any other river can be made only upon such diversion when the quantity of the diverted water and the place where such water can be utilised will be known.

The question whether there is surplus water in the river Godavari available for diversion into the Krishna after meeting the needs of all the five riparian States interested in the waters of the Godavari and, if so, how much of such water can be usefully diverted for augmenting the waters of the Krishna can be decided only by the Godavari Water Disputes Tribunal after full investigation in the presence of the five riparian States of Maharashtra, Andhra Pradesh, Madhya Pradesh, Orissa and Karnataka. It is not possible to determine these questions in the Krishna case on the basis of the materials on the records of this case. On the 19th April, 1971, all the States agreed that the Krishna case should be decided separately from the Godavari case and by consent of the parties, the States of 81 Madhya Pradesh and Orissa were discharged from the records of the

Krishna case. With the consent of the parties, the Krishna Water Disputes Tribunal decided the Krishna case before the decision of the Godavari case by the Godavari Water Disputes Tribunal. Obviously in the absence of Madhya Pradesh and Orissa, it is not possible to determine in the Krishna case whether any surplus water is available for diversion from the river Godavari into the Krishna, see S.P. II pages 53, 71, 79-82.

The question of readjustment of the shares of the three States in the Krishna waters in the event of its augmentation by diversion of the waters of another river will require examination if and when such diversion is made. However, Clause XIV(B) of the Final Order read with our observations at page 226 of Vol. I and pages 514 and 790 of Vol. II of the Report appear to give the parties liberty to urge their respective claims and contentions in respect of such augmentation of the Krishna waters after the 31st may, 2000, but not earlier.

The State of Karnataka submits that the augmentation of the Krishna waters by diversion of the waters of the Godavari is likely to take place before the 31st May, 2000 and if it is not allowed to agitate! its claim to a share in the diverted waters as soon as the diversion takes place, the State of Andhra Pradesh may utilise such waters before the 31st May, 2000 and claim protection for its
82 utilisations and thus gravely prejudice the claims of the other States. The State of Andhra Pradesh contended that the parties should not be given liberty to re-open the allocations immediately upon such augmentation as there should be a quietus at least for 25 years. The State of Maharashtra submits that Clause XIV (B) of the Final Order should not be amended as the Final Order was passed after hearing the parties.

While referring to the provisions of Clause XIV (B) of the Final Order at pages 226 and 514 of our Report, this Tribunal omitted to consider whether there were sufficient grounds for debarring the parties from agitating their claims and contentions before the 31st May, 2000, even if the diversion might take place earlier. It now appears that construction of suitable storages upstream of Polavaram enabling diversion of the Godavari waters into the river Krishna from Polavaram may be possible before the 31st May, 2000. We find that there can be no serious objection to re-allocation of the Krishna waters as soon as there is augmentation of the waters of the river Krishna by diversion of the surplus waters, if any, of the Godavari which is not part of the equitable share of any State in the Godavari waters. On a consideration of all relevant materials and the contentions of the parties, we think it just and proper that the parties should be at liberty to agitate their respective claims and contentions in respect of the
83 augmentation of the Krishna waters by diversion of the waters of another river if and as soon as the diversion is made, even if such diversion takes place before the 31st May, 2000.

In the circumstances, we direct that the following Clause XIV(B) be substituted for the original Clause XIV(B) of our Final Order at page 790 of Vol. II of the Report:—

" In the event of the augmentation of the waters of the river Krishna by the diversion of the waters of any other river, no State shall be debarred from claiming before any authority or Tribunal even before the 31st May, 2000 that

it is entitled to a greater share in the waters of the river Krishna on account of such augmentation nor shall any State be debarred from disputing such claim ".

We also direct that the words " We are providing for review ..... disputing such claim." appearing in lines 5 to 21 at page 226 of Vol. I of the Report be deleted and in their place the following words be substituted :—

"In respect of this matter we propose to give suitable directions in Clause XIV(B) of the Final Order."

We further direct that the words " before the aforesaid reviewing authority or Tribunal" appearing in lines 19 and 20 at page 514 of Vol. II of the Report be deleted and in their place the following words be substituted :—

" before any authority or Tribunal even before the 31st May 2000."

Clarification No. VII

84

Karnataka prays that this Tribunal may be pleased to clarify and/or explain—

(i) that the liberty given to Andhra Pradesh to use the remaining water in excess of allocations made to it under Clause V(C) is limited to the existing carryover capacity as found by this Tribunal to meet the deficiency in deficit years;

(ii) that the liberty given to Andhra Pradesh to utilise surplus waters be restricted to utilisation within the basin; and

(iii) that the liberty given to Andhra Pradesh for the utilisation of surplus waters does not confer rights on Andhra Pradesh either to divert waters outside the basin in excess of its allocations or to construct new works for utilisation outside the basin, except with prior consent of the upper States.

There is no ground for limiting the use of the remaining water by Andhra Pradesh to its existing carry-over capacity. If the remaining water is not used by Andhra Pradesh, it will be wasted to the sea.

At pages 409-411 of Vol. II of the Report, we have given full reasons for not imposing restrictions on Andhra Pradesh regarding diversion of water outside the Krishna basin. We see no ground for further clarifying this matter.

Clarification No. VIII

85

Karnataka seeks clarification—

(i) whether this Tribunal may be pleased to modify Clause V(B) of the Final Order providing for additional allocations to Karnataka and imposing restrictions on the utilisation of Andhra Pradesh in areas other than in Krishna basin and imposing restrictions on the utilisation of surplus waters by Andhra Pradesh; and

(ii) whether provisions similar to those contained in Clause V (C) enabling Andhra Pradesh to utilise waters which flow down unutilised from out of shares of the upper States, be provided to enable similar utilisations by Karnataka.

We have already considered Karnataka's contention regarding restrictions on utilisations by Andhra Pradesh in areas outside the Krishna basin.

We see no ground for making additional allocations to Karnataka save as mentioned in this Report.

Under the scheme of allocation embodied in our Final Order and in the absence of a regulating body, it is not possible to provide that Karnataka will be at liberty to use the waters which flow down unutilised. Save as mentioned in this Report, we see no ground for clarifying our decision with regard to use of surplus water by Andhra Pradesh.

Clause V(C) of the Final Order provides that by reason of the liberty given to Andhra Pradesh to use in any water year the remaining water that may be
86 flowing in the river Krishna, Andhra Pradesh "shall not acquire any right whatsoever to use in any water year nor be deemed to have been allocated in any water year water of the river Krishna in excess of the quantity specified " therein.

We make it clear that by reason of the liberty given to Andhra Pradesh under Clause V(C) of the Final Order to use the remaining water that may be flowing in the river Krishna, Andhra Pradesh shall not acquire any right whatsoever to the remaining water in excess of the quantity specified in Clause V(C) including any right to the continued use of such water because communities have grown up relying on such permitted use, and all such water shall be available for allocation to the parties.

87 Clarification No. IX

(a) The State of Karnataka seeks clarification—

(i) whether the quantity of 1865 Mcft in respect of the item I (j) (iii) (MRPK-31) is liable to be deducted from the quantity of 17.8 T.M.C. allocated to Maharashtra under bandharas, weirs and lift irrigation schemes.

(ii) that the said quantity of 1865 Mcft is liable to be allocated to Karnataka to compensate, at least partly, the denial of their just share in the 75 per cent dependable flows.

(b) The State of Karnataka seeks clarification—

(i) whether the quantity of 720 Mcft is liable to be deducted from the quantity of 17.8 T.M.C. allocated to Maharashtra under bandharas, weirs and lift irrigation schemes and also deducted from the quantity of 23.4 T.M.C. allocated to Koyna-Krishna Lift Scheme; and

(ii) that the said quantity of 1440 Mcft (720 Mcft deducted twice) is liable to be allocated to Karnataka to compensate, at least partly, the denial of their just share in the 75 per cent dependable flows.

(c) The State of Karnataka seeks clarification—

(i) whether the quantity of 1570 Mcft allocated to Urmodi and Tarali bandharas is liable to be deducted from the quantity of 17.8 T.M.C. allocated to Maharashtra under " bandharas, weirs and lift schemes "; and

(ii) that the said quantity of 1570 Mcft is liable to be allocated to Karnataka to compensate, at least partly, the denial of their just share in the 75 per cent dependable flows.

88 (d) The State of Karnataka seeks clarification—

(i) whether the quantity of 747 Mcft allocated to Maharashtra under bandharas, weirs and lift irrigation schemes for the work "lift irrigation on the left bank of the river Krishna up to Mysore State border", is liable to be deducted from the quantity of 17.8 T.M.C. allocated to Maharashtra under bandharas,

weirs and lift irrigation schemes and also deducted from the quantity of 23.4 T.M.C. allocated to Maharashtra for Koyna-Krishna Lift Scheme; and

(ii) that the said quantity of 1494 Mcft (747 Mcft 4educted twice) is liable to be allocated to Karnataka to compensate, at least partly, the denial of their just share in the 75 per cent dependable flows.

(e) The State of Karnataka seeks clarification—

(i) whether the quantity of 1234 Mcft allocated to Maharashtra under bandharas, weirs and lift schemes for the work " lift irrigation in rest of the area under the right bank of the Krishna river upto Mysore State border" is liable to be deducted from the quantity of 17.8 T.M.C. allocated to Maharashtra, under bandharas, weirs and lift irrigation schemes and also deducted from the quantity of 23.4 T.M.C. allocated for the Koyna-Krishna lift scheme; and

(ii) that the said quantity of 2468 Mcft (1234 Mcft deducted twice) is liable to be allocated to Karnataka to compensate, at least partly, the denial of their just share in the 75 per cent dependable flows.

To appreciate properly the contentions of Karnataka in respect of these clarifications, we may mention at this stage the following facts. Annexure II of the Master Plan of the State of Maharashtra in MRK-II pages 51-60 sets out its water requirements for its cleared and planned major and medium projects and minor irrigation works. On the 16th August, 1973, Maharashtra filed MR Note No. 30 showing its sub-basin wise demands under the Master Plan, the protected 89
utilisation, its balance demand under the Master Plan and its future demands from 75 per cent dependable flow on the assumption that further westward diversion would not be permitted. A summary of these demands is set out at pages 624-627 of the Report Vol. II. A summary of the sub-basin wise demands of Maharashtra for its works using less than 1 T.M.C. annually given in MR Note No. 30 and classified as minor irrigation are separately shown at pages 703-704 of the Report Vol. II. In MRK-II pages 51-60, projects were classified as major, medium and minor according to their cost, whereas in the Report they were so classified according to the quantum of their annual utilisation. The criteria of classification of projects and works as major, medium and minor are given at page 70 of Vol. I of the Report.

Earlier, on the 20th April, 1971, Maharashtra had filed **MRPK-XXXI** giving details of its bandharas and lift irrigation schemes both existing and under construction and stating that some of them were not shown separately in the Master Plan on the presumption that the areas irrigated therefrom would be served by certain projects mentioned in the Master Plan. The water requirements of bandharas and lift irrigation schemes mentioned in **MRPK-XXXI** are 90
summarised and discussed at pages 699-702 of our Report Vol. II.

We allowed 17.8 T.M.C. of water in respect of bandharas and lift irrigation scheme including works referred to in Serial Nos. I(j)(iii), I(j)(ii), I(a), I(j)(iv) and I(j)(viii) of **MRPK-XXXI.** Under clarification No. IX(a), (b), (c), (d) and (e), Karnataka contends that there are duplicate or triplicate allocations in respect of the aforesaid items. The following chart will show the serial numbers of the works, their locations, demands and relevant remarks in **MRPK-XXXI** as also the relevant clarification numbers and Karnataka's contentions with regard to these works.

Clarification No.	Sl. No. in MRPK XXXI	location of Scheme as given in MRPK XXXI	Demand in Mcft.	Remarks in MRPK XXXI	Contentions of Karnataka
X(a)	I (j) (iii)	n the Left Bank of the river Krishna in the command of the proposed Koyna-Krishna Lift Scheme.	1865	556 acres of cane and 7722 acres of seasonal crops are being grown under Lift irrigation. This will be merged in the command of the proposed Koyna-Krishna Lift Scheme (cl. No. 10, page 53, MRK-II).	*Duplicate allocation* — (1) Once under bandharas, weirs and lift irrigation Schemes. (2) Second time under Koyna-Krishna Lift Scheme.
IX (b)	I(j)(ii)	in the Left Bank of the river Krishna in the command of proposed extension of Krishna Canal from Khodshi.	720	186 acres of cane and 4200 acres of Kharif and Rabi seasonals are being grown under lift irrigation in this command. This irrigation will be merged in the command of the proposed project for extension of Krishna Canal (Sl. No. 6, page 52, MRK-II).	*Triplicate allocation* — (1) Once under bandharas, wiers and lift irrigation Schemes. (2) Second time under Krishna Canal ex-Khodshi Weir (5.7 T.M.C. from dependable flows and 2.5 T.M.C. from regeneration). (3) Third time under Koyna-Krishna Lift Scheme.
IX (c)	I (a)	Up to Khodshi Weir	1570	his withdrawal under existing bandharas in Urmodi and Tarali basins has already been included under Sl. No. 5 of Master Plan, MRK-II, Page 52.	*Duplicate allocation* — (1) Once under bandharas, wiers and lift irrigation Schemes. (2) Second time under minor irrigation.
IX(d)	I(j)(iv)	In the Left Bank of the river Krishna in, rest of the area up to Mysore State border.	747	1285 acres of cane and 4080 acres of seasonal crops are being grown under lift irrigation in this reach. This will be met out of proposed minor irrigation, requirements under Sl. Nos. 22, 24 and 26 pages 53-54, MRK-II.	*Triplicate allocation* — (1) Once under bandharas, weirs and lift irrigation Schemes. (2) Second time under minor irrigation. (3) Third time under Koyna-Krishna Lift Scheme.
IX(e)	I(j) (viii)	In rest of the area under the Right Bank of the Krishna River up to Mysore State border.	1234	2019 acres of cane and 7254 acres of seasonal crops is the Lift irrigation in this reach. This will be met out of the provision made for proposed minor irrigation works under Sl. No. 22, page 53, MRK-II.	*Triplicate allocation* — (1) Once under bandharas, weirs and lift irrigation Schemes. (2) Second time under minor irrigation. (3) Third time under Koyna-Krishna Lift Scheme.

Mr. T. R. Andhyarujina, Counsel for the State of Maharashtra addressed **93**
a general argument with regard to all the matters under clarification No. IX. He argued that the mass allocation of water to Maharashtra, Karnataka and Andhra Pradesh respectively cannot be vitiated by errors in assessment of their needs as the Tribunal intended to award en bloc 565 T.M.C., 695 T.M.C. and 800 T.M.C. to them respectively independently of such assessment. We are unable to accept this argument. Pages 582, 595-597 of our Report Vol. II clearly show than the figures of 565, 695 and 800 were arrived at after totalling the demands of the three States held by us as worth consideration at pages 570-582 and 619-770 of our Report Vol. II. As stated in our Report Vol. I pages 321-322 and Vol. II page 599, the allocations of water to the three States were not tied to any specific project or projects, but if it is found that in assessing their needs we have by inadvertence allowed any demand more than once, we are bound to correct the mistake and give consequentilal reliefs. We must, therefore, examine the merits of clarification No. IX.

Clarification No. IX(a)

94

While allowing the demand for 23.4 T.M.C. in respect of the Koyna-Krishna Lift Irrigation Scheme, we observed at page 643 of our Report Vol. II that " This will cover the demand for bandharas (item No. I(j)(iii) MRPK-31)". But at pages 699-702 of Vol. II of the Report, we found that Maharashtra's balance demand for bandharas, weirs and lifts was 17,812 Mcft without deducting therefrom by inadvertence the demand of 1865 Mcft for item I(j)(iii) of MRPK-XXXI. We should have made this deduction as the aforesaid demand of 1865 Mcft would merge in the Koyna-Krishna Lift Scheme. Had we made this deduction we would have found that the balance demand for bandharas and lift irrigation schemes was 15,947 (17,812-1865) Mcft and we would have allowed 15.95 T.M.C. instead of 17.80 T.M.C. in respect of bandharas, weirs and lift irrigation schemes. We thus find that there was excessive allocation of 1.85 (17.80-15.95) T.M.C. to Maharashtra in respect of bandharas, weirs and lift irrigation schemes.

Maharashtra argued that the word " not" was omitted by clerical mistake at page 643 of Vol. II of the Report and that the allowance of 23.4 T.M.C. was not intended to cover item No. I(j)(iii) of MRPK-XXXI in view of the fact that Maharashtra had made an additional demand of 32.5 T.M.C. for the Koyna-Krishna Lift Irrigation Scheme to irrigate additional areas in the Yerala Valley in the Talukas of Waive, Tasgaon and Kavathe-Mahankal in Sangli District (MR Note No. 26 Statement III Sl. Nos. 8 and 10). We cannot accept this argument. We allowed the demand for 23.4 T.M.C. required for irrigating scarcity areas in Tasgaon and Miraj Talukas as shown in the Project Report (MRPK-XXVIII pages 13-15). Part of the ayacut proposed under this Scheme is being irrigated from bandharas for which 1865 Mcft was claimed under item I(j)(iii) of MRPK-XXXI. At page 642 of Volume II of the Report we noted the demand of 32.5 T.M.C. for irrigating areas in the Yerala Valley in Waive, Tasgaon and Kavathe-Mahankal Talukas but we did not allow this demand. **95**

Clarification No. IX(b)

In MRPK-XXVIII page 3, Maharashtra demanded 5.7 .M.C. for the cleared **96**
portion of the Krishna Canal ex-Khodshi Weir Project to irrigate 25,500 acres out

of which 2.70 T.M.C. was protected and while allowing the demand for the balance 3 T.M.C. out of 75 per cent dependable flow as claimed by Maharashtra in MR Note No. 30 Sl. No. 4, we observed that this would cover the demand of 2.47 T.M.C. for lift irrigation under item I(j)(i) of MRPK-XXXI, see Report Vol. II pages 636-637, Vol. I page 330. In MRPK-XXVIII page 3, Maharashtra also claimed 2.5 T.M.C. for the proposed extension of Krishna Canal out of regeneration flow so that the total irrigation under the Project could be extended to 36,300 acres, see also MRK-II page 52 Sl. No. 6. Had this demand for 2.5 T.M.C. been allowed, it would have covered item I(j)(ii) of MRPK-XXXI but we did not allow this demand. Consequently we reject the argument of Karnataka (KR Reference Note No. VIII) that the demand for 720 Mcft under item I(j)(ii) of MRPK-XXXI is merged in the allocation of 3 T.M.C. for the cleared portion of the Krishna Canal.

97 We do not also accept the argument of Karnataka that the map annexed to the Project note of Koyna-Krishna Lift Scheme (MRPK-XXVIII page 24) shows that the area irrigated with the aforesaid 720 Mcft. lies in the command of Koyna-Krishna Lift Scheme for which we have allowed 23.4 T.M.C. We are not satisfied that this map supports Karnataka's contention. The index map of Krishna basin major and medium irrigation and power projects in Maharashtra State in MRK-II shows that the area irrigated under item I(j)(ii) of MRPK-XXXI is in the command of the proposed extension of Krishna Canal beyond the Yerala river for which we have not allowed any water and that it is not in the command of Koyna-Krishna Lift Irrigation Scheme in respect of which 23.4 T.M.C. was allowed. If we had allowed 54.1 T.M.C. in respect of the Koyna-Krishna Lift Scheme, the area irrigated by the enlarged scheme utilising 54.1 T.M.C. would have included the area irrigated by lift irrigation under item I(j)(ii) of MRPK-XXXI (see MR Note No. 26 Statement III items 8, 10 and 71) but we have not allowed 54.1 T.M.C. for this Scheme. We are satisfied that there is no duplicate or triplicate allocation of 720 Mcft and that there is no ground for deducting any water allocated to Maharashtra in respect of this item.

98 **Clarifications Nos. IX(c), (d) and (e)**

MRPK-XXXI shows that (1) the demand for 1570 Mcft under item I(a) of MRPK-XXXI for existing bandharas in the Urmodi and Tarali basins is included in serial No. 5 of MRK-II page 52, (2) the demand for 747 Mcft. under item I(j)(iv) of MRPK-XXXI for lift irrigation in the rest of the area on the left bank of the Krishna up to Mysore State border will be met out of the proposed minor irrigation requirements under serial Nos. 22, 24 and 26 of MRK-II pages 53-54 and (3) the demand for 1234 Mcft. under item I(j) (viii) of MRPK-XXXI for lift irrigation in the rest of the area under the right bank of the Krishna up to Mysore State border will be met out of the provision made for the proposed minor irrigation works under serial No. 22 of MRK-II page 53. The total demand for items I(a), I(j) (iv), I(j) (viii) amounts to 1570+747+1234=3551 Mcft. These demands were included in Maharashtra's claim for bandharas and lift irrigation schemes at pages 699-702 of Vol. II of the Report and were allowed by us in full.

However, in MR Note No. 30, Maharashtra demanded 47.2 T.M.C. for minor irrigation works including the works under serial Nos. 5, 22, 24 and 26 of MRK-II

(see serial Nos. 30, 33, 34 and 36 of MR Note No. 30). Out of this demand of 47.2 T.M.C., we found at pages 703-704 of Vol. II of the Report that in addition to 4.1 T.M.C., the demand to the extent of 22.37 T.M.C. in respect of minor irrigation was **99** worth consideration. Now this quantity of 22.37 T.M.C. taken as worth consideration included the demands of 1570 Mcft. 747 Mcft. and 1234 Mcft. aggregating to 3551 Mcft. under items I(a), I(j) (iv) and I (j) (viii) of MRPK-XXXI which we had allowed under bandharas, weirs and lift irrigation schemes at pages 699-702 of Vol. II of the Report. On deducting 3551 Mcft. from 22.37 T.M.C. and adding 4.1 T.M.C. we should have found that 22.919 or say 22.90 T.M.C. in respect of minor irrigation was worth consideration. Instead of doing so we found that the demand of 26.47 T.M.C. was worth consideration. Thus there is excessive allocation of 3.57 (26.47-22.90) T.M.C. to Maharashtra in respect of minor irrigation.

Karnataka also argued that the area irrigated under items I (j) (iv) and I (j) (viii) fell within the command of the Koyna-Krishna Lift Irrigation Scheme for which we have allowed 23.4 T.M.C. We cannot accept this argument. Item I(j) (iv) read with item I (j) (iii) shows that the demand under items I (j) (iv) for 747 Mcft. is for lift irrigation in areas outside the command of the Koyna-Krishna Lift Scheme. Item I(j) (viii) is for lift irrigation on the right bank of the Krishna, whereas the proposed Koyna-Krishna Lift Scheme is for irrigation on the left bank of the river, see MRPK-XXVIII page 13 and map facing page 24. We are satisfied that the demand under items I(j) (iv) and I(j) (viii) of MRPK-XXXI is not covered by the allocation of 23.4 T.M.C. for the Koyna-Krishna **100** Left Irrigation Scheme.

Clarification No. IX(f)

This clarification is with regard to the following six projects of the State of **101** Maharashtra :—

	Sub-basin	Name of Project	Utilisation in T.M.C.
1.	K—1	Nehr Tank	0.5
2.	K—5	Budihal Tank	0.9
3	K—5	Mehekari Project	0.7
4.	K—5	Kada Project	0.5
5.	K—5	Chandani Project	0.9
6.	K—6	Harni Project	0.6
			4.1 T.M.C.

The case of the State of Karnataka is that there has been triplicate allocation by this Tribunal with respect to these six minor irrigation works.

We reject the argument of the State of Karnataka that there was duplicate allocation for the aforesaid six minor irrigation works as allocation had been made for them under other minor irrigation works also. It is clear from what is stated at page 704 of Vol. II of the Report that we have allowed 4.1 T.M.C. for the aforesaid six minor irrigation works and 22.37 T.M.C. for other minor irrigation works.

Nor do we accept the argument of the State of Karnataka that the demand for 4.1 T.M.C. in respect of the aforesaid six Projects is included in the allocation

of 16.65 T.M.C. in respect of protected minor works of Maharashtra committed
102 up to September, 1960 at pages 383, 388 of Vol. I of the Report.

On the 16th July, 1973, the parties came to know of the projects and their utilisations which the Tribunal proposed to protect. On the 18th July, 1973, the learned Advocate General of Maharashtra started his arguments with regard to Maharashtra's demand of water in respect of the aforesaid six minor works. He asked for allocation of water in respect of the six projects and argued that their utilisations should be protected. Later on the same date, he stated as follows :—

" As Maharashtra is going to get allocation of waters for these six projects, he is not asking for any special protection or preference over contemplated uses regarding these projects."

The stand taken by the learned Advocate General of Maharashtra was that the aforesaid six projects should have been but were not included in the protected projects but it did not matter as the State of Maharashtra would be getting water for them from the general allocation of the remaining water. This
103 was the stand taken by the State of Maharashtra throughout the proceedings. On the 25th July, 1973, the State of Maharashtra filed MR Note No. 26 claiming water for the aforesaid six projects and stating that though Nehr Tank and Budihal Project were in operation since prior to September, 1960 and though Mehekari, Kada, Chandani and Harni Projects were under construction prior to September, 1960, they had not been included under preferred to protected uses. At no stage of the proceedings either on the 18th July, 1973 or subsequently, the States of Karnataka and Andhra Pradesh disputed the State of Maharashtra's claim of 4.1 T.M.C. for the aforesaid six projects or contended that this claim should not be allowed because it was included in Maharashtra's demand of 16.65 T.M.C. for minor irrigation which would be protected and allowed by the Tribunal.

Moreover, Mehekari, Kada, Chandani and Harni Projects though sanctioned and committed before September, 1960 came into operation after September, 1960, (see KGCR Annexure X pages 43, 39, 47 and 51 and MR Note No. 30 Sl. Nos. 62, 63, 69 and 87) and consequently their utilisations were not included in the utilisation of Maharashtra's minor irrigation works up to September, 1960 for which we allowed 16.65 T.M.C. Our finding at page 388 of Vol. I of the Report shows that We protected 0.11 T.M.C. only for Maharashtra's Minor irrigation works in K-6 sub-basin and this protection could not have possibly covered the demand for 0.6 T.M.C. for Harni Project in K-6 sub-basin.

Nehr Tank was in operation since 1881-1882, see KGCR Ann. VIII page 53, Budihal Project began to operate in 1957-58 but its full operation began after September, 1960, see KGCR Ann. IX page 51. Maharashtra contends that all the six projects including Nehr Tank and Budihal Project are Government canals and
104 on that ground their utilisations were not taken into account in computing the protected utilisation of minor irrigation works. There is no evidence on the record showing whether or not these projects are Government canals but it is quite clear that Maharashtra claimed water for them from the general allocation and Maharashtra's claim for such allowance was not disputed by the other States. This being the position, we do not find any force in Karnataka's contention that

they were included in Maharashtra's demands in respect of minor irrigation works for which protection had been granted.

It may, however, be mentioned that at page 20 of Maharashtra's reply in this Reference, Maharashtra incorrectly stated that the aforesaid Mehekari, Kada, Chandani and Harni Projects were in existence and operation prior to September, 1960. This statement purports to be based on the remarks at Sl. Nos. 62, 63, 69 and 87 of MR Note No. 30 but is not actually supported by those remarks. Part of this incorrect statement at page 20 of Maharashtra's reply was repeated in lines 2-4 at page 704 of Vol. II of the Report. In the circumstances, We direct that the following words in lines 2 to 4 at page 704 of Vol. II of the Report be deleted : **105**

" which according to the State of Maharashtra Were in existence even before 1960".

In the result, we find that there is excessive allocation to Maharashtra of 1.85 T.M.C. in respect of bandharas. weirs and lift irrigation schemes and 3.57 T.M.C. in respect of minor irrigation works. Thus, the total excessive allocation made to the State of Maharashtra by inadvertence amounts to 1.85+3.57=5.42 T.M.C. If this 5.42 T.M.C. were not allocated to Maharashtra by inadvertence in our original Report, we would have then, on a consideration of all relevant factors, (a) allowed an additional demand of Karnataka in respect of its Upper Krishna Project to the extent of 5 T.M.C. in addition to 52 T.M.C. allowed at page 719 of Vol. II of the Report, and (b) allowed an additional demand of Maharashtra in respect of Dudhganga Project to the extent of .42 T.M.C. in addition to 14 T.M.C. allowed to it in respect of this Project at page 666 of Vol. II of the Report.

Accordingly the award of 695 T.M.C. to Karnataka is increased to 700 T.M.C. by adding 5 T.M.C. mentioned above and the award of 565 T.M.C. to Maharashtra is decreased to 560 T.M.C. by deducting the aforesaid 5 T.M.C.

We direct that in our Final Order at pages 777 to 780 of the Report, the following modifications be made :— **106**

In line 27 at page 777 and in lines 3, 13 and 22 at page 778 the figure " 560 " be substituted for the figure " 565 ".

In lines 11, 14 and 24 at page 779 and in line 7 at page 780 the figure " 700 " be substituted for the figure " 695 ".

The explanations given above necessitate certain other modifications in the body of the Report. These modifications are set forth in Appendix ' C ' of Chapter VI of this Report.

Clarification No. X **107**

The State of Karnataka prays that this Tribunal may be pleased to clarify—

(i) that the extra quantity of 37.09 T.M.C. is liable to be met out of the share in surplus flows due to Andhra Pradesh, and is liable to be deducted from the allocation made to Andhra Pradesh from the 75 per cent dependable flows ; and

(ii) that the said 37.09 T.M.C. of 75 per cent dependable flows should be allocated to the State of Karnataka to compensate, at least partly, the denial of their just share in the 75 per cent depandable flows.

Karnataka contends that instead of allowing 116.25 T.M.C. we should have allowed only the dependable utilisation of 79.164 T.M.C. to Andhra Pradesh in respect of its minor irrigation works and that the excess 37.09 T.M.C. should be met out of surplus flows (KR Reference Note No. IX). We cannot accept this contention.

The utilisation for 1st and 2nd crops under major, medium and minor projects committed up to September, 1960 was protected and provision was made for such utilisation out of the 75 per cent dependable yield of 2060 T.M.C.

The average utilisation for minor irrigation during the decade 1951-52 to 1960-61 was 116.25 T.M.C. for Andhra Pradesh, 16.65 T.M.C. for Maharashtra and 92.198 T.M.C. for Karnataka, see MRDK-VIII pages 69 to 79. Adding the utilisations of certain minor irrigation works of Karnataka under construction in
108 September 1960, we found that the average decade utilisation for minor irrigation committed up to September 1960 was 16.65 T.M.C. for Maharashtra, 94.34 T.M.C. for Karnataka and 116.25 T.M.C. for Andhra Pradesh, see Report Vol. I pages 382 to 384, 388. Karnataka argues that in the case of minor irrigation works the utilisation for 20 years from 1941-42 to 1960-61 should be arranged in descending order and the 75 per cent dependable utilisation i.e. the utilisation in the 75th year in a series of 100 years should be protected, see MY Note No. 14 pages 5, 7-9. It is not disputed that for major and medium projects not covered by specific sanctions of particular utilisations, the average utilisation during the decade 1951-52 to 1960-61 should be taken to be the utilisation committed up to September, 1960. We see no reason why the average utilisation during this decade for minor irrigation also should not be taken to be the utilisation committed up to September, 1960 as in the case of major and medium projects. We may mention that the average decade utilisation for minor irrigation was taken into account for computing the upstream utilisation for minor irrigation every year and fixing the flow series from which the dependable flow of 2060 T.M.C. was ascertained.

The utilisation for irrigation depends upon the yield available at the site. The agreed data of utilisation for minor works given in MRDK-VIII pages 69 to 79
109 show that the yield required for irrigation every year during the period 1941-42 to 1966-67 was available and was actually utilised. In view of the agreed data given in MRDK-VIII pages 69 to 79, much reliance cannot be placed on the estimates of yields and utilisations for groups of minor irrigation projects given in APPK-XXXV. The utilisation for minor irrigation is the largest in Andhra Pradesh because of its flat terrain, but this is no ground for cutting down its allocation.

The data supplied by Maharashtra in MR Note No. 23 and by Karnataka in MY Note No. 14 show variations in utilisation for first crop and much larger variations in utilisation for second crop under minor works. One of the reasons for the large variation in second crop irrigation under minor irrigation is that the second crop is more dependent on the comparatively uncertain north-east monsoon. Most of the area under minor irrigation is irrigated from tanks. The observations at page 159 of the Krishna Godavari Commission Report show that the yield from the north-east monsoon and any yield from the south-west monsoon left in the tanks at the end of the Khariff season are used for growing second crop. We are

not satisfied that the average decade utilisations for first and second crops under minor irrigation should not be protected because of the wide variations in such utilisations.

110 In its answer to Reference No. III of 1974 Maharashtra submitted that the second paragraph at page 387 of Vol. I of the Report is not a correct summing up of the case of the parties on minor irrigation. But on the 8th August, 1974, the learned Advocate General of Maharashtra withdrew the submission and stated that—

" In the reply filed by the State of Maharashtra to the Clarification No. X sought by the State of Karnataka in its Reference to the Tribunal, the State of Maharashtra set out a passage from the Report of the Tribunal at page 23 of its reply and slated that is was not a correct summing up, inter alia, of Maharashtra's case and the State of Maharashtra asked that the matter should be clarified. I, on behalf of the State of Maharashtra, withdraw the above submission for clarification as far as the State of Maharashtra is concerned ".

However, for the sake of clarification, we direct that the words " It is common case before us that" in the 11th line at page 387 of Vol. I of the Report be deleted and in their place the words " In our opinion " be substituted.

Clarification No. XI

111

Karnataka prays that this Tribunal may be pleased to clarify and/or explain—

(i) that the quantity of 17 T.M.C. is liable to be deducted from the allocations made to Andhra Pradesh for the Nagarjunasagar Project and Krishna Delta as being inconsistent with the findings recorded by this Tribunal; and

(ii) that the said quantity of 17 T.M.C. is liable to be allocated to Karnataka to compensate, at least partly, the denial of their just share in the 75 per cent dependable flows.

Mr. Sachindra Chaudhuri, Counsel for the State of Karnataka, did not press this clarification.

We protected the utilisation of 281 T.M.C. (inclusive of evaporation losses) under the Nagarjunasagar Project and 181.20 T.M.C. under Krishna Delta of Andhra Pradesh, see Report Vol. I pages 351, 359 and 391. There are obvious clerical mistakes at page 578 of Vol. II of the Report and the figure and words "281 T.M.C. inclusive of evaporation losses" should be substituted for the figure and words "264 T.M.C." in lines 3 and 10 at page 578 and the figure "462.20" should be substituted for the figure "445.20" in line 14 at page 578 of Vol. II of the Report. We direct that the original Report be corrected accordingly. We reject the argument of Karnataka that 17 T.M.C. is liable to be deducted from the allocation made to Andhra Pradesh for Nagarjunasagar Project (KR Reference Note No V).

112 Clarification No. XII

The State of Karnataka prays that this Tribunal may be pleased to clarity—

(i) that the quantity of 4 T.M.C. towards evaporation loss is not liable to be protected, having not been established by Andhra Pradesh;

(ii) that the quantity of 4 T.M.C. allocated to Andhra Pradesh as evaporation loss in the Krishna Delta is liable to be deducted from the allocations made to Andhra Pradesh from out of the 75 per cent dependable flows; and

(iii) that the said 4 T.M.C. is liable to be allocated to Karnataka to compensate, at least partly, the denial of their just share in the 75 per cent dependable flows.

Andhra Pradesh claimed protection for annual utilisation of 214 T.M.C. and evaporation loss of 4 T.M.C. under the Krishna Delta Canal System, see MRDK-VIII page 64. On a consideration of all relevant materials, we allowed the demand for annual utilisation of 177.20 T.M.C. and pond loss of 4 T.M.C. in respect of the Krishna Delta Canal System, see Report Vol. I pages 356, 359, 391, Vol. II pages 577-578. Mr. Sachindra Chaudhuri argued that we should not have allowed the demand for evaporation loss in respect of the Krishna Delta as (1) no water was claimed and allowed for weirs or anicuts such as the Krishna Canal ex-Khodshi Weir, the Tunga Anicut, the Bhadra Anicut and the Rajolibunda Diversion Scheme and (2) there is absence of sufficient evidence for allowing
113 4 T.M.C. in respect of evaporation loss of the Krishna Delta. We are unable to accept this argument.

None of the parties claimed water for pond loss at Krishna Canal ex-Khodshi Weir and other weirs but the reason may be that the pond loss at such weirs is not substantial. Pond loss of 4 T. M. C. at the Krishna Barrage at Vijayawada was claimed by Andhra Pradesh and allowed by us. The Krishna Barrage consists of a regulator-cum-bridge. The floor of the regulator is at an elevation of 40.05 feet. Built on the floor of the regulator, there is a bodywall 5 feet high having crest at 45.05 feet and fitted with gates 12 feet high. The purpose of the newly constructed barrage at Vijayawada is to maintain higher water level in the canals so as to facilitate supply of water to high level lands, see APPK-XVII page 37. For drawing full supply into the canals, it is necessary to raise the pond level of the Barrage, see Jaffer Ali's evidence pages 66-67. As a result of raising the pond level there is substantial water-spread area at the barrage site because of the flat slope of the river at the site. It is, therefore, necessary to make an allocation in respect of the evaporation loss from this large water-spread.

Maharashtra's expert witness Mr. Framji stated that the claim of 4 T.M.C. by the State of Andhra Pradesh for evaporation loss at the Krishna Barrage
114 indicated a large pondage with a large water-spread. He calculated the pondage loss at the Krishna Barrage to be 6 T.M.C. for a water-spread at full reservoir level at the top of the barrage gates (57.05), but as the water-spread would be less at the barrage crest level (R.L. 45.05) he conservatively assumed that the pondage loss at the Krishna Barrage would be 4 T.M.C., see Mr. Framji's evidence pages 543, 545, 1258, 1262-1263. Mr. Framji was not cross-examined by Counsel for the State of Mysore. In these circumstances we found that there

was evaporation loss of about 4 T.M.C. from the pondage at the Krishna Barrage and we allowed this 4 T.M.C. as part of the total water requirement of 181.20 T.M.C. for the Krishna Delta, see Report Vol. I pages 356, 358, 391, Vol. II page 547. We see no ground for disturbing this finding.

Karnataka argued that if the evaporation loss of 4 T.M.C. were included in the flow series, the 75 per cent dependable flow would be increased to 2064 T.M.C. The argument has no substance. The Barrage was completed in or about 1966. It is not contended that the addition of 4 T.M.C. in the flow data from 1967-68 to 1971-72 will increase the 75 per cent dependable yield.

We reject the argument of Karnataka that 4 T.M.C. of water allowed in respect of the pondage loss at Krishna Barrage is liable to be deducted from the allocation to Andhra Pradesh (Karnataka Reference Notes No. VI, VI-A).

Clarification No. XIII

115

Karnataka prays that this Tribunal may be pleased to clarify and/or explain—

(i) that Andhra Pradesh is not entitled to an allocation to waters in excess of 14 T.M.C. towards evaporation loss at Nagarjunasagar from out of the 75 per cent dependable flows ;

(ii) that the allocation of 3 T.M.C. from out of the 75 per cent dependable flows towards (over) evaporation loss having reference to the carry-over storage between FRL+546 and FRL+590 in respect of which no right has been conferred on Andhra Pradesh is liable to be deducted from the allocations made to Andhra Pradesh , and

(iii) that the said excess quantity of 3 T.M.C. is liable to be allocated to Karnataka in order to compensate partly the denial of their just share in the 75 per cent dependable flows.

On installation of crest gates, the F.R.L. of the Nagarjunasagar Reservoir is+590. The annual evaporation loss of the reservoir at F.R.L. 590 is about 17 T.M.C. We allowed 17 T.M.C. in respect of this evaporation loss as Andhra Pradesh was permitted to raise the full reservoir level to + 590 by installing crest gates to store water in the Nagarjunasagar Dam to the extent and in the manner it would be feasible to do so and to utilise the water so impounded in the storage in any manner it would deem proper and in lieu thereof no deduction was made from the dependable flow on account of inevitable waste to the sea of a part of the flow of the river Krishna between the Nagarjunasagar Dam and Vijayawada and in this manner the entire dependable flow of 2060 T.M.C. was made available for distribution, see Report Vol. II pages 560-561. Vol. I pages 348 349. The observation at page 560 of Vol. II of the Report that the permission is " till our decision is reviewed " was made to indicate that our decision is liable to be reviewed at the appropriate time and must not be taken to indicate that the crest gates allowed to be installed in the Nagarjunsagar Dam are temporary structures

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In these circumstances there is no reason why the evaporation loss of 3 T.M.C. should be met out of excess flows and not out of 75 per cent dependable flows. We reject the argument of Karnataka that the allocation of 3 T.M.C. in respect of evaporation loss at Nagarjunasagar is liable to be deducted from the share of Andhra Pradesh (KR Reference Note No. VII).

117 **Clarification No. XIV**

Karnataka prays that this Tribunal may be pleased to clarify and/or explain—

(i) that the evaporation loss at Srisailam Project is liable to be adjusted in the liberty given to Andhra Pradesh for the utilisation of surplus waters ;

(ii) that the allocation of 33 T.M.C. is liable to be deducted from the allocations made to Andhra Pradesh from the 75 per cent dependable flows ; and

(iii) that the said quantity of 33 T.M.C. is liable to be allocated to Karnataka to compensate, at least partly, the denial of their just and lawful share in the 75 per cent dependable flows of Krishna.

Regarding Srisailam Hydro-Electric Project, Counsel for the State of Karnataka argued that the allowance of 33 T.M.C. in respect of its evaporation loss is erroneous in view of (1) the large appropriations of water already made by Andhra Pradesh and (2) the priority of irrigation over power use and the fact that the Srisailam Project is purely a power project. Counsel argued that the project's usefulness as a carry-over storage is no ground for allowing water for it out of 75 per cent dependable flows. Counsel submitted that the evaporation loss at Srisailam Dam or in any event the evaporation loss attributable to its carry-over storage should be met out of flows in excess of 75 per cent dependable flow and if the evaporation loss could not be met in some lean years out of the surplus flows stored in the reservoir, the deficiency should be provided by Andhra Pradesh
118 out of its share of 75 per cent dependable flow. We are unable to accept these arguments.

We have given full reasons for allocation of 33 T.M.C. of water to Andhra Pradesh in respect of the evaporation loss of Srisailam Project inspite of the fact that 749.16 T.M.C. has been allowed for its protected uses, see Report Vol. II pages 574-576, 561-570.

We held that there is a clear conflict of interest between claims of downstream irrigation and power development by westward diversion of water outside the Krishna basin and at present priority should be given to irrigation use of the Krishna waters over hydro-electric use requiring westward diversion of water in excess of certain quantities permitted by us for certain hydro-electric projects, see Report Vol. II pages 435, 475. At the same time we have found that there is no substantial conflict of interest between irrigation use and hydro-electric use at Srisailam Project from which water would be released for downstream irrigation and other uses, see Report Vol. II pages 459, 446-447.

As Srisailam Project is a hydro-electric project for generating power without diverting water to another watershed, it does not involve consumptive use of water except for evaporation loss, see Report Vol. I pages 338-339. The Srisailam
119 project has no irrigation component. Apart from its use as hydro-electric project we have found that it will provide valuable carry-over storage and conserve water

which would otherwise be wasted to the sea, see Report Vol. II pages 459, 558-560, 576.

We have allowed Andhra Pradesh to store water in the Srisailam Dam after its completion to the extent and in the manner it would be feasible for it to do so and to utilise the water impounded in the storage in any manner it deems proper and in lieu thereof no deduction has been made from the 75 per cent dependable flow on account of the inevitable waste to the sea of a part of the flow between Nagarjunasagar Dam and Vijayawada, see Report Vol. II pages 560-561. In this manner the entire dependable flow of 2060 T.M.C. has been made available for distribution between the three party States. In these circumstances, we have held that the entire evaporation loss for storage of water in the Srisailam Dam should be provided out of 75 per cent dependable flow. The observation that the permission given by us is " till our decision is reviewed " was made to indicate that our decision is liable to be reviewed at the appropriate time, and it must not be taken to mean that the Srisailam Dam would be a temporary structure. In our Report Vol. II page 576, we have pointed out that the carry-over reservoir under construction at Srisailam should not be allowed to go in ruin. One of the reasons for allowing the demand for evaporation loss at Srisailam Dam including its carry-over storage out of the dependable flow was that Andhra Pradesh was foregoing its claim for deduction of the inevitable wastage of water out of its equitable share and was thus increasing the dependable flow available for distribution. We have pointed out that in all carry-over reservoirs, there would be evaporation loss, but their usefulness from the point of view of irrigation and other purposes would be immense, see Report Vol. II page 576. In these circumstances and considering that Srisailam Dam is not a temporary structure and Andhra Pradesh has no vested right to surplus flows, it is just and equitable that provision should be made for the evaporation loss at Srisailam reservoir including the loss attributable to its carry-over storage out of 75 per cent dependable flows and not out of surplus flows. **120**

Counsel for the State of Karnataka argued that the statement laid on the Table of the Lok Sabha by the Union Minister for Irrigation and Power on March 23, 1963 (MYDK-I pages 156, 165), the salient features of the Project given in MRK-II pages 312-323 and the correspondence regarding the sanction of the Project, (APDK-VIII pages 1-18, MRK-II pages 310-311, PCK-I pages 138-140) show that the sanction of the Project was contingent on the diversion of the Godavari waters into the river Krishna. We are unable to accept this argument. At pages 222-223 of Vol. I of the Report we have pointed out that the sanction of the Project by the Planning Commission was on the basis of ultimate water release of 180 T.M.C. from Srisailam and even on the assumption that the Godavari diversion would materialise, it could be safely assumed that the minimum annual release from Srisailam would be 180 T.M.C. If and so long as there is no diversion of the Godavari waters into the river Krishna, it would be necessary to release more than 180 T.M.C. annually from Srisailam. We have, therefore, found that the sanctioned Srisailam Project is not dependent or conditioned on the availability of additional supplies in the Krishna from Godavari diversion. We see no ground for modifying our decision regarding Srisailam Project. **121**

Mr. Sachindra Chaudhuri, Counsel for the State of Karnataka, argued that no allowance in respect of the evaporation loss of Srisailam Dam should be made until construction of the dam is completed. This argument has no substance. In assessing the needs of all the States, We have taken into account the evaporation loss from reservoirs of projects which are still under construction or under contemplation such as the Bhima, Krishna and Warna Projects and Koyna-Krishna
122 Lift Scheme of Maharashtra and the Upper Krishna, Malaprabha and Ghataprabha Projects of Karnataka.

Mr. Sachindra Chaudhuri argued that not more than 23 T.M.C. should be allowed in respect of the annual evaporation loss of Srisailam Project, even assuming that no deduction is allowed in respect of the loss attributable to carry-over storage. The State of Andhra Pradesh claimed an allocation of 33 T.M.C. of water in respect of this evaporation loss, see APK-I page 124, MRDK-VIII page 64 and we allowed this demand, see Report Vol. I page 339, Vol. II pages 574-576. The point that the evaporation loss of Srisailam reservoir would be less than 33 T.M.C. was not taken at any time during the hearing of the original reference. In support of his present argument, Mr. Sachindra Chaudhuri relied on the working tables and the statements annexed to the note of the Chief Engineer Electrical, Andhra Pradesh Government dated 22-4-1963 (see PCK-I pages 71-74, 75, 80, 81, 86 and 87). These documents state that the depth of evaporation at Srisailam Dam site would be 54 inches and on this footing the annual evaporation loss in Srisailam Dam would be about 23 T.M.C. It is also assumed in Table IX at page 46 of the Report of the Krishna Godavari Commission that the annual evaporation at Srisailam is 54 inches and on this basis KGC Report page 196 and KGCR Annexure XI page 9 state that the annual reservoir loss would be 23 T.M.C. However, pages 41, 45-47 of the
123 same K.G.C. Report and KGCR Annexure-I pages 40-41 show that (1) the data of evaporation at Srisailam Dam site assumed in Table IX are based on ad-hoc observations for two years from land pans of which the diameter is not known and (2) the evaporation losses mentioned in Table IX are less than those indicated by the general meteorological conditions at the sites. Srisailam Dam site is situated inside a gorge. The drawing S.R. No. 4/59 of the Srisailam water-spread given in APPK-VI shows that the reservoir water-spread extends up to Kurnool, where evaporation is one of the highest in the Krishna basin, see KGC Report page 42 and Plate V of K.G.C. Report.

The Srisailam Hydro-Electric Project Report shows that the depth of evaporation per annum at Srisailam Dam site is 82 inches, see APPK-V page 61, and the accuracy of this statement is accepted by both Mr. Framji and Mr. Jaffar Ali, see Framji's evidence page 538, Jaffer All's evidence page 100.

The annual evaporation loss of the reservoir is worked out by multiplying the depth of evaporation per annum by the average water-spread. As the water-spread varies from time to time, the working tables of the Srisailam Reservoir give different lake losses for different years, see APPK-V pages 61-64, COPP Report on Nagarjunasagar page 30, Framji's evidence pages 545-554, Jaffer Ali's evidence pages 100 and 102.

The COPP Report on Nagarjunasagar of July 1960 page 45 stated that the evaporation loss for Srisailam Reservoir would be 33 T.M.C. Though the **124** letter of sanction of the Project (MRK-II, page 310) did not specifically mention the quantum of evaporation loss, the Government of India stated in a list of sanctioned projects given to all the party States in 1967 that the sanctioned evaporation loss of Srisailam Project would be 33 T.M.C., see MYDK-I pages 214, 215, MRDK-II pages 114, 117. In its statement of case filed before this Tribunal, the State of Maharashtra stated that the Srisailam Project had been cleared for 33 T.M.C., see MRK-I page 121. In January 1962, the Government of Mysore in its application to the Government of India for reference of the water dispute to the Tribunal stated that the Srisailam Project would be evaporating about 33 T.M.C. of water. On a consideration of all relevant materials at present on the record, we are not inclined to hold that the allocation of 33 T.M.C. in respect of Srisailam Project should be cut down.

However, there may be some force in Karnataka's contention that there may be less wind velocity and less evaporation loss from the waterspread at Srisailam Dam site which is inside the gorge. We think that accurate observations of the evaporation loss of Srisailam Reservoir should be made so that fresh data of the evapo- **125** ration loss may be available to the reviewing authority. Such observations should be made by the State of Andhra Pradesh. The States of Karnataka and Maharashtra will also be at liberty to make such observations and they should be given all facilities by the State of Andhra Pradesh in order to enable them to make the observations. Full record of the data of the evaporation loss, the inflow into the reservoir, the M.D.D.L. and the method employed for the observations should be kept by the State making the observations.

It may be mentioned that in the present reference both Karnataka and Maharashtra opposed the allocation of 33 T.M.C. of water for the Srisailam Project. But on the 8th August, 1974, the learned Advocate General of Maharashtra withdrew the opposition of Maharashtra whose interest is identical with that of Karnataka in this respect. He made the following statement on the 8th August, 1974 :—

" In its Reference to this Tribunal, the State of Karnataka has in clarification XIV sought clarification as to the allocation by the Tribunal of 33 T.M.C. of water in respect of Srisailam Project. After considering the matter, I, on behalf of the State of Maharashtra, withdraw the submission made in Maharashtra's reply to the said clarification XIV that the decision of the Tribunal relating to the allocation of 33T.M.C. of water to Srisailam Project requires explanation."

Clarifications Nos. XV, XVI, XVII and XIX of Reference No. III of 1974 of the State of Karnataka. **126**

All these clarifications are connected with clarifications Nos. 2(b), 4 and 5 of Reference No. I of 1974 of the Government of India and clarifications Nos. 1 and 2 of Reference No. II of 1974 of the State of Andhra Pradesh which are set out in full under those References. It is desirable that we should consider and decide them together.

Clarification No. XV

Karnataka seeks clarification—

(i) whether this Tribunal may be pleased to determine the yield of the river Tungabhadra on the basis of the two estimates placed by Andhra Pradesh on the one hand and Maharashtra and Karnataka on the other, without prejudice to the further studies ; and

(ii) whether Clause IX can be amended accordingly and provide for further allocation to Karnataka.

Clarification No. XVI

Karnataka seeks clarification—

(i) whether Tribunal may be pleased to prescribe the authority for making further studies of the available waters in the Tungabhadra and Vedavathi sub-basins ; and

(ii) whether Clause V (B) may be made subject to the proviso for allocation of additional waters determined under (i) above, to Karnataka.

Clarification No. XVII

Karnataka seeks clarification—

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whether this Tribunal may be pleased to provide for additional allocation to the Tungabhadra sub-basin of Karnataka and/or modify the restrictions on the use of water therefrom to redress denial of development for all times in 50 per cent of the areas in the Krishna basin of Karnataka.

Clarification No. XIX

Karnataka seeks clarification—

that this Tribunal may be pleased to reconsider the finding that all the three sources should "remain open" to satisfy the allocations made to Andhra pradesh; and that the restrictions imposed on utilisations by Karnataka from the Tungabhadra and Vedavathi sub-basins under Clause IX of the Final Order are liable to be modified.

All these points of clarification raised by the State of Karnataka seek to obtain more water for the projects of Karnataka in the Tungabhadra (K-8) and the Vedavathi (K-9) sub-basins on various grounds. The contentions of the State of Karnataka under these clarifications may be summarised as follows :—

(1) more water should have been allocated for utilisation to the State of Karna taka in the Tungabhadra (K-8) and the Vedavathi (K-9) sub-basins as there is enough water available in the rivers Tungabhadra and Vedavathi for that purpose ;

(2) in any event the Tribunal should prescribe an authority for making further studies of the available waters in the Tungabhadra and the Vedavathi sub-basins and Clause V(B) of the Final Order should be made subject to the proviso for allocation of additional waters determined by such authority to the State of Karnataka;

(3) the restrictions placed on the use of waters by the State of Karnataka under Clause IX(B) of the Final Order should be modified. **128**

Closely connected with these clarifications is clarification No. 2(b) of Reference No. I under which the Government of India has submitted that:

" Guidance may be given by the Tribunal whether after a period of years when the return flows from the irrigated areas would progressively become available, the ceiling specified by the Tribunal with regard to the use of water in particular sub-basins and rivers would require any revision."

The State of Andhra Pradesh has submitted under clarification No. 1 of Reference No. II that:

" .... it may be explained and clarified that all the projects of either State in the Tungabhadra and Vedavathi Sub-basins should rank equally and share the water available in proportion to the quantities fixed therefore under the decision of this Tribunal, subject to the restrictions indicated in Clause IX."

On the 1st May, 1975, the learned Advocate General of Andhra Pradesh has stated that the State of Andhra Pradesh is now confining the relief claimed under clarification No. 1 of Reference No. II to the joint projects in the Tungabhadra (K-8) sub-basin only.

Closely connected with that clarification is clarification No. 4 of Reference No. I of 1974 under which the Government of India seeks clarification and guidance of the Tribunal on the following matters :—

(1) whether the States concerned in the Tungabhadra Project are entitled to proportionate share of water during each crop season and according to the water **129** requirements of crops for their areas depending on the Tungabhadra Reservoir, which is to be operated by a Central agency, viz., the Tungabhadra Board ; and

(2) whether there should be no occasion for any State to utilise the inflows into the reservoir during the months of June, July or August (to quote an instance) exclusively for its own irrigation or for building up the storage on the ground that the State would still be within the limits set *by* the Tribunal both in respect of Krishna river system and the Tungabhadra sub-basin.

Under clarification No. 2 of Reference No. II of 1974 the State of Andhra Pradesh has submitted that the Tribunal may be pleased to explain and clarify that the finding given on issue No. IV (B) (a) does not amount to denial of the right to regulated releases for the Kurnool-Cuddapah Canal and the Rajolibunda Diversion Scheme from the Tungabhadra Reservoir, to supplement the intermediate flows for ensuring the utilisations thereunder with the quantities sanctioned for these projects by the Tribunal.

Closely connected with this clarification is clarification No. 5 of Reference No I of 1974 under which the Government of India has sought the following **130** explanation and guidance :—

" ..... whether, in view of the findings at page 371 of the Report the Tungabhadra reservoir working tables should be prepared by the Tungabhadra

Board to release, whenever necessary, water from the Tungabhadra reservoir for the diversion works to supplement the intermediate flows for ensuring the utilisations on these diversion works to the extent they have been accepted by the Tribunal."

On the subject of availability of water in the Tungabhadra (K-8) and the Vedavathi (K-9) sub-basins, learned Counsel for the State of Karnataka has submitted that the Tribunal has not allowed water to the State of Karnataka in respect of its Upper Bhadra, Upper Tunga, Feeder Channel to Ranikere and Jinigehalla Projects taking the view that a very limited quantity of water is available for allocation in the Tungabhadra (K-8) and the Vedavathi (K-9) sub-basins until further studies give a different picture, but as a matter of fact sufficient water
131 is available in the said sub-basins. It is submitted that the Tribunal has determined the average yield of the Vedavathi (K-9) sub-basin by taking the average of the estimates of its yield submitted by the State of Karnataka and given in the Report of the Krishna Godavari Commission and that by application of the same principle the Tribunal ought to have determined the yield of the Tungabhadra (K-8) sub-basin by taking the average of the estimates of its yield submitted by the two States.

We find that the State of Karnataka has erroneously assumed that we have determined the yield of Vedavathi (K-9) sub-basin by taking the average of the two estimates referred to at page 592 of the Report Vol. II. At that page the reference is to the estimates made by the Krishna Godavari Commission on the one hand and the States of Maharashtra and Mysore on the other. But our observations at page 592 that " the average annual yield may be taken to be between the two estimates ", cannot be construed as a finding determining the annual yield of the River Vedavathi as an average of the two estimates referred to at page 592 of the Report Vol. II.

The State of Karnataka has made an alternative suggestion that the Tribunal may be pleased to prescribe the authority for making further studies of the
132 available waters in the Tungabhadra and the Vedavathi sub-basins and for allocation of additional waters determined on the basis of such studies. In our opinion, it is not possible for us to delegate the function of determining the yield of the river Tungabhadra to any authority constituted under our order as suggested by the State of Karnataka. Such a determination can be made only by a competent tribunal or authority constituted under the Inter-State Water Disputes Act, 1956. Clause XII read with Annexure ' B' to the Final Order provides for the gauging of the flows of various rivers, at different sites. The fresh data of the river flows may enable the reviewing authority or tribunal to determine accurately the available water in the Tungabhadra and the Vedavathi sub-basins.

Now we come to the subject of restrictions imposed by Clause IX(B) of the Final Order. These restrictions are the subject matter of clarifications Nos. XVII and XIX of Reference No. III of 1974. Clause IX of the Final Order places restrictions on the use of water from certain parts of the Krishna basin for the reasons given at pages 586-593 and 600 of Vol. II of the Report. However, in fixing the ceilings on uses we did not take into account the fact that the 75 per cent dependable flow of 2060 T.M.C. would increase progressively on account of return flows. Though we made allocations to the parties in respect of this

increase in the dependable flow, yet we did not provide for upward revision of the ceilings on uses as and when there will be increase in the dependable flow on account of return flows. The Government of India has sought guidance from us under clarification No. 2(b) of Reference No. I of 1974 whether the ceilings specified by us under Clause IX require revision as return flows from the irrigated areas would progressively become available. There is an obvious lacuna on this point in the Report which must be rectified. We are thankful to the Government of India for having drawn our attention to this aspect of the matter. 133

In reply to the reference of the Government of India on this point, the States of Karnataka and Maharashtra have submitted that the restrictions imposed by Clause IX require upward revision as and when additional water on account of return flows would become available. The State of Andhra Pradesh has opposed any upward revision.

Under Clause IX(B) we placed the following restrictions on the State of Karnataka :

" Out of the water allocated to it, the State of Karnataka shall not use in any water year—

(i) more than 295 T.M.C. from the Tungabhadra (K-8) sub-basin and more than 42 T.M.C. from the Vedavathi (K-9) sub-basin.

(ii) more than 15 T.M.C. from the main stream of the river Bhima."

Considering all the material circumstances including the progressive increase of return flow from the river Bhima, the necessity of restrictions on the uses from the main stream of the river Bhima and the respective needs of the States, we are not inclined to raise upwards the limit placed on the utilisations of water by the State of Karnataka from the main stream of the river Bhima. 134

On the subject of restrictions on the use of water by the State of Karnataka from the Tungabhadra (K-8) sub-basin, Counsel for the State of Karnataka has submitted that the ceiling of 295 T.M.C. on the use of water by the State of Karnataka has resulted in the denial of use of additional water for future works for all times in the Karnataka areas in the said sub-basin and is inconsistent with the finding of the Tribunal that drought and scarcity conditions have frequently occurred in extensive areas in the Districts of Dharwar, Bellary, Chitradurga and Tumkur. Likewise the ceiling of 42 T.M.C. on the use of water from the Vedavathi (K-9) sub-basin has resulted in the denial of water for drought affected areas in that sub-basin. He has submitted that it is very necessary for the State of Karnataka to provide irrigation facilities in at least the following drought striken areas :— 135

a. In Tungabhadra (K-8) sub-basin —

1.	Further allocation under Tungabhadra Project Left Bank Low Level Canal . .	9.3 T.M.C.
2.	Upper Bhadra . .	10.0 T.M.C.
3.	Upper Tunga . .	20.0 T.M.C.
4.	Gondi Left Bank Canal Extension . .	2.0 T.M.C.
5.	Minor Irrigation . .	12.0 T.M.C.
	Total	53.3 T.M.C.

b. In Vedavathi (K-9) sub-basin —

1. Jinigehalla	1.0 T.M.C.
2. Feeder Channel to Ranikere	1.0 T.M.C.
3. Minor Irrigation Total	1.0 T.M.C.
	3.0 T.M.C.

So far as the restrictions on the use of water by the State of Karnataka from the Vedavathi (K-9) sub-basin are concerned, we are not inclined to raise the limit of 42 T.M.C. The protected utilisations of the States of Karnataka and Andhra Pradesh in this sub-basin are already of the order of 50.54 T.M.C. The two projects viz. Feeder Channel to Ranikere and Jinigehalla each requiring 1 T.M.C. were held by us to be not worth consideration in the Vedavathi sub-
136 basin on the ground that further study was necessary of the water available in the river Vedavathi. We adhere to this view. If the State of Karnataka can minimise the use of water elsewhere in this sub-basin it may use water for these two projects and for additional minor irrigation within the limit of 42 T.M.C.

We shall now deal with the restrictions on the State of Karnataka regarding its use from the Tungabhadra (K-8) sub-basin.

According to the State of Karnataka, the Upper Bhadra Project, as conceived in the Project Note MYPK-VIII, pages 104-113, requires 36 T.M.C. to provide irrigation facilities to the drought affected areas of Chitradurga and Bellary Districts which are worst affected areas in the Tungabhadra sub-basin. A dam is to be constructed near Mahagundi Village. The catchment area of the Bhadra at the proposed dam site is 214.72 square miles. The 75 per cent dependable yield computed on the basis of available rainfall records is stated to be 36 T.M.C and the entire 36 T.M.C. is sought to be utilised for this project. It is stated in the Project Note at page 106 that:

" This project will not affect the existing Bhadra Project. The utilisation of all the (existing and proposed) projects upto Bhadra Darn (inclusive) is 98 T.M.C., whereas the 75 per cent available yield at the dam site is 81 T.M.C. The deficit of 17 T.M.C. is proposed to be made good by diverting waters from the Tunga by means of a storage across the Tunga river above Sringeri".

However in MY Note No. 17 Appendix III at pages 13-14, the State of Karnataka
137 has stated that only 10 T.M.C. is proposed to be utilised out of the 75 per cent dependable flow (of 2060 T.M.C.) and another 15 T.M.C. will be utilised from surplus flows Presumably this has been done to avoid diversion of the water of the river Tunga to the river Bhadra above the Bhadra Reservoir. The demand for the Project was not held by us to be not worth consideration (see pages 762-763 of Vol. II of the Report).

Similarly in MY Note No. 17 Appendix III pages 12-13 the State of Karnataka claimed 40 T.M.C. (proposing to meet only 20 T.M.C. out of 75 per cent dependable flow and the balance coming out of surplus flows) for the Upper Tunga Project which was proposed to provide irrigation facilities for Ranebennur, Haveri, Shirhatti and Mundargi Taluks of Dharwar District of ex-Bombay State and Koppal Taluk of Raichur District. The Taluks of Mundargi, Ranebennur and Koppal were identified as drought-affected by the Irrigation Commission, vide

Report of Irrigation Commission, 1972, Volume I, page 423. We considered this Project at pages 760-761 of the Report Volume II. Taking the view that unless further study was made of the available water of the river Tungabhadra, the demand for this Project was held as not worth consideration for the present.

The State of Karnataka has put forward before the Tribunal a demand of 101.3 T.M.C. for Tunghabhadra Left Bank Low Level Canal (including the Tungabhadra Left Bank High Level Canal). This project has been protected to the extent of 92 T.M.C. gross (including 9 T.M.C. for evaporation losses). We had rejected the claim of the State of Karnataka for an additional 9.3 T.M.C. of water for this project. **138**

In all the three cases, the main reason for not allowing the additional utilisations to the State of Karnataka was that in our opinion the river Tungabhadra should continue to make significant, in other words substantial, contribution to the river Krishna. But the picture changes when due to return flow more water will be available in the river Krishna for use by the State of Karnataka.

The State of Andhra Pradesh has submitted as follows in reply to clarification No. 2(b) raised by the Government of India :—

" Regarding the restrictions under Clause IX the ceilings mentioned therein are inclusive of the additional quantity that will be available by way of regeneration. In fact a higher quantity is mentioned while fixing the ceilings on the utilisation in the various sub-basins, presumably to cover the additional utilisation from out of the regenerated water."

It is to be observed that the ceiling of 295 T.M.C. on the use by the State of Karnataka from the Tungabhadra (K-8) sub-basin was fixed after taking into account the fact that about 290 T.M.C. would be required for the following projects which had been protected or were held worth consideration by us :— **139**

Sl. No.	Name of Project	Allocation in T.M.C.
1.	Bhadra Anicut	3.10
2.	Tunga Anicut	11.50
3.	Ambligola .	1.40
4.	Anjanapur	2.50
5.	Dharma Canal and Dharma Project ..	2.20
6.	Tungabhadra Project Right Bank Low Level Canal.	22.50
7.	Tungabhadra Project Right Bank High Level Canal, Stages I and II.	17.50
8.	Tungabhadra Project Left Bank Low Level Canal (including Left Bank High Level Canal).	92.00
9.	Hagari Bommanahalli	2.00
10.	Bhadra Reservoir	61.70
11.	Vijayanagar Channels (5.71+6.35 T.M.C.)	12.06
12.	Rajolibunda Diversion	1.20
13.	Minor Irrigation (49.04+11.17 T.M.C.)	60.21
		289.87
	say	290 T.M.C.

We may point out that in fixing the ceiling on the uses, we have not taken into account the additional dependable flow that will be available on account of return flow. The reason for making the upper limit on the uses a little higher than the actual requirements of the projects, which were held by us to be worth
140 consideration, was t0 give to the States concerned some flexibility in the uses on which we were imposing the restrictions.

The State of Karnataka has submitted that upon full utilisation of 695 T.M.C. allocated to it, more water will be progressively available for its use on account of its share of the additional dependable flow by reason of return flow from its utilisations in the entire Krishna river basin under Clause V(B)(ii), (iii) and (iv) of the Final Order and if it is permitted to utilise this additional water from the Tungabhadra (K-8) sub-basin it may satisfy its urgent and pressing needs at least in areas which may be irrigated by the Upper Bhadra and Upper Tunga Projects and Tungabhadra Left Bank Canals and though the river Tungabhadra may then contribute less water to the river Krishna, the State of Andhra Pradesh will not suffer any disadvantage as correspondingly the river Krishna will receive more water from other areas which will be available for the use of the State of Andhra Pradesh.

The State of Andhra Pradesh has submitted that only 3 to 4 T.M.C. will be available to the State of Karnataka on account of return flow from its utilisations in the Tungabhadra sub-basin and the rest of the return flow will be available for its use in other sub-basins and as only 290 T.M.C. is required for its projects in the Tungabhadra sub-basin which are protected or held worth consideration, the ceiling of 295 T.M.C. on its uses from the said sub-basin should not be raised.

141 We are of the opinion that the State of Karnataka should not be placed in such a situation that it may not be able to utilise water from the Tungabhadra (K-8) sub-basin for projects for which there is grave necessity simply because there will be somewhat lesser contribution by the river Tungabhadra to the river Krishna.

If the State of Karnataka uses more water from the Tungabhadra (K-8) sub-basin it will have to use correspondingly less water in other sub-basins in order to keep its total uses within the limit of its allocation. Consequently this upward revision of the ceiling of 295 T.M.C. will not reduce the quantity of water available for use by the State of Andhra Pradesh in other sub-basins. In order that the projects of the State of Andhra Pradesh in the Tungabhadra (K-8) sub-basin may not suffer, we have given specific directions for the use of the water available in the Tungabhadra Dam which will be discussed hereinafter.

Accordingly we direct that Clause IX(B) of the Final Order be deleted and in its place the following Clause IX(B) be substituted :—

142 " Out of the water allocated to it the State of Karnataka shall not use in any water year—

(i) more than the quantity of water specified hereunder from the Tungabhadra (K-8) sub-basin

(a) as from the water year commencing on the 1st June next after the date of the publication of the decision of the Tribunal in the Official Gazette up to the water year 1982-83. 295 T.M.C.

(b) as from the water year 1983-84 up to the water year 1989-90 295 T.M.C. plus a quantity of water equivalent to 7 ½ per cent of the excess of the average of the annual utilisations for irrigation in the Krishna river basin during the water, years 1975-76, 1976-77 and 1977-78 from its own projects using 3 T.M.C. or more annually over the utilisations from such irrigation in the water year 1968-69 from such projects.

(c) as from the water year 1990-91 up to the water year 1997-98 295 T.M.C. plus a quantity of water equivalent to 7 ½ per cent of the excess of the average of the **143** annual utilisations for irrigation in the Krishna river basin during the water years 1982-83, 1983-84 and 1984-85 from its own projects using 3 T.M.C. or more annually over the utilisations from such irrigation in the water year 1968-69 from such projects.

(d) as from the water year 1998-99 onwards 295 T.M.C. plus a quantity of water equivalent to 7 ½ per cent of the excess of the average of the annual utilisations for irrigation in the Krishna river basin during the water years 1990-91, 1991-92 and 1992-93 from its own projects using 3 T.M.C. or more annually over the utilisations for such irrigation in the water year 1968-69 from such projects.

For the limited purpose of this sub-clause, it is declared that—

the utilisations for irrigation in the Krishna river basin in the water year **144** 1968-69 from projects of the State of Karnataka using 3 T.M.C. or more annually shall be taken to be 176.05 T.M.C.

annual utilisations for irrigation in the Krishna river basin in each water year after this Order comes into operation from the projects of the State of Karnataka using 3 T.M.C. or more annually shall be computed on the basis of the records prepared and maintained by that State under Clause XIII.

evaporation losses from reservoirs of projects using 3 T.M.C. or more annually shall be excluded in computing the 7 ½ per cent figure of the average annual utilisations mentioned above.

(ii) more than 42 T.M.C. from the Vedavathi (K-9) sub-basin and

(iii) more than 15 T.M.C. from the main stream of the river Bhima. " In Clause IX(A) of the Final Order we placed the following restrictions on the State of Maharashtra :

" Out of the water allocated to it, the State of Maharashtra shall not use in any water year—

(i) more than 7 T.M.C. from the Ghataprabha (K-3) sub-basin.

(ii) more than 90 T.M.C. from the main stream of the river Bhima."

145 Counsel for the State of Maharashtra has submitted that the utilisations by the State of Maharashtra in the Ghataprabha (K-3) sub-basin will generate 0.52 T.M.C. of return flow and that we should cut down an excess allocation of 1.7 T.M.C. to the State of Karnataka in respect of the Gokak Canal. It is, therefore, submitted that the limit of restriction on the use of water by the State of Maharashtra in this sub-basin should be raised to 9 T.M.C. or in any event to 7.5 T.M.C. We cannot accept this argument. There is no excess allocation in respect of the Gokak Canal. The return flow from the projects of the State of Maharashtra using 3 T.M.C. or more would be very meagre. Considering all the relevant circumstances, we see no ground for revising the limit of the restriction placed on the use by the State of Maharashtra from the Ghataprabha (K-3) sub-basin.

146 In MR Reference Note No. 8 the State of Maharashtra has submitted the following details of return flow (calculating it at 7 ½ per cent) likely to become available to the State of Maharashtra for its use upon full utilisation of 195.6 T.M.C. by its projects using 3 T.M.C. or more of water in Bhima sub-basin :—

	T.M.C.
Mutha System	30.9
Ghod Dam	8.4
Kukadi	36.0
Bhima	70.0
Nira System	32.3
Vir Dam	14.4
Sina at Kolegaon	3.6
	195.6
Deduct utilisation for irrigation in Bhima basin in water year 1968-69 from projects using 3 T.M.C. or more (61.45—12.70=48.75 say 48)	48.0

$$\frac{147.6 \times 7.5}{100} = 11.07$$

say 11 T.M.C.

147 The State of Maharashtra submits that if the restrictions on its use of water from the river Bhima is revised upwards and the limit of such restrictions is raised to 101 T.M.C., the State of Maharashtra will be able to undertake the Chaskaman Project for which it needs 10 T.M.C. to serve scarcity areas. We may point out that in fixing the limit of 90 T.M.C. the State of Maharashtra has been given a margin of 5 T.M.C. We are of the opinion that in order to enable it to utilise 10 T.M.C. for the Chaskaman Project the limit of the restriction on its use of water from the river Bhima be raised upwards to 95 T.M.C. as from the water year 1990-91 when more than 5 T.M.C. is likely to appear as return flow in the Upper Bhima (K-5) sub-basin. If the limit is

so raised, the river Bhima will continue to make the same contribution to the river Krishna and the States of Karnataka and Andhra Pradesh will not suffer any injury. We direct that Clause IX(A) of the Final Order be deleted and in its place the following Clause IX(A) be substituted :

" Out of the water allocated to it, the State of Maharashtra shall not use in any water year—

(i) more than 7 T.M.C. from the Ghataprabha (K-3) sub-basin

(ii) more than the quantity of water specified hereunder from the main stream of the river, Bhima

(a) as from the water year commencing on the 1st June next after the date of the publication of the decision of the Tribunal in the Official Gazette up to the water year 1989-90 90 T.M.C.

(b) as from the water year 1990-91 95 T.M.C."

Now we shall take up clarifications Nos. 1 and 2 of Reference No. II of 1974 of the State of Andhra Pradesh and clarifications Nos. 4 and 5 of Reference No. I of the Government of India.

The case of the State of Andhra Pradesh under clarification No. 1 of Reference No. II of 1974 is that under sub-Clause (C) of Clause V of the Final Order, the **148** State of Andhra Pradesh was given the liberty to use, in any water year, the water remaining after meeting the specific allocations made to the States of Maharashtra and Karnataka under sub-Clauses (A) and (B) of Clause V, but this general scheme may not obviously apply as far as the joint projects in the Tungabhadra (K-8) sub-basin are concerned for the reason that the benefits under the Tungabhadra Right Bank High Level and Low Level Canals and the Rajolibunda Diversion Scheme have to be shared in the proportions as agreed between the States of Karnataka and Andhra Pradesh **vide** pages 155, 156, 170 and 171 of Vol. I of the Report and Clause XI(C) of the Final Order at page 788 of the Report Vol. II.

The State of Karnataka has strongly opposed this contention of the State of Andhra Pradesh. It has submitted that the scheme of allocation contained in Clause V of the Final Order governs the distribution of the waters of the Krishna river system including the Tungabhadra (K-8) sub-basin and the question that all the joint projects of the two States in this sub-basin should rank equally does not arise. It is further submitted that the agreed statements filed by the States of Andhra Pradesh and Karnataka (pages 155, 156 and 170-171 of Vol. I **149** of the Report) disclose only the specific quantities of utilisations in the Tungabhadra Right Bank Low Level Canal, Tungabhadra Right Bank High Level Canal and the Rajolibunda Diversion Scheme but no particular proportion for sharing the water has been agreed to by the States of Andhra Pradesh and Karnataka.

In support of its case, the State of Andhra Pradesh also relied on Clause IX(D)(ii) of the Final Order, but it is quite clear that this Clause does not support its case.

Clarification No. 2 sought by the State of Andhra Pradesh in Reference No. II of 1974 raises questions of regulated releases from the Tungabhadra Dam for the assistance of the protected utilisations under the following diversion schemes below the Tungabhadra Dam: (1) Rajolibunda Diversion Scheme jointly of Karnataka and Andhra Pradesh; and (2) Kurnool-Cuddapah Canal of Andhra Pradesh.

It is submitted that the need for such regulated releases and assistance from the Tungabhadra Reservoir was recognised by the concerned States and was mentioned in the 1944 agreement between the Hyderabad and Madras States.
150 It was also agreed in principle at the meeting of the Chief Engineers of the States of Karnataka and Andhra Pradesh in 1959 that some assistance should be given to these diversion schemes from the Tungabhadra Reservoir as mentioned at pages 162-163 of Vol. I of the Report.

The reply of the State of Karnataka to these contentions is that the State of Andhra Pradesh cannot place reliance on the 1944 agreement which has been expressly superseded by the Final Order of the Tribunal. No reference to the meeting of the Chief Engineers of the States of Karnataka and Andhra Pradesh can also be made in view of the fact that no final agreement was reached between the two States. It is submitted that having regard to the scheme of allocation incorporated in the Final Order and the findings recorded by the Tribunal, no provision can be made for regulated releases from the Tungabhadra Dam for the projects mentioned in Issue IV(B)(a). The decision of the Tribunal enables the State of Karnataka to utilise the waters allocated to it in any manner it considers proper. The Tungabhadra Board is required to function strictly in accordance with the Final Order of the Tribunal.

We have carefully considered the contentions of the parties. We think that
151 the dispute regarding the use of the waters of the Tungabhadra (K-8) sub-basin cannot be resolved by an academic interpretation of Clause V of the Final Order and of the agreements mentioned above. The real solution to the problem lies in giving specific directions regarding the utilisation of the water of the Tungabhadra Dam by the projects of the two States which depend on it for the supply of water. This aspect of the matter assumes special importance in view of the fact that we have progressively raised the limit of utilisations of the State of Karnataka in the Tungabhadra sub-basin from 295 T.M.C. and the State of Karnataka will be in a position to utilise and store more water above the Tungabhadra Dam.

It may be mentioned that so far as the State of Maharashtra is concerned, it is not affected if specific directions are given regarding the utilisation of waters of the Tungabhadra Dam by the States of Karnataka and Andhra Pradesh or directions are given regarding the release of water from the Tungabhadra Dam for the projects below that dam or if the limit of the utilisations of the State of Karnataka in the Tungabhadra sub-basin is raised.

So far as the States of Karnataka and Andhra Pradesh are concerned, both of them submit that certain changes should be made in the Report with regard
152 to the utilisation of the water available in the Tungabhadra sub-basin. The

nature of the changes advocated by each State is different. But the changes advocated by one State interact on the changes advocated by this other. For example, if the limit of utilisations of the State of Karnataka from the Tungabhadra sub-basin is raised, lesser water may be available to the State of Andhra Pradesh for its projects drawing water from the Tungabhadra Dam and lesser water may flow below the dam for utilisation by the projects of the State of Andhra Pradesh. Similarly if some water is reserved for the projects of Andhra Pradesh below the Tungabhadra Dam or if it is given proportionate share in the utilisations of the water of the Tungabhadra Dam for its canals on the right flank, there is no reason why the State of Karnataka should not have the advantage of utilising more water in the Tungabhadra sub-basin above or at the Tungabhadra Dam. For these reasons this matter cannot be disposed of in an academic manner on the interpretation of Clause V of the Final Order but there must be a realistic approach to the entire problem.

In order to give necessary directions for the utilisation of the waters of the Tungabhadra Dam, it is necessary to bear in mind that some projects take water from the dam from production of power and for irrigation use and some projects below the Tungabhadra Dam require assistance by way of regulated releases of water from the dam. **153**

The following projects take water from the Tungabhadra Dam:

1. Tungabhadra Project Left Bank Low Level Canal including Left Bank High Level Canal. This Project takes water from the left side of the dam for irrigation in the State of Karnataka. Its utilisation (including evaporation losses) to the extent of 92 T.M.C. has been protected. The State of Karnataka seeks to utilise another 9.3 say 10 T.M.C. under this Project.

2. Tungabhadra Project Right Bank Low Level Canal. This Project takes water from the right side of the dam for irrigation in the States of Karnataka and Andhra Pradesh. It has been granted protection to the extent of 52 T.M.C. out of which 22.50 T.M.C. is to be utilised by the State of Karnataka and 29.50 T.M.C. by the State of Andhra Pradesh.

3. Tungabhadra Project Right Bank High Level Canal—Stages I and II. This Project takes water from the right side of the dam for irrigation in the States of Karnataka and Andhra Pradesh. It has been protected to the extent of 50 T.M.C., out of which 17.50 T.M.C. is for use in the State of Karnataka and 32.50 T.M.C. is for use in the State of Andhra Pradesh.

4. Raya Channel and Basavanna Channel both of which take water directly from the Tungabhadra Dam on the right side. 12.06 T.M.C. of water (out of which 5.71 T.M.C. is protected and 6.35 T.M.C. is held as worth consideration by the Tribunal) has been allocated in respect of all the Vijayanagar Channels of the State of Karnataka including Raya and Basavanna Channels. We are informed by learned Counsel for the State of Karnataka that of late the State of Karnataka has been utilising about 7 T.M.C. for Raya and Basavanna Channels directly from the dam. **154**

Following are the Projects downstream of the Tungabhadra Dam about which there is dispute between the parties for giving assistance from the waters of the said dam :

1. Vijayanagar Channels of the State of Karnataka excluding Raya and Basavanna Channels.

2. Rajolibunda Diversion Scheme the benefits of which are shared by the States of Karnataka and Andhra Pradesh. This Project diverts water of the river, Tungabhadra from the anicut at Rajolibunda village in Raichur District. Counsel for the States of Karnataka and Andhra Pradesh made the following joint statement before the Tribunal on the 25th January, 1971):

" The States of Mysore and Andhra Pradesh state that the benefits of
155 utilisations under the existing Rajolibunda Diversion Scheme are shared between the two States as mentioned herein below :—

Mysore	..	1.2 T.M.C.
Andhra Pradesh	..	15.9 T.M.C."

Clause XI (C) of the Final Order is on the lines of this joint statement.

3. Kurnool—Cuddapah Canal of Andhra Pradesh. While granting protection for the utilisation of Kurnool—Cuddapah Canal to the extent of 39.9 T.M.C. the Tribunal took notice of the fact that before the Krishna Godavari Commission, the Andhra Pradesh Government had proposed the annual utilisation of 39.87 T.M.C. for, irrigating. 2,78,000 acres, the monthly demands being as given below :

	T.M.C.
June	5.81
July	5.97
August	6.07
September	6.60
October	6.50
November	1.27
December	1.88
January	1.36
February	1.35
March	1.45
April	0.93
May	0.68
Total	39.87 T.M.C. (see page 378 of Vol. I of the Report).

We first take up the question as to what extent assistance is to be given, if at
156 all, for the projects below the Tungabhadra Dam mentioned hereinbefore.

So far as the Vijayanagar Channels of the State of Karnataka, excluding the Raya and Basavanna Channels are concerned, they draw water from the flow of the river Tungabhadra and we think that 2 T.M.C. of water should be released as assistance! to them by way of regulated releases from the Tungabhadra Dam in a water year.

With regard to regulated releases from the Tungabhdra Dam for the assistance of the Rajolibunda Diversion Scheme and the Kurnool—Cuddapah Canal, the case of the State of Andhra Pradesh is that (a) there are no storages at the headworks of these diversion schemes for the protected irrigation thereunder during Kharif as well as Rabi seasons and regulated releases from the Tungabhadra Dam are necessary to supplement inflows between the reservoir and the headworks of these schemes, see page 161 of Vol. I of the Report; (b) the need for such regulated release and assitance from the dam was recognised by the concerned States and was mentioned in the 1944 agreement between the States of Hyderabad and Madras ; (c) at the meeting of the Chief Engineers of the States of Mysore and Andhra Pradesh in 1959 it was agreed in principle that some assistance should be given to these schemes from the Tungabhadra Dam and while the Andhra Pradesh Chief Engineer was of the view that assistance to the extent of 18 T.M.C. and 8.5 T.M.C. should be given to the Kurnool—Cuddapah Canal and the Rajoli **157** bunda Diversion Scheme respectively, the Mysore Chief Engineer stated that assistance to a limited extent should be given (see pages 162-163 of Vol. I of the Report); (d) without regulated releases from the Tungabhadra Dam, the protected utilisations under these projects cannot be met as the water available at the sites of the diversion works will be flood water overflowing the dam and the flow from the intermediate catchment during the monsoon period and only a portion of this flow can be diverted into the canals at the diversion points in the form of anicuts, the rest overflowing the anicuts ; and (e) Vijayanagar Channels of the State of Karnataka being in the upper reaches and being open-head channels will intercept the meagre low flows in the intermediate catchment between the Tungabhadra Dam and the Sankesula Anicut and these flows would not reach the Rajolibunda Diversion Scheme and the Kurnool-Cuddapah Canal.

The reply of the State of Karnataka to these contentions is that (a) the State of Andhra Pradesh cannot place reliance on the 1944 agreement which has been expressly superseded by the Final Order of the Tribunal; (b) no reference to the meeting of the Chief Engineers of the States of Mysore and Andhra Pradesh can be **158** made in view of the fact that no final agreement was reached between the two States at the inter-State meeting ; (c) having regard to the scheme of allocation incorporated in the Final Order and the findings recorded by the Tribunal, no provision can be made for regulated releases from the Tungabhadra Dam for the projects mentioned in Issue No. IV(B)(a); (d) the decision of the Tribunal on Issue No. IV (B)(a) that no specific directions are necessary for the release of water from the Tungabhadra Dam for the benefit of the Rajolibunda Diversion Scheme and the Kurnool-Cuddapah Canal is contact and binding; and (e) there will be water flowing over the Tungabhadra Dam, water flowing from the Vedavathi river which has been permitted to be utilised at 75 per cent dependability only and also water of the intermediate catchment between the Tungabhadra Dam and the Sankesula Anicut and all this water will be sufficient to meet the needs of the Projects below the Tungabhadra Dam. It is further submitted that so far as Kharif crops are concerned, no assistance is needed at all for any of the projects and so far as Rabi crops are concerned only a limited quantity of water will be required as there will be water flowing in the river Tungabhadra during Rabi Reason which can be diverted for use in these Projects. During the course of arguments, Counsel for the State of Karnataka submitted and relied, in support

159 of this contention, upon the following table prepared by the representatives of the State of Karnataka :—

Requirement of Vijayanagar Channels of Karnataka downstream of Tungabhadra Dam, Rajolibunda Diversion Scheme and Kurnool—Cuddapah Canal—during January to May.

(All figures in T. M.C.)

Month	*Vijayanagar Channels downstream of Tungabhadra Dam in Karnataka*	*Rajolibunda Diversion Scheme*	*K.C. Canal*	*Total*	*Inflow from intermediate catchment* 50% *of figs, in col.* (5)	*Balance requirement*
1	2	3	4	5	6	*7*
January	0.35	1.23	1.36	2.94	1.47	1.47
February	0.35	1.01	1.35	2.71	1.35	1.36
March	0.25	1.38	1.45	3.08	1.54	1.54
April	0.20	1.16	0.93	2.29	1.14	1.14
May	0.10	0.29	0.68	1.07	0.54	0.54
Total	1.25	5.07	5.77	12.09	6.04	6.05

Source . — Figures in (1) Col. 3 are from page 28 of KGC Annexure IX.
(2) Col. 4 are from page 19 of KGC Annexure VIII.
(3) Col. 6 are assumed to be available from the intermediate flow on account of natural flow, return flow, seepage, wastage.

We have carefully examined these contentions.

The authorities cited at pages 161-163 of Vol. I of the Report clearly recognize the necessity of assistance to the Rajolibunda Diversion Scheme and the Kurnool—
160 Cuddapah Canal by way of regulated releases from the Tungabhadra Dam.

So far as the Rajolibunda Diversion Scheme is concerned while deciding the question of protection to be granted for this Project, the following observation has been made by the Tribunal at page 71 of Vol. I of the Report :

" We think that the requirement of the Project can be met fully from the intermediate yield below Tungabhadra Dam and regulated releases from the dam."

Our observation at page 602 of Vol. II of the Report while deciding Issue No. IV (B) (a) that no further directions are necessary for release of water from the Tungabhadra Dam for the benefit of the Rajolibunda Diversion Scheme, should be read subject to what has been observed at page 371 of Vol. I of the Report.

At the Chief Engineers' Conference in 1959, the State of Andhra Pradesh had claimed that assistance to the extent of 8.5 T.M.C. was necessary for the Rajolibunda Diversion Scheme from the waters of the Tungabhadra Dam.

The Chief Engineer of the State of Mysore had not agreed to this figure. The table submitted by the State of Karnataka shows that admittedly some assistance will be necessary for this Project during the months of January to May. We are of the opinion that sufficient assistance should be granted to the Rajolibunda Diversion Scheme during the months of November to May for its Rabi crops and some assistance may be given for other months. We hold that assistance to the **161** extent of 7 T.M.C. should be given by way of regulated discharges from the Tungabhadra Dam in a water year for the benefit of the Rajolibunda Diversion Scheme of both the States.

So far as the Kurnool—Cuddapah canal is| concerned, in view of the fact that the raising of the limit of 295 T.M.C. will increase the utilisation of the State of Karnataka up to and at the Tungabhadra Dam and decrease the flow of the river below the dam, we think that assistance should be given to the Kurnool—Cuddapah Canal. The State of Andhra Pradesh has stated in A.P. Reference Note No. I paragraph 22 that the monthly demands of water for this Canal for June and November to May workout to 14.73 T.M.C. (as detailed at page 378 of Vol. I of the Report quoted above) and as this water has necessarily to come out of the Tungabhadra Dam there, is no reason why this water should not be released from the dam by way of assistance for the Kurnool—Cuddapah Canal. The assistance for this Project during the months of November to May works out to 8.92 T.M.C. from the figures given at page 378 of Vol. I of the Report and making allowance for the little water that may be available for diversion from the river flow during the lean season, we think that assistance of 8 T.M.C. may be given during the months of November to May. Further assistance to the extent of 2 T.M.C. may be given in other months. Taking all these circumstances into consideration, we are of the opinion that assistance to the extent of 10 T.M.C. should be given to the Kurnool—Cuddapah Canal **162** from the Tungabhadra Dam by way of regulated discharges during a water year.

Now We deal with the projects which will be drawing water from the Tungabhadra Dam. Of late, the State of Karnataka has started utilising about 7 T.M.C. in the Raya and Basavanna Channels. We do not think that there is any reason for not permitting it to utilise 7 T.M.C. by these Channels within the limit imposed by us on the total utilisations by that State from the Tungabhadra (K-8) sub-basin.

The question is how the water available in the Tungabhadra Dam is to be divided between the two States for the Projects drawing water from the dam. We have carefully considered all aspects of this question. There is need for giving specific directions regarding the utilisation of the water available at the Tungabhadra Dam by the Projects of the two States which have a common source of supply. It may be mentioned that the headworks of the Projects on the right side are common to both the States.

Without giving specific directions as detailed below, it may be well-nigh impossible to utilise the water available in the Tungabhadra Dam in a satisfactory manner. Each State will insist on utilising as much water from the Dam as it can with the result that there will be wasteful use of water and endless disputes. The **163** States should not be left to compete with each other in such a vital matter.

The need for specific directions assumes special importance in view of the fact that we have raised the limit of the utilisations of the State of Karnataka from the Tungabhadra (K-8) sub-basin from 295 T.M.C. and the State of Karnataka may be constructing projects above the Tungabhadra Dam and making more utilisations above that dam, thus reducing the inflow of water in the Tungabhadra Dam. It may also be using more water at the Dam. All this may marginally reduce the chances of the State of Andhra Pradesh to get water for Tungabhadra Right Bank Low Level and High Level Canals to irrigate areas in its territories in some years as compared with the situation when the limit of 295 T.M.C. is not raised upwards.

We, therefore, propose to give specific directions for utilising the water of the Tungabhadra Dam which will be just and equitable to both the parties in the circumstances of the case. We direct that the following sub-clause (E) which incorporates and gives effect to our proposed directions be added after sub-Clause (D) of Clause IX of the Final Order at page 785 of Vol. II of the Report:

164 "(E) (1) The following directions shall be observed for, use of the water available for utilisation in the Tungabhadra Dam in a water year—

(a) The water available for utilisation in a water year in the Tungabhadra Dam shall be so utilised that the demands of water for the following Projects to extent mentioned below may be met:—

0)	Tungabhadra Right Bank Low Level Canal Water available for Tungabhadra Right Bank Low Level Canal shall be shared by the States of Karnataka and Andhra Pradesh in the following proportion : State of Karnataka— 22.50 State of Andhra Pradesh— 29.50	52.00 T.M.C.
(ii)	Tungabhadra Right Bank High Level Canal — Stages I & II. Water available for Tungabhadra Right Bank High Level Canal shall be shared by the States of Karnataka and Andhra Pradesh in the following proportion : State of Karnataka— 17.50 State of Andhra Pradesh— 32.50	50.00 T.M.C.
(iii)	Tungabhadra Left Bank Low Level and High Level Canals.	102.00 T.M.C.
165 (iv)	Raya and Basavanna Channels of the State of Karnataka.	7.00 T.M.C.
(v)	Assistance by way of regulated discharges to Vijayanagar Channels other than Raya and Basavanna Channels of the State of Karnataka.	2.00 T.M.C.
(vi)	Assistance by way of regulated discharges to the Rajolibunda Diversion Scheme for use by the States of Karnataka and Andhra Pradesh in the proportion mentioned in Clause XI(C)	7.00 T.M.C.

(vii) Assistance by way of regulated discharges to the Kurnool — Cuddapah Canal of the State of Andhra Pradesh. 10.00 T.M.C.

230.00 T.M.C.

The utilisations of the Projects mentioned in sub-Clauses (a) (i), (ii) and (iii) above include the evaporation losses in the Tungabhadra Dam which will be shared in accordance with Clause XI (D).

(b) If, in any water year, water available for utilisation in the Tungabhadra Dam is less than the total quantity of water required for all the Projects as mentioned above, the deficiency shall be shared by all the Projects proportionately. The proportions shall be worked out after excluding the evaporation losses.

(c) If, in any water year, water available for utilisation is more than the total quantity of water required *tot* all the Projects as mentioned above, the requirements for all the Projects for the month of June in the succeeding water year as estimated by the Tungabhadra Board or any authority established in its 166
place shall be kept in reserve and the State of Karnataka shall have the right to utilise the remaining water in excess of such reserve in the Tungabhadra Dam for its Projects mentioned in sub-Clauses (a) (i), (ii) and (iii) above drawing water from that dam even though thereby it may cross in any water year the limit on the utilisation of water from Tungabhadra (K-8) sub-basin placed under Clause IX(B) of the Final Order but in no case such utilisation shall exceed 320 T.M.C.

(d) The balance water, if any, shall be kept stored in the dam for use in the next year.

(2) The working tables for the utilisation of the water in the Tungabhdara Dam shall be prepared as hithertofore by the Tungabhadra Board or any other authority established in its place so as to enable the States of Karnataka and Andhra Pradesh to utilise the water available for utilisation in the Tungabhadra Dam as aforesaid.

(3) If, in any water year, either of the two States of Karnataka and Andhra Pradesh finds it expedient to divert the water available to it in the Tungabhadra Dam for any one of its Projects to any other of its Project or Projects mentioned above for use therein, it may give notice thereof to the Tungabhadra Board or any other authority established in its place and the said Board or authority may, if it 167
is feasible to do so, prepare or modify the working table accordingly.

(4) The States of Karnataka and Andhra Pradesh may use the water available in the Thugabhadra Dam in accordance with the aforesaid provisions and nothing contained in Clause V shall be construed as over-riding the provisions of Clause IX (E) in the matter of utilisation of the water available in the Tungabhadra Dam nor shall anything contained in Clause IX(E) be construed as enlarging the total allocation to the State of Karnataka or as enlarging the limit of acquisition of any right by the State of Andhra Pradesh in the waters of the river Krishna.

(5) The States of Karnataka and Andhra Pradesh may by agreement, without reference to the State of Maharashtra, alter or modify any of the provisions for the utilisation of the water available in the Tungabhadra Dam mentioned above in any manner."

We further direct that after the last sentence at page 167 of Vol. I of the Report beginning with the words " We consider that the existing practice" and ending with the words " until another control body is established." the following sentence be added :—

" On a careful consideration of the matter, we have given suitable directions for the preparation of working tables of the Tungabhadra Dam in Clause IX (E) of the Final Order."

168 We also direct that the following sentences be added at page 600 of the Report Vol. II at the end of paragraph dealing with Clause IX of the Final Order :—

" We have placed the restrictions in Clause IX on a consideration of all relevant materials including the progressive increase of return flow. In Clause IX(E), we have given directions as to how the water in the Tungabhadra Dam is to be utilised. "

We also direct that in the paragraph dealing with Issue No. IV(B) (a) at page 602 of Vol. II of the Report after the sentence beginning with the words " With regard to Issue No. IV(B) (a)" and ending with the words " as mentioned hereinbefore.", the following sentence be added :—

" Whatever directions are necessary have been given in Clause IX(E) of the Final Order."

What we have provided is a just and fair solution to the problems raised by the States of Karnataka and Andhra Pradesh and the Government of India. The approach that we have adopted is not academic but is practical and is beneficial to both the States. As already mentioned, the State of Karnataka shall be able to use progressively some more water in the Tungabhadra (K-8) sub-basin thereby making it possible for it to construct Upper Bhadra Project and/or any other project above the Tungabhadra Dam and to meet its demand to utilise 10 T.M.C. more i.e., to utilise 102 T.M.C. on the left bank of the Tungabhadra Dam. At the same time, we have ensured that the projects of the State of Andhra Pradesh
169 are not adversely affected. Provision has been made under this arrangement for regulated discharges to the extent found by us to be necessary for the Kurnool-Cuddapah Canal and the Rajolibunda Diversion Scheme as also for the Vijayanagar Channels. As a result of this arrangement Kurnool-Cuddapah Canal will divert the water from the flow of the river Tungabhadra and also get assistance by way of regulated discharges from the Tungabhadra Dam to the extent mentioned in Clause IX(E). So also Rajolibunda Diversion Scheme will divert water from the flow of the river Tungabhadra and also get assistance by way of regulated discharges as mentioned in Clause IX(E). In the Rajolibunda Diversion Scheme, the water diverted from the flow of the river Tungabhadra as also the water available by way of discharges from the Tungabhadra Dam will be shared by the States of Karnataka and Andhra Pradesh in the proportion

mentioned in Clause XI(C) of the Final Order. The withdrawal of water by the State of Karnataka on the left bank of the dam has been restricted to 102 T.M.C. when the total quantity of water available for utilisation from the dam is sufficient only to meet the demands of water of the two States up to 230 T.M.C. The projects on the right bank are placed at par with the projects on the left bank and in case of deficiency all the projects have to suffer the deficiency as mentioned in Clause IX(E)(l)(b). If the" total quantity of water available for utilisation is more than what is required by the projects of the two States, the **170** State of Karnataka has been given the right to utilise excess water after keeping in reserve the water required for the month of June in the succeeding year. We find no reason to tie down the State of Karnataka to limit its use by its projects drawing water from the Tungabhadra Dam up to the limit mentioned in Clause 1X(B) of the Final Order even when more water is available in any year in the dam and which will otherwise remain stored in the dam in that year. But the total utilisation by the State of Karnataka from the Tungabhadra sub-basin shall in no case exceed 320 T.M.C. which limit is likely to be reached when full utilisations have been made by the State of Karnataka of the water allocated to it. We may add that all the uses allowed under the arrangement mentioned above are subject to the overall limit of allocation under Clause V of the Final Order.

With regard to use of waters in the Tungabhadra Dam for production of power, we may mention that on the left side of the dam, the water drawn through penstocks after generating power in the Munirabad power house is let into the Left Bank Main Canal for irrigation in the State of Karnataka, the excess being surplussed to the river through river outfall sluices. On the right side of the dam, the water drawn through penstocks after generating power in the dam **171** power house is let into the power canal for generating power at the power house at Hampi, a portion being surplussed into the river through river outfall sluices. After generating power at the Hampi power house, most of the tail-race water is let into the Right Bank Low Level Canal for irrigation in the States of Karnataka and Andhra Pradesh, a small portion being discharged into the river through a tail-race pond formed across the natural stream known as the Gundalkeri Vanka, see Report Vol. I pages 152-153. As the use for production of power at these power houses is non-consumptive except for evaporation losses in the water conductor system and the Tungabhadra Reservoir (see Report Vol. II page 447) and as provision has already been made for the sharing of the entire reservoir loss (see Report Vol. I pages 156, 157-159, Vol. II page 788), no separate directions are necessary with regard to the water used for production of power at the aforesaid power houses.

This discussion covers all the questions raised in clarifications Nos. XV, XVI, XVII and XIX of Reference No. III of 1974 of the State of Karnataka, clarifications Nos. 1 and 2 of Reference No. II of 1974 of the State of Andhra Pradesh and clarifications Nos. 2(b), 4 and 5 of Reference No. I of 1974 of the Government of India. They are decided and disposed of accordingly. No further explanation or clarification is necessary.

Clarification No. XVIII

172 Karnataka seeks clarification that the direction for sharing of evaporation loss in the Tungabhadra Reservoir is liable to be modified so as to be in proportion to the utilisation on either side and that the allocations of evaporation loss are liable to be adjusted accordingly.

At pages 157 to 159 of Vol. I and page 788 of Vol. II of the Report, we have given reasons for our direction regarding the sharing of the reservoir loss of Tungabhadra Reservoir. We find no ground for modifying this direction.

Clarification No. XX

173 Karnataka seeks clarification whether this Tribunal may be pleased to re-allocate the balance waters to Maharashtra and Karnataka based on common and equitable yardsticks, in regard to the extent of areas to be irrigated under future projects.

The law relating to equitable apportionment of the benefits of an inter-State river and the guidelines for equitable apportionment have been clearly stated at pages 302—317 of Vol. I of the Report. The law so laid down has not been challenged by any of the parties.

Karnataka contends (KR Reference Note No. XII) that the balance water left after providing for protected uses should be distributed between Karnataka and Maharashtra in proportion to the irrigable areas under the contemplated projects of the two States. Reliance is placed on the following passage in the report of the Anderson Committee Vol. I, para 42 page 24 :—

" VII. Basis for Allocating of Irrigation Water "—

" 42. The Committee consider that the fundamental basis for the distribution of water for projects prepared in the future must be the culturable irrigable area as defined in the Glossary, Part I of this Report....".

It must be borne in mind that the above observations were made by the
174 Anderson Committee with regard to distribution of water from projects and not for division of the waters of an inter-State river or river valley. Moreover, the Report of the Anderson Committee was made when the Government of India Act, 1915 as amended by the Government of India Act, 1919 was in force. We have pointed out at pages 315-317 of Vol. I of the Report that the Government of India then used to decided disputed relating to distribution of water upon administrative or political considerations.

In allocating the waters of the inter-State river Krishna between the three States we have taken into account all the relevant factors for such allocation including those mentioned at pages 302-311 of Vol. I of the Report and the contentions of parties set out at pages 487-498, 561-570 and 582-584 of Vol. II of the Report and after full consideration of the needs and requirements of the States which are reflected in the Krishna case in their projects, see Report Vol. II page 585.

Division of the remaining water left after providing for Andhra Pradesh between the States of Maharashtra and Karnataka in proportion to the total irrigable area under their remaining projects cannot form a sound basis of our decision without examining how far it is possible to satisfy their reasonable needs, see Report Vol. II pages 584-585. No State has proprietary interest in any **175** particular volume of water of an inter-State river on the basis of its irrigable area or contribution, see Report Vol. I page 308.

In allocating the available supply, we have not applied different standards for different States or treated them unequally as suggested by Karnataka (KR Reference Note No. XII). We have carefully scrutinized the projects of each State in order to assess their reasonable demands (see page 585 of Vol. II of the Report) and we have made allocations after balancing the conflicting demands of the Stales.

Clarification No. XXI **176**

Karnataka prays that this Tribunal may be pleased to clarify and/or explain—

(i) that the Upper Krishna Project of Karnataka is entitled to allocation of waters, **inter alia,** for the reasonable intensification of crops on the Narayanpur Left Bank Canal Stage I, for the Lift Irrigation of 5.24 lakh acres including Hippargi Barrage Scheme and for irrigation of 1.20 lakh acres under the Right and Left Bank Canals from the Almatti Reservoir;

(ii) that the Bhima Lift Irrigation Project of Karnataka and such other projects are entitled to allocation of water on the same principle as applied in the allocation of waters to the Gudavale Lift and the Koyna—Krishna Lift in Maharashtra ; and

(iii) that the allocations made by this Tribunal are liable to re-adjustment accordingly.

In MR Note No. 30, MY Note No. 17 and AP Note No. 14, the States of Maharashtra, Karnataka and Andhra Pradesh set forth their revised claims for allocation of water out of the water left after providing for all the protected utilisations. We assessed the needs of the three States after considering their revised demands. We have allowed the demands for Gudavale Lift Scheme and Koyna-Krishna Lift Irrigation Scheme of Maharashtra and also for lift irrigation under Malaprabha Project for the reasons given at pages 638-643, 674-675 and 731-733 of Volume II of the Report. The reasons for not allowing the demand for Bhima Lift Irrigation Project are given at pages 737-738 of Vol. II **177** of the Report. We have considered the Upper Krishna Project at pages 714-719 of Vol. II of the Report. The parties agreed to protect the utilisation of 103 T.M.C. for the Project. We allowed the additional demand for this Project to the extent mentioned in the Report after taking into account the available water supply and the needs of the other States. Subject to our observations made elsewhere in this Report, regarding the Upper Krishna Project, we see no ground for any further clarification.

However, we may add that this Project is to be executed by stages and if it is found in future that more water is available for distribution between the

three States, the claim of Karnataka for allocating more, water for this Project may receive favourable consideration at the hands of the Tribunal or authority reviewing the matter. Almatti Dam is under construction and may serve as carry-over reservoir.

178 Clarification No. XXII

Karnataka prays that this Tribunal may be pleased to clarify and explain—

(i) that the quantity of 17.84 T.M.C. is liable to be deducted from the allocations made to Andhra Pradesh in the event of its inability to put up any project for irrigating the areas in Gadwal and Alampur talukas ; and

(ii) that the scarcity areas in Bijapur district of Karnataka are entitled to allocations by reasons of similar " special considerations " applied to the areas of Gadwal and Alampur in Andhra Pradesh.

We have given full reasons for allowing the demand for 17.84 T.M.C. in respect of the Jurala Project, see Report Vol. II pages 579-582. It is necessary to correct the imbalance in the use of water for irrigation between the Andhra and Telengana regions of Andhra Pradesh and we have said that if the Jurala Irrigation Project is not a practical proposition, the water allocated in respect of this Project should be utilised elsewhere in the Telengana region. Areas in Bijapur district will be irrigated from Ghataprabha Project, Malaprabha Project, Ramthal Lift Irrigation Scheme, Upper Krishna Project and minor irrigation works. We see no ground for any further clarification.

179 Clarification No. XXIII

Karnataka prays that the following observation at page 190 of Vol. I of the Report be expunged :—

" .... but instead of co-operative approach and mutual agreement, there is vigorous opposition to all such extension schemes by the State of Mysore ".

The other parties do not oppose the deletion of the above observation. We direct that the aforesaid observation be deleted from page 190 of Vol. I of the Report.

180 Clarification No. **XXIV**

Karnataka seeks clarification and/or explanation—

(i) that the existing utilisation entitled to protection under the Tungabhadra Left Bank Low Level Canal was 101.3 T.M.C. (including evaporation loss of 9 T.M.C.);

(ii) that the allocations to Karnataka should consequently be increased by a quantity of 9.3 T.M.C.

The relevant facts relating to the Tungabhadra Project Left Bank Low Level Canal are stated at pages 362-365, 186-190 and 153-154 of Vol. I of the Report. For establishing the claim of the State of Karnataka to 101.3 T.M.C. for this Project, Counsel for the State of Karnataka referred to the following materials (1) the Tungabhadra Project Report (Ex. MYK-270) published by P.W.D. of

the Government of Hyderabad, (2) the Project Report of 1950 and the sanction of the Hyderabad Government to the Project (MYDK-VIII pages 1 to 34), (3) 1951 note of the Hyderabad Government regarding utilisation of supplies in the Krishna river (APK-III pages 246-267), (4) the proceedings of the inter-State Conference in July, 1951, (5) the Lower Krishna Project Report of 1952, (6) letter of Chief Secretary to the Hyderabad Government dated 25th July 1953 (SP-III pages 186-188). (7) inter-departmental correspondence of the Government of Hyderabad (APDK-X pages 128-133), (8) the revised cropping pattern sanctioned **181** by the Hyderabad Government in March 1955 (APDK-X page 134), (9) letter of the Secretary to the Government P.W.D. Andhra Pradesh, Hyderabad dated 29th August 1959 (SP-III pages 119, 120) and (10) the minutes of the proceedings of the conference of the Secretaries to the Governments of Andhra Pradesh and Mysore on 24th and 25th October, 1959 (SP-III pages 86, 88-93).

The Tungabhadra Project Report (Ex. MYK-270) published by P.W.D. of the Government of Hyderabad, pages 9 and 28 contained a cropping scheme for irrigating 4,50,000 acres besides areas of double cropping and 1,35,000 acres of fuel and pasture in the Karnataka region up to mile 141 and a demand table of 92.05 T.M.C. for this cropping scheme. Ex. MYK-270 is referred to as the Tungabhadra Project Report 1947 in our Report Vol. I pages 363 and 186. It appears that Ex. MYK-270 does not give the date of its publication. There is now some dispute about this date. According to the State of Andhra Pradesh, Ex. MYK-270 was printed after 26th January 1950, whereas according to the State of Karnataka, it was printed either in 1947 or 1951. On the basis of the materials on the record, it is not possible to give a definite finding with regard to this date. Assuming that Ex. MYK-270 was published after 26th January 1950, the fact remains that Ex. MYK-270 contained **182** a demand table of 92.05 T.M.C. of a cropping scheme for 4,50,000 acres besides areas of double cropping and 1,35,000 acres of pasture and fuel in the Karnataka region.

On or about 19-12-1950, the Government of Hyderabad sanctioned the estimate of costs of a modified report of the Tungabhadra Project, see MYDK-VIII pages 9-11. This modified report stated that the Project proposed to irrigate 4,50,000 acres (or adding the area of double cropping, of catch crops and pasture and fuel lands a total cropped area of 8,67,840 acres) on the assumption that the final apportionment of waters would be decided by 1958 when the Project was expected to be completed, see MYDK-VIII page 19. No estimate of water demand and no demand table for the cropping pattern envisaged in the modified report was given in the report.

In its note on utilisation of supplies prepared in connection with the inter-State conference in July, 1951, the Hyderabad Government claimed 100 T.M.C. for the Tungabhadra Project under construction and 35 T.M.C. for the Tungabhadra Canal extension, see APK-III pages 246, 251, and Madras claimed 65 T.M.C. for the Tungabhadra Project. In this background, the C.W. & P.C. note prepared for the conference referred to 65 T.M.C. required for the Tungabhadra **183** Project of Hyderabad then under construction and this demand for 65 T.M.C. was allowed by the agreement of 1951 with the consent of the Hyderabad

Government, see Report Vol. I pages 119, 130. Hyderabad had also demanded 585 T.M.C. of water for its contemplated projects including 35 T.M.C. for extension of irrigation on the Tungabhadra and against this demand of 585 T.M.C., Hyderabad was allotted 280 T.M.C. only out of the dependable flow of 1715 T.M.C, see Report Vol. I pages 120, 130. Hyderabad was also allotted 30 per cent of the balance flows in excess of the agreed dependable flow. The Lower Krishna Project Report of 1952 (APPK-X pages 14-16) stated that in view of the 1951 allocation, Hyderabad Government had revised its proposed projects and in addition to 65 T.M.C., an extra 20 T.M.C. from dependable flows and another 15 T.M.C. from the excess flows would be utilised for the Tungabhadra Project. On the 25th July, 1953, the Chief Secretary to the Hyderabad Government wrote to the Secretary to the Government of Madras, P.W.D., that in the allocation of waters of the Krishna basin at the conference of July, 1951, the share of Hyderabad in the Krishna system for works existing and under construction included 65 T.M.C. for the Tungabhadra Project and that Hyderabad had also asked for and obtained 35 T.M.C. for extension of irrigation under the Tungabhadra Project. He added that the Tungabhadra Project on the Hyderabad side for eventual utilisation of 100 T.M.C. had been fully investigated, estimated and approved by the Government of Hyderabad and the work was proceeding accordingly, see SP-III pages 186-188.

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In 1954, it was proposed that there would be an irrigable area of 5,70,000 acres plus 10,000 acres Tabi besides 85,000 acres of pasture and fuel up to mile 141 of the Canal in the Karnataka region, that out of 100 T.M.C. the balance water available after finalising the cropping scheme up to mile 141 would be utilised beyond mile 141 in the Telengana region for heavy irrigation and that until the cropping scheme beyond mile 141 was finalised it was not possible to give details of the draw-offs for the extension of irrigation under the Project, see APDK-X pages 128-133. In March, 1955, the Hyderabad Government finally approved of a cropping scheme for 5,80,000 acres in the Karnataka region up to mile 141.

A copy of the letter, dated the 31st March, 1955 from the Assistant Secretary, Community Projects, Government of Hyderabad to the Secretary, Board of Revenue, Hyderabad Division giving details of the approved cropping scheme was sent to the Secretary, P.W.D., Hyderabad and the Chief Engineer, I.P. Hyderabad for information and necessary action, see APDK-X page 134.

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The cropping scheme approved by the Hyderabad Government in March 1955 was as follows :—

1. Abi	50,000 acres
2. Cane	15,000 acres
3. Kharif	200,000 acres
4. Rabi cotton	75,000 acres
5. Garden	30,000 acres
6. Rabi Jowar etc.	200,000 acres
7. Tabi	10,000 acres
	5,80,000 acres

No demand table for this approved cropping scheme was prepared at the meeting of the Council of Ministers of the Hyderabad Government in March, 1955 when they approved the scheme. It was, therefore, necessary to prepare a demand table for the scheme.

On the 12th September, 1956, the Chief Engineer, P.W.D., Tungabhadra Project, Hyderabad Division, wrote to the Chief Engineer, P.W.D., Andhra State, stating that for the cropping scheme approved by the Hyderabad Government for 5,80,000 acres including 10,000 acres of second crop paddy up to mile 141 in the Karnataka region the total quantity of utilisable water was estimated to be about 82 T.M.C. out of 100 T.M.C. allotted to Hyderabad in 1951. He added that it had been further decided that the available quantity of water beyond mile 141 should be utilised in the lower reaches lying in the Telengana region, see SP-III page 95. On the 14th September, 1956 the Chief Engineer, **186** Tungabhadra Project, Hyderabad Division wrote to the Chief Engineer (Electrical), Hydro Branch, P.W.D. 259, Hyderabad Division enclosing a demand table of 82.007 T.M.C. prepared by the Divisional Engineer, P.W.D., Central Construction Division No. 5 T.B.P. for the approved cropping scheme and for an additional 85,000 acres of pasture and fuel, see SP-III pages 96-97. In October, 1956, the Superintending Engineer, Tungabhadra Project Reservoir Circle, Munirabad, prepared a demand table of 72.5 T.M.C. for the approved cropping scheme; see SP-III pages 98-101.

On the 29th August, 1959, the Secretary to Government, P.W.D, Andhra Pradesh wrote to the Secretary to Government of Mysore, P.W. & Electricity Department that out of 280 T.M.C. allotted from the dependable flow to Hyderabad State for future utilisation by the Planning Commission award of 1951, a quantity of 27 T.M.C. had already been committed by the Hyderabad State for the Tungabhadra Project, see SP-III pages 119, 120. At the Conference of the Secretaries to the Government of Andhra Pradesh and Madras held at Hyderabad in October, 1959, the Mysore representative stated that the requirement of water for the irrigable area of 5,80,000 acres had not been worked out at the time of the States Reorganisation, that its requirement had been put down **187** at 92 T.M.C. when the Project was sanctioned, that the subsequent changes in the cropping pattern did not justify any reduction in the quantity of water required, that a number of alternatives and demand tables were prepared from time to time and the letters said to have been sent by the Chief Engineer, Irrigation Projects, Hyderabad in October, 1956 (even if considered to be authoritative) could not be deemed to represent the final decision in the matter. He stated that the requirement of the area of 5,80,000 acres and that of 1,35,000 acres of pastures and fuel would have to be worked out on the basis of reasonable duties and that even adopting the duties followed under the Right Bank Low Level Canal which were themselves high, the requirement of water for the irrigable area of 5,80,000 acres would amount to 100 T.M.C. and those of the area under fuel and pasture would be about 5.4 T.M.C., see SP-III pages 88-93.

But the letters of September, 1956 from the Chief Engineer, Tungabhadra Project, Hyderabad Division, together with the demand table prepared in September, 1956 show that 82.007 T.M.C. was sufficient for the reasonable

requirements of the approved cropping scheme for 5,80,000 acres up to mile 141 in the Karnataka region and for an additional 85,000 acres of pasture and
188 fuel. This estimate of the water requirement of the approved cropping scheme was made for implementing the decision of the Hyderabad Government in March, 1955 and not with a view to override it. We are not satisfied that the demand table of 82.007 T.M.C. was prepared on the basis of unreasonable duties or that the water requirement of the approved cropping scheme for 5,80,000 acres and for an additional 85,000 acres of pasture and fuel would be more than 82 T.M.C. adopting the duties followed under the Tungabhadra Right Bank Low Level Canal, (see KGCR Annexure-IX page 23) as claimed by the Mysore representative in the 1959 Conference.

Considering all the materials on the record, we found that 82 T.M.C. was the reasonable requirement of the Tungabhadra Left Bank Low Level Canal for the cropping scheme for 5,80,000 acres in the Karnataka region. This cropping scheme was finally approved in 1955 by the Hyderabad Government and continued to hold the field until September, 1960. We allowed the demand for annual utilisation of 82 T.M.C. under the Tungabhadra Left Bank Low Level Canal and 1 T.M.C. under the Tungabhadra Left Bank High Level Canal besides 9 T.M.C. on account of evaporation losses. The equal sharing of the reservoir loss of the Tungabhadra Reservoir by the works on its left and right-
189 sides does not necessarily mean equal utilisation by the works on each side. For the reasons given at pages 754-755 of Vol. II of the Report we did not allow the additional demand of 9.3 T.M.C. for Karnataka's Tungabhadra Left Rank Low Level Canal. We have considered elsewhere whether we should give further directions enabling the State of Karnataka to use within the limits of its allocation an additional 9.3 T.M.C. of water for the aforesaid Canal,

With a view to clarify the matter we direct that the following corrections be made at page 364 of Vol. I of the Report:—

(1) in line 6 the figure " 1955 " be substituted for " 1954 ".

(2) in line 14 the words " We find that " be substituted for the words "Since 1956 up to September 1960".

(3) in line 15 the word " considered " be deleted and the word " reasonable " be added before the word " requirement".

We also direct that :

(1) the figure " 1947" appearing in line 16 at page 363 of Vol. I of the Report be deleted.

(2) the words "In 1947, the" appearing in the 23rd line at page 186 of Vol. I of the Report be deleted and in their place the word " The " be substituted.

The contentions of the State of Karnataka regarding Mutha System Ex-
190 Khadakwasla and the contentions of the State of Maharashtra regarding (1) Gokak Canal, (2) Upper Krishna Project and (3) Kolchi Weir and Mala-prabha Project raised in course of arguments in Reference No. III of 1974 are dealt with hereafter.

Mutha System Ex-Khadakwasla

In KR Reference Note No. XII page 6, Karnataka submitted that there was excessive allocation of 4 T.M.C. in respect of Mutha System Ex-Khadakwasla Project, though this point was not taken in Reference No. III of 1974. We are unable to accept this contention. The Project proposes to utilise 33.1 T.M.C. out of which 25.9 T.M.C. is for irrigation of 1,28,000 acres, 5.0 T.M.C. is for water supply requirement and 2.2 T.M.C. represents laks losses, see MRPK-XXVIII pages 137, 139. The Project as cleared by the Planning Commission contemplated the total utilisation of 23.5 T.M.C. including 3.1 T.M.C. for water supply to Poona and Kirkee and an irrigation of 77,000 acres, see MRPK-XXVIII pages 143-144, Report Vol. II page 676. The parties agreed that 23.5 T.M.C. required for the cleared project should be protected and we allowed the balance demand of 9.6 T.M.C, see Report Vol. I page 330, Vol. II pages 676-678. Clause VII of our Final Order provides that use for domestic and municipal water supply shall be measured by 20 per cent of the **191** quantity of water diverted. This provision is based on the agreed statement filed by the parties on the 20th August, 1973, see Report Vol. I page 290, Vol. III page 62. In view of this provision, Karnataka contends that 20 per cent of 5 T.M.C. i.e. 1 T.M.C. only should have been allowed for the water supply requirement and consequently an excess quantity of 4 T.M.C. has been allowed to Maharashtra for the Project. We are unable to accept this contention. On the 7th May, 1971, the parties agreed to protect the utilisation of 23.5 T.M.C. under this Project, knowing fully well that out of 23.5 T.M.C. a quantity of 3.1 T.M.C. would be used for water supply. Presumably because the return flow from the water supply would be used for irrigation, the entire water required for the water supply was allowed by consent of the parties. The Khadakwasla Project Report 1957 (MRPK-XVI page 38) shows that even in 1957, some crops were being grown with effluent water. It may be noted that on the 7th May, 1971, the parties also agreed to protect the consumptive use of 0.3 T.M.C. being 20 percent of the total withdrawal of 1.6 T.M.C. for Sholapur City Water Supply Scheme presumably because the water would not **192** be used for irrigation On the same day, the parties agreed to protect the utilisation of 3.9 T.M.C. for water supply to the twin city of Hyderabad and Secunderabad representing 3.1 T.M.C. for evaporation, 0.52 T.M.C. being 20 percent of water supply use and 0.30 T.M.C. for sewage farm, see MRDK-VIII, pages 61-63.

In addition to the protected utilisation of 23.5 T.M.C., Maharashtra asked for an additional 9.6 T.M.C. for irrigating an additional area of 51,000 acres (the corresponding additional cropped area being 58,140 acres) and for supplying additional drinking water and we allowed this demand for 9.6 T.M.C. as it would irrigate an extra 51,000 acres in scarcity areas, see Report Vol. II pages 676-678, MRPK-XXVIII pages 137-142. It may be noted that part of this water may first be used for drinking water supply and then used for irrigation. We see no ground for reducing the allocation of either 23.5 T.M.C. or 9.6 T.M.C. in respect of Mutha System Ex-Khadakwasla.

In this connection we may record the following statement made by the learned Advocate-General of Maharashtra on the 14th August, 1974 with regard to Mutha System Ex-Khadakwasla Project:—

" At page 330 of the Tribunal's Report under Serial No. 10 which refers
193 to the Project Re : Mutha System Ex-Khadakwasla, the agreed quantum of water which is protected is shown as 23.5 T.M.C. In the Project Note relating to Khadakwasla, MRPK-28 at page 137, para 3.1, a quantity of 5 T.M.C. is shown as required for the water supply of Poona City, National Defence Academy, etc. On behalf of the State of Maharashtra, the Advocate-General of Maharashtra States that if 5 T.M.C. of water, or any other quantity of water, out of the aforesaid 23.5 T.M.C. of water and the additional 9.6 T.M.C. of water allotted by the Tribunal for the said Project, as stated at page 678 of its Report, is used for domestic and/or municipal purposes, the State of Maharashtra will not contend that such user is to be computed at 20 per cent of the quantity so used and will proceed on the basis that the entire user of the said Project will be measured by 100 per cent of the quantity of water diverted or lifted from the river or any of its tributaries or from any reservoirs, storage or canal."

Learned Counsel for the State of Maharashtra drew our attention to the fact that a portion of the water allowed in respect of Gandhorinala and Malaprabha Projects of Karnataka may be used for water supply to towns, sec Report Vol. II page 746, MYPK-X1V pages 6, 7, 10 and MYPK-II page 13. These projects are primarily irrigation projects and the fact that a portion of the water allowed in respect of these projects may be used for water supply to towns is no ground lor cutting down the allocations to the State of Karnataka.

GOKAK CANAL

194 In view of the new point raised by the State of Karnataka during argument with regard to Mutha System Ex-Khadalwasla Project, the learned Advocate General of Maharashtra submitted that though he did not ask for any modification of the Report in this behalf, he would like to point out that the allocation of 1.4 T.M.C. in respect of Gokak Canal at page 724 of Vol. II of the Report was an excess allocation to the State of Karnataka in as much as this allocation was inconsistent with our finding at pages 337-338 of Vol. I of the Report that no separate provision for Gokak Canal was necessary and its water requirement would be met from the water provided for the Ghataprabha Left Bank Canal. Mr. Andhyarujina, learned Counsel for the State of Maharashtra also advanced the same argument, see MR Reference Note No. 11. We do not accept this argument.

MYPK-XIII page 9 shows that the total demand for Ghataprabha Project Stages I, II, III & IV was 120 T.M.C. comprising 48 T.M.C. for Stages I&II (Ghataprabha Left Bank Canal), 48 T.M.C. for Stage III and 24 T.M.C. for Stage IV. At pages 9-14 of MYPK-XIII, Karnataka stated that if the storage
195 at Ajra on the Hiranyakeshi river were not available, 94.30 T.M.C. would be required to provide irrigation facilities under the four stages of the Project, see also Report Vol. I page 709, KR Reference Note No. XV. At pages 720-726 of Vol. II of the Report we found that the actual requirement of the entire project was 91.30 T.M.C. out of which 36.6 T.M.C. was protected and the balance requirement was 54.7 say 55 T.M.C. We allowed this additional

demand for 55 T.M.C. in respect of the entire Project in all its stages including 1.4 T.M.C. for the Gokak Canal. Obviously, this demand of 1.4 T.M.C. was allowed as part of the total water requirement of the entire Ghataprabha Project Stages I, II, III and IV including that of Gokak Canal.

UPPER KRISHNA PROJECT **196**

Mr. Andhyarujina drew our attention to the following observations at page 719 of Vol. II of the Report:

" In our opinion water may be provided to irrigate an area of 4.3 lakh acres by the Narayanapur Right Bank Canal, as contemplated under the sanctioned Project. The demand for the Right Bank Canal is 52 T.M.C. The demand of the State of Mysore to the extent of 52 T.M.C. for this project is worth consideration."

Mr. Andhyarjina argued that under the sanctioned Upper Krishna Project only 3.20 lakh acres were to be irrigated from the Narayanpur Left Bank Canal for which only 47.69 T.M.C. was required, and consequently the allowance of the demand for 52 T.M.C. to irrigate 4.3 lakh acres from the Narayanpur Right Bank Canal under the sanctioned Project has resulted in excess allocation to Karnataka. We cannot accept this argument. At pages 716, 717 and 719 of our Report Vol. II, we have pointed out that the protected utilisation for the Project is 103 T.M.C., that the Project is not being executed according to the sanction given by the Planning Commission and that Karnataka proposes to utilise the entire 103 T.M.C. for the Narayanpur Left Bank Canal and wants an additional 52 T.M.C. for the Right Bank Canal to irrigate 4.3 lakh acres under the modified Project as envisaged in MYPK-III. We allowed this **197** additional demand of 52 T.M.C. for the modified Project. We may also point out that the utilisation for the Right Bank Canal including evaporation losses as envisaged by the sanctioned Project was 52 T.M.C. and not 47.69 T.M.C., see MYPK-I pages 35, 109 and 112. However to avoid any misunderstanding, we have directed that the following words in lines 3 and 4 from the bottom at page 719 of Vol. II of the Report be deleted :—

", as contemplated under the sanctioned Project".

Mr. Andhyarujina also argued that the statement at page 717 of Vol. II of the Report that the Left and Right Bank Canals from Almatti Reservoir were to irrigate 1.20 lakh acres is incorrect. We are unable to accept this argument. The above statement is a summary of the modified Project envisaged in MYPK-III page 13. We may also point out that we did not allow any demand for water in respect of the Almatti Canals,

KOLCHI WEIR AND MALAPRABHA PROJECT

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Mr. Andhyarujina argued that there was excessive allocation of 0.53 T.M.C. to Karnataka in respect of Kolchi Weir as its utilisation was included in the demand for 37.20 T.M.C. in respect of the Malaprabha Project allowed by us.

We are unable to accept this argument. This demand for 37.20 T.M.C. included the demand for 1.95 T.M.C. for the Kolchi Weir extension to irrigate an additional area of 20,000 acres, see MYPK-V pages 3, 9, 15, 25, 27, 47, but it did not include the demand of water for the existing Kolchi Weir. Karnataka demanded 0.53 T.M.C. separately for the Kolchi Weir (see MYK-I page 97) and this demand was allowed at pages 384—385 of Vol. I of the Report.

Mr. Andhyarujina also argued that there was excessive allocation of 0.2 T.M.C. for the Malaprabha Project because Karnataka demanded 44 T.M.C. only in respect of this project whereas the Tribunal has allowed 44.2 (37.2+7) T.M.C. for it. We are unable to accept this argument. Karnataka had demanded 49 T.M.C. for the Malaprabha and Upper Malaprabha Projects (see Report Vol. II page 709, MYPK-V page 15, MYPK-VIII page 57) out of
199 which 37.20 T.M.C. and 9 T.M.C. aggregating to 46.20 T.M.C. only was allowed by us, see Report Vol. I page 330, Vol. II pages 731-735, 769. We are satisfied that, there is! no excessive allocation to Karnataka in respect of Kolchi Weir or in respect of Malaprabha Project.

CHAPTER V

Reference No. IV of 1974 by the State of Maharashtra

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In this Reference, the State of Maharashtra seeks clarification, explanation and guidance on the points mentioned and dealt with below:

Clarification No. (a)

Maharashtra points out that the protected annual westward diversion from the Tata Hydel Projects is 42.6 T.M.C. excluding evaporation losses (see Report Vol. I page 330, Vol. II page 413), that 5 times 42.6 is 213 and not 212 and yet due to arithmetical or clerical mistake, we have stated in Clause X (2) of our Final Order that Maharashtra shall not divert more than 212 T.M.C in any period of five consecutive years. Maharashtra prays that this mistake be corrected.

We agree with Maharashtra's contention. We direct that the figure " 213 " be substituted for the figure " 212 " appearing at page 786 line 19 in Clause X(2) of the Final Order, and at page 476 line 13 and page 484 line 4 of Vol. II of the Report.

Clarification No. (b)

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Maharashtra submits that the requirement of Clause XIII (A) (h) of the Final Order to prepare and maintain records of "estimated annual evaporation losses from reservoirs and storages " does not apply to tanks and storages utilising less than 1 T.M.C. of water annually as irrigation works using less than 1 T.M.C. annually are dealt with specifically in Clause XIII(A) (b) and (g). Maharashtra prays that the Tribunal should supply the necessary explanation.

It is not disputed *by* any party that sub-Clause (h) of Clause XIII (A) at page 789 of Vol. II of the Report was not intended to apply to reservoirs and storages using less than 1 T.M.C. each annually.

We direct that the words "using 1 T.M.C. or more annually" be added at the end of sub-Clause (h) at page 789 of Vol. II of the Report and that the word " reservoirs" be substituted for the word " reservoir" in the aforesaid sub-Clause (h) so that the amended sub-Clause (h) of Clause XIII (A) at page 789 of Vol. II of the Report will read as follows :—

"estimated annual evaporation losses from reservoirs and storages using 1 T.M.C. or more annually. "

ACKNOWLEDGEMENT

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We must acknowledge our indebtedness to learned Counsel for the Governments of India and States and their representatives for the help they have

rendered to us in formulating our views on the important and intricate problems referred to us for decision in the References filed by the Government of India and party-States under section 5(3) of the Inter-State Water Disputes Act, 1956. Learned Counsel for all the States appearing before us argued their respective points of view with conspicuous, ability and remarkable clarity and thoroughness. We were indeed fortunate to work in an atmosphere where it was possible for us with the help of the learned Counsel of all the party-States to examine and adjudicate on the references in a calm and dispassionate manner.

We must also acknowledge the valuable assistance given to us by our staff in the course of hearing of this case. In particular, we desire to place on record that although Shri R. P. Marwaha joined as Secretary of the Tribunal in December, 1973, after submission of our Original Report, he acquainted himself fully with the voluminous records of this case in a remarkably short time and worked with praiseworthy earnestness and commendable devotion to duty.

The modifications made in the Report of the Tribunal (except in the Final Order) forwarded under section 5(2) of the Inter-State Water Disputes Act, 1956 as a result of the explanations given by the Tribunal under section 5(3) of the said Act are set forth in Appendices A, B and C to this Chapter.

The modifications made in the Final Order as a result of the explanations given by the Tribunal under section 5(3) of the said Act have been mentioned in the preceding Chapters. The following typographical and/or clerical errors in the Final Order be also corrected :

(1) In the Final Order set forth in Vol. II of the Report, substitute "Official Gazette" for "official gazette" wherever those words occur.

(2) In Clause XI (A) (iv) of the Final Order at page 787 of Vol. II of the Report, substitute " so far as " for " ; in so far ".

(3) In Clause XVIII of the Final Order at page 791 of Vol. II of the Report, substitute " Governments " for " Government ".

The Final Order modified as a result of the explanations given by the Tribunal under section 5(3) of the said Act and as mentioned above is set forth in Chapter VII.

APPENDIX-A

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The following modifications in the Original Report as mentioned in this Report be made:—

(1) (a) the following sentence in lines 16 and 17 at page 166 of Vol. I of the Report be deleted :—

" Until another control body is established, such control may be vested in the Tungabhadra Board." ; and

(b) the following sentence be added after the words " if necessary '* in line 22 at page 166 of Vol. I of the Report :—

"Until another control body is established, such control as is already vested in the Tungabhadra Board may continue tot be vested in the Tungabhadra Board. "

(2) after the last sentence at page 167 of Vol. I of the Report beginning with the words " We consider that the existing practice " and ending with the words " until another control body is established " the following sentence be added :—

" On a careful consideration of the matter, we have given suitable directions for the preparation of working tables of the Tungabhadra Dam in Clause IX (E) of the Final Order. "

(3) after the addition of the above sentence, the following paragraph be added

205 at the end of page 167 of Vol. I of the Report :

" We direct that the statement * The arrangement ----- in future years mentioned above be not added in the working tables prepared hereafter by the Tungabhadra Board or any other authority established in its place ".

(4) the following observation at page 190 of Vol. I of the Report be deleted :—

" but instead of co-operative approach and mutual agreement, there is vigorous opposition to all such extension schemes by the State of Mysore "

(5) (a) the words " We are providing for review ..... disputing such claim." appearing in lines 5 to 21 at page 226 of Vol. I of the Report be deleted and in their place the following words be substituted :—

"In respect of this matter we propose to give suitable directions in Clause XIV(B) of the Final Order."

(b) the words "before the aforesaid reviewing authority or Tribunal" appearing in lines 19 and 20 at page 514 of Vol. II of the Report be deleted and in their place the following words be substituted :—

"before any authority or Tribunal even before the 31st May. 2000".

(6) the figure " 10 " be substituted for the figure " 7 1/2 " in line 2 at page 280, **206**
lines 17 and 27 at page 283, line 10 at page 284, lines 4, 15 and 25 at page 285 , line 24 at page 286, lines 9 and 20 at page 287 of Vol. I of the Report.

(7) (a) the words " In 1947, the " appearing in the 23rd line at page 186 of Vol. I of the Report be deleted and in their place the word "The" be substituted.

(b) the figure " 1947 " appearing in line 16 at page 363 of Vol. 1 of the Report be deleted.

(8) at page 364 of Vol. I of the Report

(a) in line 6 the figure " 1955 " be substituted for " 1954".

(b) in line 14 the words " we find that " be substituted for the words "Since 1956 up to September 1960".

(c) in line 15 the word " considered" be deleted and the word " reasonable " be added before the word " requirement ".

(9) lines 1 to 4 at page 385 of Vol. I of the Report be deleted and in their place the following passage be substituted :—

" The above mentioned four works were under construction in September, 1960 and as they came into operation subsequently, their utilisations are not reflected in the figure of utilisations under minor irrigation works in Krishna **207**
basin in Mysore State for the decade 1951-52 to 1960-61. However, as these works were committed as on September, 1960, their utilisations also may be protected. Adding the utilisations for the above works, the sub-basinwise utilisations under minor irrigation works in Krishna basin in Mysore State committed as on September, 1960 were as follows :—"

(10) the words "It is common case before us that" in the 11th line at
page 387 of Vol. I of the Report be deleted and in their place the words "In our opinion " be substituted.

(11) the figure "213" be substituted for the figure "212" appearing at page 476 line 13 and page 484 line 4 of Vol. II of the Report.

(12) the figure and words "281 T.M.C. inclusive of evaporation losses" be substituted for the figure and words "264 T.M.C. " in lines 3 and 10 at page 578 and the figure "462.20" be substituted for the figure "445.20" in line 14 at page 578 of Vol. II of the Report.

(13) (a) the following sentences be added at page 600 of Vol. II of the Report at the end of the paragraph dealing with Clause IX of the Final Order :—

" We have placed the restrictions in Clause IX on a consideration of all **208**
relevant materials including the progressive increase of return flow. In Clause IX(E), we have given directions as to how the water in the Tungabhadra Dam is to be utilised."

(b) in the paragraph dealing with Issue No. IV(B)(a) at page 602 of Vol. II of the Report after the sentence beginning with the words " With regard to Issue No. IV(B)(a)" and ending with the words " as mentioned hereinbefore ", the following sentence be added :—

" Whatever directions are necessary have been given in Clause IX(E) of the Final Order."

(14) (a) the words "T.M.C. " in lines 22, 23 and 24 at page 604 of Vol. II of the Report be deleted ; and

(b) sub-paragraph (B) of paragraph 2 in lines 25 to 28 at page 604 and lines 1 to 4 at page 605 of Vol. II of the Report be deleted and in its place the following sub-paragraph (B) of paragraph 2 be substituted :—

" (B) If the total quantity of water used by all the three States in a water year is more than 2060 T.M.C., the States of Maharashtra, Mysore and
209 Andhra Pradesh shall share the water in that water year as mentioned below :—

(i) Up to 2060 T.M.C. as stated in paragraph 2(A) above and excess upto 2130 T.M.C. as follows:

State of Maharashtra	..	35% of such excess
State of Mysore	..	50% of such excess
State of Andhra Pradesh	..	15% of such excess

(ii) Upto 2130 T.M.C. as stated in paragraph 2(B)(i) above and excess over 2130 T.M.C. as follows:

State of Maharashtra	..	25% of such excess
State of Mysore	..	50% of such excess
State of Andhra Pradesh	..	25% of such excess

(15) (a) " A " in line 17 at page 606 and the whole of sub-paragraph (B) of paragraph 7 at lines 1 to 5 from bottom at page 606 and lines 1 to 5 at page 607 of Vol. II of the Report be deleted.

(b) the words " and as often as the Krishna Valley Authority thinks fit" be inserted after the words " last week of May " and before the words " the Krishna Valley Authority " in paragraph 8 in lines 6 and 7 at page 607 of Vol. II of the Report.

(c) the word " May" in paragraph 9(A)(ii) in line 22 at page 607 of
210 Vol. II of the Report be deleted and in its place the word " July " be substituted.

(d) in line 23 at page 616 of Vol. II of the Report at the end of the paragraph beginning with the words "In the first case the State of Andhra Pradesh", the words "share equally" be deleted and in their place the words " share equitably " be substituted.

(16) the following words in lines 2 to 4 at page 704 of the Report Vol. II be deleted :—

" , which according to the State of Maharashtra were in existence even before 1960".

(17) the following words in the 3rd and 4th lines from the bottom at page 719 of Vol. II of the Report be deleted :—

", as contemplated under the sanctioned Project".

APPENDIX-B

As indicated under clarification No. 7of Reference No. II of 1974 by the State of Andhra Pradesh the following typographical and or clerical errors be corrected in the Report :— 211

At page 63 of Vol. I of the Report line 2, substitute "30 per cent" for "3 per cent".

,,	104	”	”	”	line 2, substitute " new " for " New " .
„	176	”	”	”	last line, substitute " 1956 " for " 1957".
,,	181	”	”	”	line 9, substitute " Satara " for " Stara " .
„	278	”	”	”	last line, delete " from " .
,,	289	”	”	”	last but one line, delete " , " .
,,	290	”	”	”	first line, substitute " 20th " for " 17th
	305	”	”	”	line 4, substitute " lend " for " land " .
"	355	”	”	”	third line from the bottom, substitute " 29, 403" for "29.403".
"	357	”	”	”	line 17, substituted "82, 569" for "82, 659".
,,	383	”	”	”	last line, substitute " uses " for " users "
,,	411 of Vol.	”	”	”	line 15, substitute " Right " for " Left "
„	450	”	”	”	line 8, substitute " 6000 " for " 6600 " .
"	459	”	”	”	line 7 from the bottom substitute " 33 " for "39".

At page 497 of Vol. II of the Report last but one line, substitute " 1693.36" for "1684.11". **212**

"	508	”	”	”	line 3, add after " Project " the words " and there is some carry-over capacity in the existing Bhadra Project".
"	529	”	”	”	line 3 from bottom, substitute the words " executing its " for the word " this " .
,,	535	”	”	”	line 10, substitute "data" for "date".
"	605	”	”	”	lines 11 and 14, substitute "unutilised" for " utilised " .
"	609	”	”	”	line 5, substitute " insurmountable " for " unsurmountable " .
,,	609	”	”	”	line 16 substitute "onset" for "on-set".
,,	609	”	”	”	line 21, substituted "not so" for "as".
"	610	”	”	”	last line, substitute " project in " for " project to " .
,,	612	”	”	”	line 10, substitute "can" for "cannot".
"	694	”	”	”	line 4 from bottom, substitute " 34,000 " for "39000".

APPENDIX-C

231 As indicated under clarification No. IX of the Reference No. III of 1974 by the State of Karnataka, the following modifications be made in the Report:—

At page 596 of Vol. II of the Report line 6, the figure " 14.42 " be substituted for the figure " 14 ".

At page 596 of Vol. II of the Report line 14, the figure " 15.95 " be substituted for the figure "17.80".

At page 596 of Vol. II of the Report line 15, the figure " 22.90 " be substituted lor the figure "26.47".

At page 596 of Vol II of the Report line 16, the figure " 120.35 " be substituted for the figure "125.35".

At page 596 of Vol. II of the Report line 22, the figure " 57 " be substituted for the figure " 52 ".

At page 597 of Vol. II of the Report line 13, the figure " 195.45 " be substituted for the figure "190.45".

At page 597 of Vol. II of the Report line 18, the figure " 120.35 " be substituted for the figure "125.35".

At page 597 of Vol. II of the Report line 19, the figure " 195.45 " be substituted tor the figure "190.45".

At page 597 of Vol. II of the Report line 24, the figure " 560 " be substituted for the figure " 565 ",

At page 597 of Vol. II of the Report line 25, the figure " 700 " be substituted for the figure " 695 ".

At page 604 of Vol. II of the Report line 22, the figure " 560 " be substituted for the figure " 565 ".

At page 604 of Vol. II of the Report line 23, the figure " 700 " be substituted for the figure " 695 ".

At page 666 of Vol II of the Report line 20, the figure " 14.42 " be substituted for the figure " 14 ".

At page 702 of Vol. II of the Report after line 12, the following be added :—

" 4. Lift irrigation being item No. I(j) (iii) of MRPK-XXXI to be covered by the Koyna-Krishna Lift Irrigation Scheme—1865 Mcft ".

214 At page 702 of Vol. II of the Report line 13, the figure "7153 " be substituted for the figure " 5288 ".

At page 702 of Vol. II of the Report, in line 23, ", " be substituted for " and " and in line 24 after the words " Gudavale Command area " the words " and Koyna-Krishna Lift Irrigation Command Area " be substituted. In the same line the figure " 7153 " be substituted for the figure "5288 ".

At page 702 of Vol. II of the Report line 26, the figure " 15,947 " be substituted for the figure " 17,812 ".

At page 702 of Vol. II of the Report line 28, the figure " 15.95 " be substituted for the figure " 17.8 ".

At page 704 of Vol. II of the Report the last sentence be deleted and in its place the following be substituted :

"This demand of 22.37 T.M.C. taken as worth consideration includes the demands of 1570 Mcft., 747 Mcft. and 1234 Mcft. aggregating to 3551 Mcft. under item I(a), I(j) (iv), I(j) (viii) of MRPK-XXXI which we have allowed under bandharas, weirs and lift irrigation schemes at pages 699 to 702. Deducting 3551 Mcft. from 22.37 T.M.C. and adding 4.1 T.M.C., the total demand of 22.919 T.M.C. or say 22.90 T.M.C. is worth consideration."

At page 705 of Vol. II of the Report line 12, the figure " 14.42 " be substituted for the figure " 14 ".

At page 705 of Vol. II of the Report line 21, the figure " 15.95 " be substituted for the figure " 17.80".

At page 705 of Vol. II of the Report line 22, the figure " 22.90 " be substituted for the figure "26.47".

At page 705 of Vol. II of the Report line 23, the figure " 120.35 " be substituted for the figure "125.35".

At page 719 of Vol. II of the Report, the last sentence reading "The demand of the State of Mysore to the extent of 52 T.M.C. for this Project is worth consideration " be deleted and in its place the following be substituted :

"Another 5 T.M.C. is required for Hippargi Weir. Thus the demand of the State of Mysore to the extent of 57 T.M.C. is worth consideration for the present".

At page 769 of Vol. II of the Report line 9, the figure " 57 " be substituted for "52". 215

At page 769 of Vol. II of the Report line 26, the figure " 195.45 " be substituted for "190.45".

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CHAPTER VII

The Final Order set forth in Chapter XVI of the Original Report Vol. II pages 776-800 modified in accordance with the explanations given by the Tribunal under section 5(3) of the Inter-State Water Disputes Act, 1956 is given below :—

Final Order of the Tribunal

The Tribunal hereby passes the following Order :—

Clause I

This Order shall come into operation on the date of the publication of the decision of this Tribunal in the Official Gazette under section 6 of the Inter-State Water Disputes Act, 1956.

Clause II

The Tribunal hereby declares that the States of Maharashtra, Karnataka and Andhra Pradesh will be free to make use of underground water within their respective State territories in the Krishna river basin.

This declaration shall not be taken to alter in any way the rights, if any, under the law for the time being in force of private individuals, bodies or authorities.

Use of underground water by any State shall not be reckoned as use of the water of the river Krishna.

217 **Clause III**

The Tribunal hereby determines that, for the purpose of this case, the 75 per cent dependable flow of the river Krishna up to Vijayawada is 2060 T.M.C.

The Tribunal considers that the entire 2060 T.M.C. is available for distribution between the States of Maharashtra, Karnataka and Andhra Pradesh.

The Tribunal further considers that additional quantities of water as mentioned in sub-Clauses A(ii), A(iii), A(iv), B(ii), B(iii), B(iv), C(ii), C(iii) and C(iv) of Clause V will be added to the 75 per cent dependable flow of the river Krishna up to Vijayawada on account of return flows and will be available for distribution between the States of Maharashtra, Karnataka and Andhra Pradesh.

Clause IV

The Tribunal hereby orders that the waters of the river Krishna be allocated to the three States of Maharashtra, Karnataka and Andhra Pradesh for their beneficial use to the extent provided in Clause V and subject to such conditions and restrictions as are mentioned hereinafter.

Clause V

(A) The State of Maharashtra shall not use in any water year more than the quantity of water of the river Krishna specified hereunder :—

(1) as from the water year commencing on the 1st June next after the date of the publication of the decision of the Tribunal in the Official Gazette up to the water year 1982-83. 218

560 T.M.C.

(ii) as from the water year 1983-84 up to the water year 1989-90

560 T.M.C. plus

a quantity of water equivalent to 10 per cent of the excess of the average of the annual utilisations for irrigation in the Krishna river basin during the water years 1975-76, 1976-77 and 1977.78 from its own projects using 3 T.M.C. or more annually over the utilisations for such irrigation in the water year 1968-69 from such projects.

(iii) as from the water year 1990-91 up to the water year 1997-98

560 T.M.C. plus

a quantity of water equivalent to 10 per cent of the excess of the average of the annual utilisations for irrigation in the Krishna river basin during the water years 1982-83, 1983-84 and 1984-85 from its own projects using 3 T.M.C. or more annually over the utilisations for such irrigation in the water year 1968-69 from such projects. 219

(iv) as from the water year 1998-99 onwards 560 T.M.C. plus

a quantity of water equivalent to 10 per cent of the excess of the average of the annual utilisation for irrigation in the Krishna river basin during the water years 1990-91, 1991-92 and 1992-93 from its own projects using 3 T.M.C. or more annually over the utilisations for such irrigation in the water year 1968-69 from such projects.

(B) The State of Karnataka shall not use in any water year more than the quantity of water of the river Krishna specified hereunder :—

(i) as from the water year commencing on the 1st June next after the date of the publication of the decision of the Tribunal in the Official Gazette up to the water year 1982-83.

700 T.M.C.

(ii) as from the water year 1983-84 up to the water year 1989-90

700 T.M.C. plus

a quantity of water equivalent to 10 per cent of the excess of the average of the annual utilisations for irrigation in the Krishna river basin during the water years 1975-76. 1976-77 and 1977-78 from its own projects using 3 T.M.C. or more annually over the utilisations for such irrigation in the water year 1968-69 from such projects. 220

(iii) as from the water year 1990-91 up to the water year 1997-98

700 T.M.C. plus

a quantity of water equivalent to 10 per cent of the excess of the average of the annual utilisations for irrigation in the Krishna river basin during the water years 1982-83, 1983-84 and 1984-85 from its own projects using 3 T.M.C. or more annually over the utilisations for such irrigation in the water year 1968-69 from such projects.

(iv) as from the water year 1998-99 onwards 700 T.M.C. plus

a quantity of water equivalent to 10 per cent of the excess of the average of the annual utilisation for irrigation in the Krishna river basin during the water

years 1990-91, 1991-92 and 1992-93 from its own projects using 3 T.M.C. or more annually over the utilisations for such irrigation in the water year 1968-69 from such projects.

221 (C) The State of Andhra Pradesh will be at liberty to use in any water year the remaining water that may be flowing in the river Krishna but thereby it shall not acquire any right whatsoever to use in any water year nor be deemed to have been allocated in any water year water of the river Krishna in excess of the quantity specified hereunder :—

(i) as from the water year commencing on the 1st June next after the date of the publication of the decision of the Tribunal in the Official Gazette up to the water year 1982-83. 800 T.M.C.

(ii) as from the water year 1983-84 up to the water year 1989-90 800 T.M.C. plus a quantity of water equivalent to 10 per cent of the excess of the average of the annual utilisations for irrigation in the Krishna river basin during the water years 1975-76, 1976-77 and 1977-78 from its own projects using 3 T.M.C. or more annually over the utilisations for such irrigation in the water year 1968-69 from such projects.

(iii) as from the water year 1990-91 up to the water year 1997-98
222 800 T.M.C. plus a quantity of water equivalent to 10 per cent of the excess of the average of the annual utilisations for irrigation in the Krishna river basin during the water years 1982.83, 1983-84 and 1984-85 from its own projects using 3 T.M.C. or more annually over the utilisations for such irrigation in the water year 1968-69 from such projects.

(iv) as from the water year 1998-99 onwards 800 T.M.C. plus a quantity of water equivalent to 10 per cent of the excess of the average of the annual utilisation for irrigation in the Krishna river basin during the water years 1990-91, 1991-92 and 1992-93 from its own projects using 3 T.M.C. or more annually over the utilisations for such irrigation in the water year 1968-69 from such projects.

(D) For the limited purpose of this Clause, it is declared that—

(i) the utilisations for irrigation in the Krishna river basin in the water year 1968-69 from projects using 3 T.M.C. or more annually were as follows :—

223

From projects of the State of Maharashtra	..	61.45 T.M.C.
From projects of the State of Karnataka	..	176.05 T.M.C.
From projects of the State of Andhra Pradesh	..	170.00 T.M.C.

(ii) annual utilisations for irrigation in the Krishna river basin in each water year after this Order comes into operation from the projects of any State using 3 T.M.C. or more annually shall be computed on the basis of the records prepared and maintained by that State under Clause XIII.

(iii) evaporation losses from reservoirs of projects using 3 T.M.C. or more annually shall be excluded in computing the 10 per cent figure of the average annual utilisations mentioned in sub-Clauses A(ii), A(iii), A(iv), B(ii), B(iii), B(iv), C(ii), C(iii), and C(iv) of this Clause.

Clause VI

Beneficial use shall include any use made by any State of the waters of the river Krishna for domestic, municipal, irrigation, industrial, production of power, navigation, pisciculture, wild life protection and recreation purposes.

Clause VII

(A) Except as provided hereunder a use shall be measured by the extent of depletion of the waters of the river Krishna in any manner whatsoever including losses of water by evaporation and other natural causes from man made reservoirs and other works without deducting in the case of use for irrigation the quantity of water that may return after such use to the river. **224**

The water stored in any reservoir across any stream of the Krishna river system shall not of itself be reckoned as depletion of the water of the stream except to the extent of the losses of water from evaporation and other natural causes from such reservoir. The water diverted from such reservoir by any State for its own use in any water year shall be reckoned as use by that State in that water year.

The uses mentioned in column No. 1 below shall be measured in the manner indicated in column No. 2.

Use	Measurement
Domestic and municipal water supply.	By 20 per cent of the quantity of water diverted or lifted from the river or any of its tributaries or from any reservoir, storage or canal.
Industrial use	By 2.5 per cent of the quantity of water diverted or lifted from the river or any of its tributaries or from any reservoir, storage or canal.

(B) Diversion of the waters of the river Krishna by one State for the benefit of another State shall be treated as diversion by the State for whose benefit the diversion is made. **225**

Clause VIII

(A) If in any water year any State is not able to use any portion of the water allocated to it during that year on account of the non-development of its projects or damage to any of its projects or does not use it for any reason whatsoever, that State will not be entitled to claim the unutilised water in any subsequent water year.

(B) Failure of any State to make use of any portion of the water allocated to it during any water year shall not constitute forfeiture or abandonment of its share of water in any subsequent water year nor shall it increase the share of any other State in any subsequent water year even if such State may have used such water.

Clause IX

As from the 1st June next after the date of the publication of the decision of the Tribunal in the Official Gazette

(A). Out of the water allowed to it, the state of Maharashtra shall not use in any water year —

(i) more than 7 T.M.C. from the Ghataprabha (K-3) sub-basin. 226

(ii) more than the quantity of water specified hereunder from the main stream of the river Bhima.

(a) as from the water year commencing on the 1st June next after the date of the publication of the decision of the Tribunal in the Official Gazette upto the water year 1989-90.

90 T.M.C.

(b) as from the water year 1990-91.

95 T.M.C.

(B). Out of the water allocated to it the State of Karnataka shall not use in any water year—

(i) more than the quantity of water specified hereunder from the Tungabhadra (K-8) sub-basin

(a) as from the water year commencing on the 1st June next after the date of the publication of the decision of the Tribunal in the Official Gazette up to the water year 1982-83.

295 T.M.C.

(b) as from the water year 1983-84 up to the water year 1989-90

227 295 T.M.C. plus a quantity of water equivalent to 7 ½ per cent of the excess of the average of the annual utilisations for irrigation in the Krishna river basin during the water years 1975-76, 1976-77 and 1977-78 from its own projects using 3 T.M.C. or more annually over the utilisations from such irrigation in the water year 1968-69 from such projects.

(c) as from the water year 1990-91 up to the water year 1997-98

295 T.M.C.

a quantity of water equivalent to 7 ½ per cent of the excess of the average of the annual utilisations for irrigation in the Krishna river basin during the water years 1982-83, 1983-84 and 1984-85 from its own projects using 3 T.M.C. or more annually over the utilisations for such irrigation in the water year 1968-69 from such projects.

(d) as from the water year 1998-99 onwards 295 T.M.C. plus

228 a quantity of water equivalent to 7 ½ per cent of the excess of the average of the annual utilisation for irrigation in the Krishna river basin during the water years 1990-91, 1991-92 and 1992-93 from its own projects using 3 T.M.C. or more annually over the utilisations for such irrigation in the water year 1968-69 from such projects.

For the limited purpose of this sub-Clause, it is declared that—

The utilisations for irrigation in the Krishna river basin in the water year 1968-69 from projects of the State of Karnataka using 3 T.M.C. or more annually shall be taken to be 176.05 T.M.C.

Annual utilisations for irrigation in the Krishna river basin in each water year after this Order comes into operation from the projects of the State of Karnataka

229 using 3 T.M.C. or more annually shall be computed on the basis of the records prepared and maintained by that State under Clause XIII.

Evaporation losses from reservoirs of projects using 3 T.M.C. or more annually shall be excluded in computing the 7 ½ per cent figure of the average annual utilisations mentioned above.

(ii) more than 42 T.M.C. from the Vedavathi (K-9) sub-basin and
(iii) more than 15 T.M.C. from the main stream of the river Bhima.
(C) Out of the water allocated to it, the State of Andhra Pradesh shall not use in any water year—
(i) more than 127 T.M.C. from the Tungabhadra (K-8) sub-basin and more than 12.5 T.M.C. from the Vedavathi (K-9) sub-basin.
(ii) more than 6 T.M.C. from the catchment of the river Kagna in the State of Andhra Pradesh.

(D) (i) The uses mentioned in sub-Clauses (A), (B) and (C) aforesaid include evaporation losses.

(ii) The use mentioned in sub-Clause (C) (i) does not include use of the water flowing from the Tungabhadra into the river Krishna.

(E) (1) The following directions shall be observed for use of the water available for utilisation in the Tungabhadra Dam in a water year— **230**

(a) The water available for utilisation in a water year in the Tungabhadra Dam shall be so utilised that the demands of water for the following Projects to the extent mentioned below may be met :—

(i) Tungabhadra Right Bank Low Level Canal .. 52.00 T.M.C.

Water available for Tungabhadra Right Bank Low Level Canal shall be shared by the States of Karnataka and Andhra Pradesh in the following proportion :

State of Karnataka	22.50
State of Andhra Pradesh	29.50

(ii) Tungabhadra Right Bank High Level Canal—Stages I and II .. 50.00 T.M.C.

Water available for Tungabhadra Right Bank High Level Canal shall be shared by the States of Karnataka and Andhra Pradesh in the following proportion :

State of Karnataka	17.50
State of Andhra Pradesh	32.50

(iii) Tungabhadra Left Bank Low Level and High Level Canals .. 102.00T.M.C.

(iv) Raya and Basavanna Channels of the State of Karnataka .. 7.00T.M.C.

(v) Assistance by way of regulated discharges to Vijayanagar Channels other than Raya and Basavanna Channels of the State of Karnataka .. 2.00 T.M.C.

(vi) Assistance by way of regulated discharges to the Rajolibunda Diversion Scheme for use by the States of Karnataka **231**

and Andhra Pradesh in the proportion mentioned in Clause XI (C) ..	7.00T.M.C.
(vii) Assistance by way of regulated discharges to the Kurnool-Cuddapah Canal of the State of Andhra Pradesh..	10.00T.M.C.
	230.00T.M.C.

The utilisations of the Projects mentioned in sub-Clauses (a)(i). (ii) and (iii) above include the evaporation losses in the Tungabhadra Dam Which will be shared in accordance with Clause XI(D).

(b) If, in any water year, water available for utilisation in the Tungabhadra Dam is less than the total quantity of water required for all the Projects as mentioned above, the deficiency shall be shared by all the Projects proportionately. The proportions shall be worked out after excluding the evaporation losses.

(c) If, in any water year, water available for utilisation is more than the total quantity of water required for all the Projects as mentioned above, the requirements for all the Projects for the month of June in the succeeding water year as estimated by the Tungabhadra Board or any authority established in its
232 place shall be kept in reserve and the State of Karnataka shall have the right to utilise the remaining water in excess of such reserve in the Tungabhadra Dam for its Projects mentioned in sub-Clauses (a)(i), (ii) and (iii) above drawing water from that dam even though thereby it may cross in any water year the limit on the utilisation of water from Tungabhadra (K-8) sub-basin placed under Clause IX(B) of the Final Order but in no case such utilisation shall exceed 320 T.M.C.

(d) The balance water, if any, shall be kept stored in the dam for use in the next year.

(2) The working tables for the utilisation of the water in the Tungabhadra Dam shall be prepared as hithertofore by the Tungabhadra Board or any other authority established in its place so as to enable the States of Karnataka and Andhra Pradesh to utilise the water available for utilisation in the Tungabhadra Dam as aforesaid.

(3) If in any water year, either of the two States of Karnataka and Andhra Pradesh finds it expediet to divert the water available to it in the Tungabhadra Dam for any one of its Projects to any other of its Project or Projects mentioned above for use therein, it may give notice thereof to the Tungabhadra Board or any other authority established in its place and the said Board or authority may, if
233 it is feasible to do so, prepare or modify the working table accordingly.

(4) The States of Karnataka and Andhra Pradesh may use the water available in the Tungabhadra Dam in accordance with the aforesaid provisions and nothing contained in Clause V shall be construed as overriding the provisions of Clause IX(E) in the matter of utilisation of the water available in the Tungabhadra Dam nor shall anything contained in Clause IX(E) be construed as enlarging the total allocation to the State of Karnataka or as enlarging the limit of acquisition of any right by the State of Andhra Pradesh in the waters of the river Krishna.

(5) The States of Karnataka and Andhra Pradesh may by agreement, without reference to the State of Maharashtra, alter or modify any of the provisions for the utilisation of the water available in the Tungabhadra Dam mentioned above in any manner.

Clause X

(1) The State of Maharashtra shall not out of the water allocated to it divert or permit the diversion of more than 67.5 T.M.C. of water outside the Krishna river basin in any water year from the river supplies in the Upper Krishna (K-l) sub-basin for the Koyna Hydel Project or any other project.

Provided that the State of Maharashtra will be at liberty to divert outside the **234**
Krishna river basin for the Koyna Hydel Project water to the extent of 97 T. M. C. annually during the period of 10 years commencing on the 1st June, 1974 and water to the extent of 87 T.M.C. annually during the next period of 5 years commencing on the 1st June, 1984 and water to the extent of 78 T.M.C. annually during the next succeeding period of 5 years commencing on the 1st June, 1989.

(2) The State of Maharashtra shall not out of the water allocated to it divert or permit diversion outside the Krishna river basin from the river supplies in the Upper Bhima (K-5) sub-basin for the Projects collectively known as the Tata Hydel Works or any other project of more than 54.5 T.M.C. annually in any one water year and more than 213 T.M.C. in any period of five consecutive water years commencing on the 1st June, 1974.

(3) Except to the extent mentioned above, the State of Maharashtra shall not divert or permit diversion of any water out of the Krishna river basin.

Clause XI

(A) This Order will supersede—

(i) the agreement of 1892 between Madras and Mysore so far as it related to the Krishna system ;

(ii) the agreement of 1933 between Madras and Mysore so far as it related **235**
to the Krishna river system ;

(iii) the agreement of June, 1944 between Madras and Hyderabad ;

(iv) the agreement of July, 1944 between Madras and Mysore so far as it related to the Krishna river system ;

(v) the supplemental agreement of December, 1945 among Madras, Mysore and Hyderabad ;

(vi) the supplemental agreement of 1946 among Madras, Mysore and Hyderabad.

Copies of the aforesaid agreements are appended to the Report of the Tribunal.

(B) The regulations set forth in Annexure ' A' (1) to this Order regarding protection to the irrigation works in the respective territories of the States of Karnataka and Andhra Pradesh in the Vedavathi sub-basin be observed and carried out. *

(1) Annexure ' A' mentioned above is the same as Annexure ' A' to the Final Order appearing at pages 792 to 794 of Vol. II of the Report.

236 (C) The benefits of utilisations under the Rajolibunda Diversion Scheme be shared between the States of Karnataka and Andhra Pradesh as mentioned herein below :—

Karnataka 1.2 T.M.C.

Andhra Pradesh—15.9 T.M.C.

(D) The reservoir loss of Tungabhadra reservoir shall be shared equally by the works of the State of Karnataka on the left side and the works on the right side of the reservoir. The half share of the right side in the reservoir loss shall be shared by the States of Andhra Pradesh and Karnataka in the ratio of 5.5 to 3.5.

Clause XII

The regulations set forth in Annexure ' B' (1) to this Order regarding gauging and gauging sites in the Krishna river system be observed and carried out.

Clause XIII

(A) Each State shall prepare and maintain annually for each water year complete detailed and accurate records of—

(a) annual water diversions outside the Krishna river basin.

(b) annual uses for irrigation works using less than 1 T.M.C. annually.

237 (c) annual uses for irrigation from all other projects and works.

(d) annual uses for domestic and municipal water supply.

(e) annual uses for industrial purposes.

(f) annual uses for irrigation within the Krishna river basin from projects using 3 T.M.C. or more annually.

(g) areas irrigated and duties adopted for irrigation from irrigation works using less than 1 T.M.C. annually.

(h) estimated annual evaporation losses from reservoirs and storages using 1 T.M.C. or more annually.

(i) formulae used and co-efficient adopted for measuring discharges at project sites.

Each State shall send annually to the other States a summary abstract of the said records.

The said records shall be open to inspection of the other States through their accredited representatives at all reasonable times and at a reasonable place or places.

(B) The records of gauging mentioned in Annexure ' B' to this Order shall be open to inspection of all the States through their accredited representatives at all reasonable times and at a reasonable place or places.

(1) Annexure ' B' mentioned above is the same as Annexure ' B' to the Final Order appearing at pages 795 to 800 of Vol. **II of the Report.**

Clause XIV 238

(A) At any time after the 31st May, 2000, this Order may be reviewed or revised by a competent authority or Tribunal, but such review or revision shall not as far as possible disturb any utilisation that may have been undertaken by any State within the limits of the allocation made to it under the foregoing Clauses

(B) In the event of the augmentation of the waters of the river Krishna by the diversion of the waters of any other river, no State shall be debarred from claiming before any authority or Tribunal even before the 31st May, 2000 that it is entitled to a greater share in the waters of the river Krishna on account of such augmentation nor shall any State be debarred from disputing such claim

Clause XV

Nothing in the Order of this Tribunal shall impair the right or power or authority of any State to regulate within its boundaries the use of water, or to enjoy the benefit of waters within that State in a manner not inconsistent with the Order of this Tribunal

Clause XVI

In this Order,

(a) Use of the water of the river Krishna by any person or entity of any nature whatsoever within the territories of a State shall be reckoned as use by that State 239

(b) The expression "water year" shall mean the year commencing on 1st June and ending on 31st May

(c) The expression "Krishna river" includes the main stream of the Krishna Iyer, all its tributaries and all other streams contributing water directly or indirectly to the Krishna river

(d) The expression " T M C " means thousand million cubic feet of water

Clause XVII

Nothing contained herein shall prevent the alteration amendment or modification of all or any of the foregoing clauses by agreement between the parties or by legislation by Parliament

Clause XVIII

(A) The Governments of Maharashtra, Karnataka and Andhra Pradesh shall bear their own costs of appearing before the Tribunal The expenses of the Tribunal shall be borne and paid by the Governments of Maharashtra Karnataka and Andhra Pradesh in equal shares These directions relate to the reference under Section 5(1) of the Inter-State Water Disputes Act, 1956

(B) The Government of India and the Governments of Maharashtra, Karnataka and Andhra Pradesh shall bear their own costs of appearing before the Tribunal in the references under Section 5(3) of the said Act The expenses of the Tribunal in respect of the aforesaid references shall be borne and paid by the Governments of Maharashtra, Karnataka and Andhra Pradesh in equal shares. 240