

**ESTIMATES COMMITTEE**

**(1978-79)**

**(SIXTH LOK SABHA)**

**THIRTY-SEVENTH REPORT**

**MINISTRY OF AGRICULTURE & IRRIGATION**

**(DEPARTMENT OF IRRIGATION)**

**Development of Irrigation Facilities**

**[Action taken by Government on the recommendations contained in the Twelfth Report of the Estimates Committee (Sixth Lok Sabha) on the Ministry of Agriculture and Irrigation (Department of Irrigation)—Development of Irrigation Facilities].**

*Presented in Lok Sabha on 27th April, 1979*



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**(1978-79)**

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## INTRODUCTION

I, the Chairman of the Estimates Committee, having been authorised by the Committee to submit the Report on their behalf, present this Thirty-seventh Report on action taken by Government on the recommendations contained in the Twelfth Report of the Estimates Committee (Sixth Lok Sabha) on the Ministry of Agriculture and Irrigation (Department of Irrigation)—Development of Irrigation Facilities.

2. The Twelfth Report was presented to Lok Sabha on 6 April, 1978. Government furnished their replies indicating action taken on the recommendations contained in that Report between 20 November, 1978 and 1 February, 1979. The replies were examined by the Study Group 'J' of Estimates Committee (1978-79) at their sitting held on 23 April, 1979. The draft Report was adopted by the Estimates Committee (1978-79) on 25 April, 1979.

3. The Report has been divided into the following Chapters:—

I. Report.

II. Recommendations which have been accepted by Government.

III. Recommendations which the Committee do not desire to pursue in view of Government's replies.

IV. Recommendations in respect of which replies of Government have not been accepted by the Committee.

V. Recommendations in respect of which final replies of Government are still awaited.

4. An analysis of action taken by Government on the recommendations contained in the 13th Report of the Estimates Committee is given in Appendix III. It would be observed therefrom that out of 124 recommendations made in the report, 113 recommendations i.e. 91.1 per cent have been accepted by Government and the Committee do not desire to pursue 9 recommendations i.e. 7.3 per cent in view of Government's replies. Replies of Government have not been

accepted by the Committee in respect of 1 recommendation i.e. 0.8 per cent. Final reply of Government in respect of 1 recommendation i.e. 0.8 per cent is still awaited.

NEW DELHI;  
April 26, 1979.  
Vaisakha 6, 1901 (S).

SATYENDRA NARAYAN SINHA,  
*Chairman,*  
*Estimates Committee.*

## CHAPTER I

### REPORT

1.1. This Report of the Estimates Committee deals with the action taken by Government on the recommendations contained in their Twelfth Report (Sixth Lok Sabha) on the Ministry of Agriculture and Irrigation (Department of Irrigation)—Development of Irrigation Facilities.

1.2. Action taken notes have been received from the Government in respect of all the 124 recommendations contained in the Report.

1.3. The action taken notes on the recommendations of the Committee have been categorised as follows:—

- (i) Recommendations/observations that have been accepted by Government

Sr. Nos. 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 to 41, 44 to 72, 79 to 108, 110 to 124.

(Total 113—Chapter II)

- (ii) Recommendations/Observations which the Committee do not desire to pursue in view of Government's replies

Sr. Nos. 5, 6, 73 to 78 and 109.

(Total 9—Chapter III)

- (iii) Recommendations/Observations in respect of which Government's replies have not been accepted by the Committee

Sr. No. 42.

(Total 1—Chapter IV)

- (iv) Recommendations/Observations in respect of which final replies of Government are still awaited.

Sr. No. 43.

(Total 1—Chapter V)

1.4. The Committee will now deal with the action taken by Government on some of their recommendations.

### *Setting up of Cost Control Cells*

#### **Recommendation at Sl. No. 42 (Para 3.50)**

1.5. The Committee had noted with concern that no perceptible progress had been made in setting up Cost Control Cells in major irrigation projects and that the Ministry had taken 7 years to prepare the model pattern of costing cells and its duties and functions after receipt of the report of the Rates and Cost Committee. The Committee had desired that the reasons for this inordinate delay should be investigated.

1.6. In their reply (November, 1978) the Ministry of Agriculture and Irrigation (Department of Irrigation) stated that the recommendations of the Rates and Costs Committee contained in Part I of their report as modified by the team of officers were communicated to the State Governments in 1962. It was stressed that the implementation of these recommendations would ensure better efficiency and overall economy in the implementation of the river valley projects. Recommendation No. 4 dealt with the establishment of costing cells in the river projects costing more than Rs. 15 crores more particularly where construction was mostly carried out departmentally. Although this matter was regularly pursued with the State Governments since then, the response was poor. The matter was further considered in the Department of Irrigation when it was decided to give specific guidelines to the States and the model pattern of the cost engineering cells was prepared and recommended to the States in August, 1969 for implementation.

1.8. The Committee are not satisfied with the Ministry's reply. It is not clear why the Ministry took seven years to prepare the model pattern of costing cells and their duties and functions. The Committee would, therefore, like to reiterate that the reasons for the inordinate delay should be investigated and the Committee be informed of the outcome.

### *Modernisation/Remodelling of Old Works*

#### **Recommendation at Sl. No. 55 (Para 4.13)**

1.9. The Committee had desired that the question of preparation of project reports for modernisation of the remaining 10 projects out of 15 projects which had been identified as priority ones to be included in the Fifth Plan should be vigorously pursued with the State

**Government concerned and the project reports already received should be scrutinised by the Central Water Commission expeditiously. The Committee had also desired that all efforts should be made to ensure that the 15 priority projects were implemented during the Fifth Plan period.**

1.10. In their reply (November, 1978) the Ministry of Agriculture and Irrigation (Department of Irrigation) stated that 15 projects had been identified as priority projects for modernisation to be included in the Fifth Plan and the State Governments had been requested to prepare the reports. Some of the projects (reports) have been received in the Commission and are being scrutinised. The review of the project reports for modernisation submitted by the State Governments has revealed that all of the modernisation aspects have not been considered while framing the reports. In order to overcome the difficulties experienced by the the States in the preparation of the modernisation projects a detailed note on modernisation of irrigation schemes prepared by the Central Water Commission has been circulated to the State Governments. Further a working Group has been constituted by the Department of Irrigation to formulate guidelines for the preparation of the projects on modernisation of irrigation system. The sub-Group has prepared the guidelines which are also being circulated to the State Governments. The Secretary, Department of Irrigation in all the meetings held with the State Governments had laid emphasis on modernisation of irrigation projects. In addition, four special teams headed by expert consultants have been constituted for preparing modernisation project report for a few selected projects. The project reports prepared by these teams would also be useful as models for preparation of modernisation reports of other projects in the States.

The benefits accruing from the modernisation projects shall be evaluated and publicised when such benefits start accruing after the completion of such projects.

1.11. The Committee note the steps taken by Government for the preparation and finalisation of the modernisation project reports. The Committee are, however, not satisfied with the progress made in preparation and finalisation of the project reports for modernisation of 15 projects which had been identified as priority projects to be included in the Fifth Plan. Unless concerted efforts are made at all levels and the matter is vigorously pursued with the State Governments, the preparation and finalisation of the project reports is bound to be delayed and

the allotment of priority to them would have no meaningful purpose. The Committee desire that all efforts should be made to ensure that the project reports in respect of these selected projects are finalised expeditiously and these projects are implemented according to a time-bound programme.

*Guidelines for maintenance of Irrigation Projects*

**Recommendation at Sl. No. 65 (Para 4.44)**

1.12. While noting that attention to soil conservation measures was being paid from Third Plan onwards, the Committee had expressed their unhappiness over the tardy progress made in respect of the 30 River Valley Projects selected for treatment in catchment area under the Centrally Sponsored schemes of soil conservation during the Third, Fourth and Fifth Plans. The total area requiring treatment in these catchments was about 79 million ha. of which 10 million ha. of the areas was estimated to be critically eroding and needing treatment on a high priority basis. Beginning from the Third Plan period till the end of 1975-76 only an area of 1.14 million ha. had been actually treated at a total expenditure of Rs. 50.75 crores under the Central Sector scheme. According to the Department at this rate the remaining area of 8.96 million ha. could be covered in a period of 110 years at an estimated cost of Rs. 1330 crores. An area of 18.71 million ha. had also been treated upto 1975-76 under the State Sector schemes. In view of the enormity of the problem and the slow progress made in this regard the Committee had suggested preparation of an integrated and a realistic programme for treatment of catchment of the various river valley projects to be implemented under the Central and State Sector Schemes on a long term basis giving priority to the treatment of catchment of reservoirs where rate of siltation was very high.

1.13. In their reply (February, 1979) the Department of Irrigation, however, stated that the Central Water Commission which is associated with the programme has always stressed the need for making adequate provisions in the plans for the speedy completion of the measure envisaged for the river valley catchments. However, the implementation of the programme has been restricted to the availability of the funds. With a view to accelerate the measures in the River Valley Projects under the Centrally sponsored programme, the working group on soil conservation with which the Central Water Commission is also associated has recommended an outlay of Rs. 100 crores during the VI Plan. However, it is understood that the provision tentatively agreed to by the Planning Commission is Rs. 67 crores only. which will be adequate to cover about 5 lakhs hectares



during the VI Plan. In this connection the Secretary, Department of Irrigation has written to the Secretary, Department of Agriculture stressing the need for accelerating the soil conservation programme during the VI Five Year Plan. A multi-disciplinary team of experts covering soil conservation, afforestation, land management engineering works etc. have been constituted to formulate an action plan which would ensure substantive benefits of flood control and related fields within a period of 5 to 7 years. The Committee has given action plan. The recommendation of this Committee are before the Planning Commission.

A high level experts Committee has also been constituted under the Chairmanship of Member (Water Resources). Central Water Commission to recommend revised norms for silt storage projects, sediment control measures etc."

1.14. The Committee note that as against an outlay of Rs. 100 crores recommended by the Working Group on Soil Conservation to accelerate the measures in the River Valey Projects under the Centrally sponsored programme a provision of Rs. 67 crores has been tentatively agreed to by the Planning Commission which will cover about 5 lakh hectares during the Sixth Plan period out of about 89 lakh hectares which is critically eroding and requires treatment on a high priority basis. The Committee feel that the proposed coverage of 5 lakh hectares under the centrally sponsored scheme during the VI Plan will not make any significant dent on the problem of soil conservation.

The Committee, however, desire that early decision should be taken on the recommendation of the multi-disciplinary team of experts and the action plan proposed by them implemented with speed.

#### *Implementation of Recommendations*

1.15. The Committee would like to emphasise that they attach the greatest importance to the implementation of the recommendations accepted by Government. They would, therefore, urge that Government should ensure expeditious implementation of the recommendations accepted by them. In cases where it is not possible to implement the recommendation in letter and spirit for any reason, the matter should be reported to the Committee in time with reasons for non-implementation.

1.16. The Committee would also like to draw attention to their comments made in respect of the replies of Government to recom-

mendations at Sl. Nos. 51, 55, 64, 65, 81 and 83 (Chapter II). They desire that Government should take action in pursuance thereof and furnish the requisite information to the committee, where specifically called for.

1.17. The Committee also desire that final replies in respect of the recommendation contained in Chapter V of this Report may be furnished to the Committee expeditiously.

## CHAPTER II

### RECOMMENDATIONS/OBSERVATIONS THAT HAVE BEEN ACCEPTED BY GOVERNMENT

#### Recommendation Serial No. 1 (Para 1.23)

In India over 70 per cent of population depends on Agriculture for its livelihood. The Indian Agriculture is to a very large extent vulnerable to vagaries of weather as more than 70 per cent of the country's gross cropped area depends exclusively on rainfall which is unequally distributed in respect of time and space, Rainfall is inadequate even in areas having high rainfall. Irrigation is required not only in low rainfall areas and during non-rainy season but also during long breaks in rains, in good rainfall areas. Severe drought conditions occur in many parts when monsoon fails. With the growth of population and consequent need for larger agricultural production, the requirement of irrigation has increased a great deal. The scope for bringing additional area under plough being limited, the bulk of the increased production has to be brought about by increasing the yield from the existing lands for which irrigation is the master input.

#### Reply of Government

The Department of Irrigation fully accepts the strategy suggested by the esteemed Committee. As the Committee is aware, the Department of Irrigation (Ministry of Agriculture & Irrigation) has chalked out an ambitious programme of development of irrigation during the Mid-Term Plan (1978-83) and a target of creation of irrigation potential of 17 million ha. has been decided. Of this, major and medium irrigation projects which are being handled by the Department of Irrigation are expected to contribute 8 million ha. This itself will involve an outlay of Rs. 7250 crores. It will thus be seen that a target of creation of potential of 1.6 million ha. per year on an average has been fixed, as against achievement of 0.5 million ha. per year during 23 years period from 1951-74 and about 1 million ha. per year during the past 4 years. In terms of the rate of investment also the targets have been accelerated. During the year 1977-78, expenditure on major and medium irrigation projects to the tune of

Rs. 1033 crores is proposed. This rate of investment will be accelerated during the Mid-Term Plan to an average of Rs. 1500 crores per year or even more. This would mean an investment in the last year of the Medium-Term Plan of the order of Rs. 1950 crores.

Necessary steps to accelerate the tempo of irrigation projects which are in progress and also to take up new projects with a view to maintain and accelerating the tempo have also been taken. These include frequent dialogues with the States at various levels to review their performance and the programmes, close association with the irrigation development in the States through the Central Reviewing Committees headed by Members of the Central Water Commission, close monitoring of important on-going projects which will contribute to more than 75 per cent of the targets through the Monitoring organisation comprising three Units, each headed by a Senior Chief Engineer. Simultaneously, the difficulties in respect of procurement of key construction material such as cement and explosive are being solved. To this end, the quantum of cement proposed to be earmarked for the major and medium irrigation projects has been 2.6 million tons during the calendar year 1979. It has further been decided that allocation of the cement to major and medium irrigation projects in the country will be channelized through the Central Water Commission. This will enable making adequate quantity of cement available to the projects according to their needs. In respect of explosives, about 3260 tons of explosives are being imported in the next 6-8 months to relieve the shortage.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78]

#### **Recommendation Serial No. 1 (Para 1.24)**

The Committee note that the net sown area in the country in 1974-75 was 138 million hectares, out of which the net irrigated area is 33.6 million hectares which works out to about 24 per cent. By the early part of the next century, the sown area is expected to increase to 210 million hectares and the ultimate irrigation potential is estimated at 110 million hectares only i.e. about 52 per cent. According to the Report of the Irrigation Commission, 1972, our water resources are insufficient to meet the long term requirements of agriculture, industry and other users. There will thus be increasing competition for available supplies as more water gets harnessed and committed. The Commission, therefore, recommended a well defined policy for development of water resources of each region or basin to obtain the maximum benefits for the largest number of people. It felt that a river basin or in the case of large rivers a sub-basin is the natural unit for planning water resources.

## Reply of Government

Government agree with the Committee that there is urgent need for a well-defined water policy and especially in view of water becoming a scarce resource in many parts of the country. As the Committee has pointed out, water is the most important input in agriculture and the prosperity and development of a predominantly agricultural country like ours, depends entirely on the speed with which we can harness our water resources. It is also true that for optimal and efficient development of the water resources there is need for detailed basin plans and in the case of large rivers, plans for the sub-basin as a unit. This would help maximise benefits from available water resources and also enable to determine the surpluses and deficits in each area. In turn, it would help in planning for the transfer of surplus waters to the deficit areas particularly to the drought-prone areas of our country. Nearly 1/3rd of our country is drought-prone and the development of this large area would depend to a great extent upon the success with which we can plan and transfer water from the surplus to the deficit regions.

A number of steps have already been taken to prepare basin plans and also determine surpluses and deficits in different parts of the country. Even so, the need for insitutionalising this process has been recognised and Government is actively pursuing certain administrative steps for setting up of river basin commissions to prepare the basin plans and a national water resources council to define and implement a well-thought out national water policy.

Our being a federal set-up, the Centre has naturally to take the States into confidence in this matter and carry them with it.

About the irrigation potential, it is true the potential as estimated at present will hardly serve about 50 per cent of the sown area in the country. Even so, water resources development is making rapid strides throughout the world and it should be possible before long to step up the potential substantially.

One other factor which will also help in spreading of irrigation to a larger area is to economise in irrigation supplies by modernising the existing irrigation systems and use available supplies more efficiently. This would, in turn, help in bringing additional areas under irrigation and extend the benefit of irrigation to larger areas.

All these would ultimately have their impact in increasing the irrigation potential and developing the country at a fast pace. As already mentioned, the basic factor would be, of course, a complete

understanding, co-operation and coordination between the Centre and the States. The Central Government is actively and vigourously engaged in this task of enlisting the States' co-operation in this vital field of development.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78]

#### **Recommendation Serial No. 1 (Para 1.25)**

The Committee note that so far no systematic study or analysis of utilisable water resources of the country has been done except for the Indus River System. A separate Directorate of Surface Water Resources was however set up in the Central Water and Power Commission in 1965 to undertake studies in regard to surface water resources for all river basins excluding Ganga, Brahmaputra and Indus basin. Out of the 31 basin identified for these studies, the Directorate has so far completed studies in respect of 5 basin only. 11 basins consisting of 4 sub-basins of the Krishna and 7 sub-basins of the Godavari involve reference to Tribunals and the availability and requirement of water in case of Krishna has already been gone into by the Tribunal and is being looked into in the case of Godavari. In one case (Pennar) no further study is stated to be necessary as the water has been largely utilised. Study for one more basin viz. Cauvery has been completed in the form of the Report of the Cauvery Fact Finding Committee.

#### **Recommendation Serial No. 2 (Para 1.26)**

The Committee have been informed that there is difficulty in obtaining the requisite data in regard to the 7 basins. The Committee regret the slow progress in completing these studies which would form the basis for the development and utilisation of the water resources of these basins economically and efficiently. They urge that Government should take effective measures to collect the requisite data and lay down a time bound programme for the completion of the studies at the earliest. A careful watch should be kept regarding the progress made in completing these studies so as to take remedial measures without delay.

#### **Reply of Government**

As earlier explained to the Estimates Committee the bulk of the required Hydrological and withdrawal data for carrying out the studies has to be obtained from the States concerned. Invariably this data is not forthcoming for the necessary period because of its non-observance. The data, where available, in many cases has not been

observed for continuous block of years, and has periodic gaps. The reliability of data of some of the less important sites is generally poor. The States also, in some cases, are reluctant to supply these data because of Inter-State implications or their lack of interest in the matter because of low priorities of development in some of the basins.

In the meanwhile, run-off of 23 basins (including Indus, Ganga and Brahmaputra) for which some flow data is available have been re-assessed by various authorities including the Central Water Commission, Department of Irrigation, the various Water Disputes Tribunals etc. The average annual water potential of these basins come to 154.7 million hectare metres (m.h.a.m.). There are 11 other basins (including 3 desert basins) for which no observed flow data is available. The average annual water potential of these basins have been re-assessed empirically by the Central Water Commission as 22.1 m.h.a.m. Thus the total average annual surface water potential of the country comes to 176.8 million hectare metres (1433.4 M.A.F.) This will have to be reviewed in due course when more observed data becomes available.

For the studies earlier envisaged by the SWR Directorate both hydrological and withdrawal data over a long block of years would be necessary. In this connection, systematic and continuous observation of gauge and discharge data both in the presently observed basins as well as in the un-gauged basins have to be ensured on a country-wide basis. The Central Water Commission under the Department of Irrigation have already been observing hydrological data and so far they have set up 221 hydrological stations in various basins (excluding Ganga, Indus and Chenab). Hydrological observations are also being carried out at 193 stations on the Ganga and its tributaries. In the Five Year Plan (1978—1983), there is a proposal to establish further 163 key hydrological stations to WMO Standards to cover the remaining basins (excluding Ganga & Indus) and the missing gaps. On establishment of these sites and collection of data in a systematic way on a national basis over a period, the position of availability of data would improve. As regard the withdrawal data efforts would be continued to pursue the States to supply them. A time-bound programme to complete the studies would also be finalised in consultation with the State authorities as irrigation is a State subject.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

**Recommendation Serial No. 3 (Para 1.27)**

The Committee further note that data about Ganga was being collected by Ganga Basin Water Resources Organisation and that

there is a proposal to set up Brahmaputra Central Board. The Committee would like Government to expedite the collection of data and completion of studies in respect of these major rivers so that the potential of these rivers is fully utilised for irrigation and other purposes in an integrated and coordinated manner in the best interest of the country.

### **Reply of Government**

An adequate network of gauge and discharge observation stations has been established in the Ganga basin. The network in the Brahmaputra basin is also being steadily expanded by the State Governments concerned and key stations have also been established by the Central Water Commission. Studies of the water availability and requirements of these major rivers have been made and a scheme has been evolved for the integrated and optimum development of the waters in the Ganga-Brahmaputra-Meghna system for irrigation, flood control, hydropower generation, navigation and other purposes. This scheme has been proposed to the Indo Bangladesh Rivers Commission as the Indian proposal for the augmentation of the dry season flows of the Ganga.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### **Recommendation Serial No. 4 (Para 1.28)**

The Committee note that at present the average annual flow of the various rivers or groups of rivers in the country is estimated at 180 million hectare metres and utilisable flow is about 70 million hectare metres. Of this, only about 25 million hectare metres has been utilised at present. The Committee consider that to meet the food and fibre needs of the increasing population of the country, it is of the utmost importance that high priority is given to the utilisation of the utilisable flow of the various rivers or groups of rivers in the country. It is a matter of regret that only about one-third of the utilisable irrigation potential has been harnessed so far. The Committee need hardly stress that concerted measures should be taken by Government for the maximum utilisation of the irrigation potential of the country so as to derive the maximum benefit from the existing water resources. The Committee urge that detailed plans for harnessing, managing and utilising the existing water resources economically and efficiently to the optimum, should be drawn up and that special attention should be paid to meet the irrigation needs of drought prone areas.



### Reply of Government

It is proposed to accelerate the development of irrigation from major, medium and minor irrigation schemes during the Medium Term Plan 1978—83 to bring in an additional irrigation potential of 17 m.ha. The Department of Irrigation is conscious of the fact that the balance irrigation potential should be developed as early as possible, most of it within the next 15-20 years. The work of preparation of necessary overall perspective plans and identification of new projects within the framework of such perspective plans and according priority to such projects is planned to be completed in the next 3—5 years. While drawing up the perspective plans, the need for the drought prone, backward and tribal areas as well as the importance of removing regional imbalances in the irrigation development in the country to the extent practicable will be given special attention.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### Recommendation Serial No. 7 (Para 1.49)

The Committee recommend that for the construction of all major river valley projects having inter-State aspects, Control Boards should be set up consisting of the representation of the Central Government and the State Governments concerned with a view to ensuring their participation during construction stage.

### Reply of Government

Government accept the recommendation of the Committee that for all major river valley projects having inter-State aspects, Control Boards may be set up with representative of the Centre and the State Governments concerned. However, it may be mentioned that the Centre can set up such Control Boards only on a request from the State concerned. A number of Boards have been set up in this manner. To name a few: Gandak Control Board, Beas Construction Board, Bansagar Control Board, Betwa Control Board, Mahi Control Board. In some cases, the States concerned have mutually set up Control Boards for joint projects; for example the Inter-State Control Board between Maharashtra and Madhya Pradesh. The Betwa Control Board is a statutory Board, whereas others have been set up by executive resolutions.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 6-12-78]

### **Recommendation Serial No. 8 (Para 2.11)**

The Committee note that before September, 1975, the irrigation projects were classified into three categories namely, major medium and minor on cost basis. A review of the procedure revealed that the categorisation on the basis of costs which differed widely from region to region resulted in relative disadvantages to some States. Besides, there was possibility of under estimating the projects to categorise them as medium or minor to avoid submission of detailed project reports. The basis of classification of the projects was changed in September, 1975 from Cost of the project to the areas irrigated. It has been stated that the revised classification is more scientific and objective. It avoids the possibility of under-estimating of major projects as medium ones in order to do away with the submission of a detailed project report to the Planning Commission and detailed scrutiny. The system also removes the disadvantages to some States or regions where costs of the projects were higher as compared to other regions. The Committee, however, are surprised that in spite of these admitted drawbacks the old system of classification was allowed to continue till September, 1975.

### **Reply of Government**

Noted.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78]

### **Recommendation (Serial No. 9 Para 2.12)**

The Committee note that in the past in many States like Gujarat, Maharashtra and Kerala, a large number of major and medium projects were taken up simultaneously which were beyond their financial resources with the result that projects have been lingering on for a number of years. In a few cases yearly outlay provided for the projects was very meagre and it was hardly sufficient to cover even the normal yearly escalation in the project costs. The Conference of the State Irrigation Ministers has recommended that the States should concentrate on the on going schemes for getting optimum return on the investments. It has been stated by the Department of Irrigation that efforts have been made to see that more funds are provided by the States for the major and medium irrigation schemes so that the projects can be completed quickly. The Committee note that some success has been achieved in this regard particularly in Kerala where progress in the completion of selected on going projects has been expedited.

### Reply of Government

Noted.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78]

#### Recommendation Serial No. 10, (Para 2.13)

The Committee note that while the State authorities are now little more conscious about completing the on-going projects, continuous pressure is being brought on the authorities concerned to take up more and more new projects. The Committee feel that there is all the greater need for drawing up priorities for consideration of irrigation project schemes based on the need of the area, the plan projections for development, in order to utilise the scarce financial resources for achieving the best results in larger public interest. The Committee need hardly point out that special consideration in this behalf should be given to irrigation projects for areas which are prone to chronic drought conditions or which would help in the development of relatively backward areas more specially tribal areas.

### Reply of Government

It has been the endeavour of the Government to see that on-going projects are completed as early as possible and, while taking up new projects, to give special consideration to the schemes in the drought prone, tribal and backward areas. The Working Group on Major and Medium Irrigation for the Five Year Plan 1978—83 has stressed the need for careful selection of new projects and phasing to ensure that there is correct balance for each State between the on-going projects and new projects and the resources are not spread too thinly and best results are achieved with available resources.

The Government have accorded a high priority to the development of tribal areas in the Fifth Plan and in the Medium Term Plan 1978—83. Provision of irrigation facilities in the tribal areas forms one of the important elements in the strategy for the development of tribal areas. The attention of the States and Union Territories has been drawn to the urgent need for the preparation of master plans and the individual schemes to harness the potential from the minor irrigation schemes in the next five years and the full potential in the next 10 to 15 years.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78]

**Recommendation Serial No. 11 (Para 2.44)**

The Committee note that against the ultimate irrigation potential of 57 million hectares from major and medium schemes in the country, a potential of 23.5 million hectares has been created by 1976-77. The potential available upto the end of the Fourth Plan was 20.7 million hectares. Prior to the Plan period, the major and medium schemes were providing irrigation to 9.7 million hectares only. During 23 years of planned development upto the end of Fourth Plan, another 11 million hectares were aided. Thus the average increase upto the end of Fourth Plan has been about 0.50 million hectares annually. The Committee are concerned at this slow rate of development of irrigation potential upto Fourth Plan, which is one of the main inputs for increasing food production for our vast and growing population. At this rate, it would have taken more than half a century to develop the remaining irrigation potential. The country could ill afford this slow rate of development due to its mounting population. The Committee need hardly emphasize that it is essential that irrigation schemes are implemented at a much faster pace to maximise the agricultural production. The Committee have been informed that tentatively as per present thinking the ultimate potential of 57 million hectares will be fully developed by the year 2010, but no assessment regarding requirement of funds, for achieving this target has been made so far. The Committee feel that it is necessary to prepare a perspective plan to develop the ultimate irrigation potential and to inter-weave it in the national Plans for implementation according to a time bound programme.

**Recommendation Serial No. 12 (Para 2.45)**

The State-wise development of irrigation indicates wide imbalances in the percentage of the irrigation potential realised upto the end of 1976-77. While some States like Punjab and Tamil Nadu have achieved 77 per cent and 72.1 per cent respectively of the ultimate irrigation potential, there are many States which are lagging far behind in their achievement. The development in a few States is about 20 per cent or even less, the examples being Assam 5.8 per cent, Madhya Pradesh 21.5 per cent and Bihar 23.6 per cent. In some backward and hilly States like Himachal Pradesh, Manipur, Meghalaya, Nagaland; Tripura and Sikkim even data about the ultimate irrigation potential is not available because of lack of proper organisation in the States. The Committee do not feel happy over this uneven development of irrigation potential from major and medium schemes in the various States during the past plans. The Committee

need hardly emphasize that the prosperity of a State to large measure depends on the increase in the agricultural production for which irrigation is an important input. The Committee strongly feel that imbalances in the development of irrigation facilities should receive serious attention. The Committee suggest that perspective plans aiming at optimum development of water resources should be prepared by each of the States, laying down priorities for implementation and taking into account the needs of drought prone and backward areas.

### **Reply of Government (Paras 2.44 and 2.45)**

Government fully agree with the recommendations of the Committee that development of irrigation should be at a much faster pace than in the past. It is in accordance with this policy that the outlays during the years 1977-78 and 1978-79 are being stepped up substantially higher than what was being invested in the earlier years. The pace of development of the potential has also been substantially increased.

As regards the regional imbalances in irrigation, efforts are always made to bring up the pace of development in States which have lagged behind in the past. There are many historic, administrative, technical and other problems which have led to this slow rate of development in States like Assam, Madhya Pradesh and Bihar. In the recent years, the development of irrigation in these States also has picked up speed. Of course in some States irrigation has necessarily been below the national average on account of topography and terrain, say in States like Himachal Pradesh, Manipur, Meghalaya and Sikkim.

Some States which had an initial lead at the time of Independence have made rapid stride. Mention may be made of Punjab, Tamil Nadu and Andhra Pradesh. The States which had to investigate schemes and had to organise, have taken some time. But even in these States the pace of development has picked up. Mention in this connection can be made of Maharashtra, Karnataka, Madhya Pradesh, Rajasthan and Uttar Pradesh.

While the pace of development is gathering momentum, there is no denying the fact that prospective plans aimed at development of water resources, are a key to successful and speedy implementation of projects. It is in this context that the Centre in the Department of Irrigation, has been consistently and periodically persuading the States to prepare plans. Detailed discussions are held both at Delhi and the State Headquarters. Continuous consultations and active

assistance and advice are given to States in prospective plans and in a few cases the Centre has itself taken up to assist the States concerned.

As far as drought-prone and backward areas are concerned, special emphasis is always laid on preparation of schemes in such areas. Specific funds are earmarked for such investigations and priority given in sanction of schemes for such drought-prone areas. The Centre has also taken up a major investigation for data collection and studies for schemes to utilise surplus water resources of river basins in drought-prone areas.

As mentioned in reply to paragraph 1.49, these investigations and studies would get a fillip if the proposed river basin commissions and national water resources council are set up.

[Ministry of Agriculture & Irrigation (Deptt. of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78]

#### **Recommendation Serial No. 13 (Para 2.46)**

The Committee are perturbed to note that during the First to Fourth Plans although the expenditure on the irrigation projects exceeded the outlays provided, the actual achievements consistently fell short of the physical targets. In the first plan against the target of 3468 thousand hectares, the actual potential created was 2486 thousand hectares, shortfall being 28.3 per cent. In the Second Plan, against the target of 4845 thousand hectares, the achievement was 2143 thousand hectares, shortfall being 55.8 per cent. In the third plan against the revised target of 4481 thousand hectares, the achievement was 2231 thousand hectares, shortfall being 50 per cent. During the Annual Plans (1966—69) against the target of 2543 thousand hectares the achievement was 1540 thousand hectares, shortfall being 39.5 per cent. In the Fourth Plan against the target of 4766 thousand hectares achievement was 2546 thousand hectares, shortfall being 46.6 per cent. To sum up while in financial terms, the expenditure over outlay for major and medium irrigation schemes upto the end of Fourth Plan exceeded by Rs. 490 crores, that is, against an outlay of Rs. 2530 crores the actual expenditure amounted to Rs. 3020 crores, there has been a serious shortfall of the order of 11.255 million hectares (51.4 per cent) in the achievement of physical targets that is, against a target of creation of additional irrigation potential of 22.201 million hectares, the actual achievement was 10.966 million hectares.

### Recommendation Serial No. 14 (Para 2.47)

As pointed out earlier one of the reasons for shortfall in achievements has been proliferation of projects under construction resulting in the thin spread of financial, managerial and technical resources of the State and delay in completion. The other reasons for slow progress as identified by a Committee of Experts were lack of proper investigations, change in scope of projects, scarcity in construction materials, delays in land acquisition, lack of project management and monitoring and cost escalation. The Expert Committee emphasised the importance of proper and thorough investigation of projects, proper phasing of the construction of projects to yield benefits expeditiously, provision of adequate funds from year to year, need for adequate delegation of power, continuity of key personnel, training of officers engaged in the project works and adoption of modern management techniques. The Committee note that the implementation of the recommendations was commended to the State Governments at the Chief Ministers Conference held in August, 1974. The Committee need hardly emphasise that the short-comings which were responsible for slow implementation of the Projects in the past, should be avoided in future. The Department of Irrigation should enlist the cooperation of the State Governments in this regard and keep watch over the implementation of the remedial measures.

### Reply of Government

A number of significant steps have been taken by the Government to remove the deficiencies and bottlenecks which had contributed to shortfall in achievement of targets set for the earlier Plans. To ensure achievement of the overall target, detailed work programmes are now being prepared for each major scheme, setting out detailed quarterwise physical as well as financial targets. For keeping a continuous watch on the progress, a Central Monitoring Organisation has been set up in the Central Water Commission, which is keeping a close and continuous watch on 66 important projects, which are to contribute bulk of the benefits during the current Plan. This organisation is assisting individual project in solving day-to-day bottlenecks as well as rendering assistance in all trouble shooting jobs.

Since last year, a number of projects have experienced difficulties due to shortage of cement and explosives. After considering the matter at the highest level, the Government have decided to set apart 4.5 million tonnes of cement for meeting the requirement of irrigation

and power sector during 1979. The distribution of cement for irrigation projects is now proposed to be channeled through Central Water Commission with a view to ensure that the progress on projects is not hampered for want of this material. Availability of explosives for meeting the need of irrigation projects has also been very poor recently. To effect improvement, Government has decided to import explosives for meeting the needs and the supply of first 1400 metric tonnes of explosives has already been started. Orders for further quantity have also been placed, which would ensure full supply of explosives for meeting current year's requirement.

Progress on many of the irrigation projects has been hampered in the past due to difficulties faced in acquisition of land for construction of canal system etc. With a view to streamline the procedure for land acquisition and rehabilitation of persons displaced as a result of execution of irrigation schemes a Committee of Ministers has been constituted to go into the entire problem in depth and suggest suitable measures. With a view to improve the investigation, formulation and implementation of schemes, detailed guidelines have been drawn up and furnished to States. State Governments have been advised to strengthen to set-ups in their Irrigation/P.W. Departments for coping with the increased work-load and to streamline administrative procedures and take various other steps like delegation of adequate powers to Project Managers, setting up of Monitoring Cells, etc.

As a result of these measures, it has been possible for the first time to achieve the plan targets set for the Fifth Plan period without any shortfall. States are being continuously urged to effect further improvements in the implementation framework.

[Ministry of Agriculture & Irrigation (Deptt. of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78]

#### **Recommendation Serial No. 15 (Para 2.48)**

The Committee note that the additional irrigation potential likely to be created from the major and medium schemes during the Fifth Plan period (1974-75—1978-79) was placed at 5.8 million hectares. During 1974-75, the first year of the Fifth Plan, against the target of 1218 thousand hectares, the actual achievement was 792 thousand hectares. The Committee note that during 1975-76 there was a marked increase in irrigation potential. Against the revised target of 1029 thousand hectares the actual achievement was 1038 thousand hectares. The achievement during 1975-76 was double the average annual achievement at 0.50 million hectares in the Fourth Plan.



During 1976-77, the achievement was 1073 thousand hectares against the revised target of 1200 thousand hectares, although on the basis of a review conducted in December, 1976—January, 1977, the achievement was anticipated to be 1220 thousand hectares. The Committee feel unhappy about the actual achievement duringe 1976-77 falling short of the revised target to the extent of 127 thousand hectares. The Committee desire that the reasons for this sizeable shortfall in achieving the target may be carefully analysed with a view to taking necessary remedial steps.

#### Recommendation Serial No. 16. (Para 2.49)

The revised targets fixed for 1977-78 and 1978-79 were 1310 thousand hectares and 1505 thousand hectares respectively. According to the information now furnished to Committee (November, 1977), the total outlay proposed for 1977-78 is of the order of Rs. 988.87 crores and the benefits expected would be 1313 thousand hectares. The details of outlays and targets for the next five years are yet to be finalised. It is broadly assessed that there would be the requirements of Rs. 7400 crores for major and medium irrigation programme during the next five years and a target of creation of additional irrigation potential of 8 million hectares would be feasible of achievement with this outlay during the period.

#### Reply of Government

The programme performance during Fifth Plan (1974—78) was recently reviewed with representatives of the States in a series of meetings held in the Department of Irrigation in July, 1978. The actual achievements *vis-a-vis* the targets are given below:—

*Additional irrigation potential created (in million ha.)*

|           | Target | Achievement |
|-----------|--------|-------------|
| 1974-75 . | 0.80   | 0.8         |
| 1975-76 . | 1.03   | 1.02        |
| 1976-77 . | 1.20   | 1.01        |
| 1977-78 . | 1.31   | 1.46        |
| Total     | 4.34   | 4.29        |

There are some marginal variations with regard to figures for achievement during the years 1975-76 and 1976-77 *vis-a-vis* figures reported to the Committee earlier. The shortfall in achievement in target for the year 1976-77, as intimated earlier was due to non-completion of a major aqueduct (Gomti aqueduct) on Sarda Sahayak Project in Uttar Pradesh and slippages in the completion schedule of some projects in Madhya Pradesh and Punjab.

To make up the shortfall, the original target of 1.31 million hectares for the year 1977-78 was increased to 1.48 million hectares. The aqueduct on Sarda Sahayak Project was completed and commissioned in January, 1978 and the shortfall was not only fully made up but an additional potential of 1,20,000 hectares was created. This compensated for the shortfall in achievement in certain States and because of this, the overall target for the year 1977-78 and cumulative target for 1976-77 and 1977-78 could be, more or less, fully achieved.

For 1978—83, Planning Commission has tentatively provided Rs. 7250 crores in the draft Plan for major and medium irrigation and a target of 8 million hectares of additional potential is laid down. The details with regard to State-wise and project-wise targets, physical and financial, would be finalised after the States submit their detailed plans by the end of current year. For the first year *i.e.* 1978-79, an outlay of Rs. 1055 crores has been provided for the programme and a target of 1.35 million hectares of additional potential laid down.

[Ministry of Agriculture & Irrigation (Deptt. of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78]

### **Recommendation Serial No. 17 (Para 2.50)**

The Committee note that the various measures taken during 1975-76 included identification of core projects whose tempo needed to be stepped up, preparation of works programme, additional central assistance to accelerate progress of selected projects, setting up of monitoring organisations at the central, state and project levels, efforts to obtain assistance from the World Bank, optimising the operation of the existing projects and resolving inter-State disputes and clearance of pending projects. The Committee feel that in view of persistent shortfalls in plan targets in the past, these measures should have been thought of much earlier.

### **Reply of Government**

Noted

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78.]

### **Recommendation Serial No. 18 (Para 2.51)**

The Committee note that the programme of development of irrigation had been accorded priority in the Fifth Plan, an outlay of Rs. 3135 crores had been provided for major and medium schemes for creating an additional potential of 5.8 million hectares. As per the revised assessment it was estimated that funds to the tune of over Rs. 3450.00 crores would be required to achieve the plan target. The State Governments had also been advised about the project-wise contribution to fulfil the overall target. They had also been advised to plan for 10 to 15 per cent higher targets to allow for unforeseen slippages. The Committee note that the strategy for the next five year plan starting from April, 1978 was discussed at the Conference of the State Ministers held on 8 and 9 November, 1977 and the State Ministers heartily welcome the high priority being given to irrigation and agreed to take necessary measures. The Committee desire that determined efforts should be made by the Ministry with the active cooperation of the State Governments to achieve the target of 8 million hectares laid down for the next plan starting from April, 1978.

### **Recommendation Serial No. 19 (Para 2.52)**

The Committee desire that necessary steps in this direction should be initiated in right earnest without loss of time to finalise the Annual Plan for 1978-79 and also details of the targets and outlays for the next plan. The Committee emphasise that investigation of schemes and preparation of project reports in respect of new projects for the next plan to be taken up particularly in tribal and drought prone areas and modernisation of existing systems to improve their efficiency should be intensified. The Committee need hardly emphasise that Plans should be realistic and adequate funds should be provided for these programmes.

### **Reply of Government**

Considerable importance and emphasis are being placed on the formulation and phased implementation of schemes for modernisation of existing irrigation systems so as to improve the agricultural production per unit of land and per unit of water applied. The Central Water Commission has brought out a booklet dealing comprehensively with the various aspects involved in formulation of proposals for modernisation of existing irrigation systems. The Department of Irrigation has also recently constituted a Working Group for deciding on the guidelines for formulation of project reports. This Working Group has since finalised a set of guidelines for formulation.

of modernisation projects. The Department of Irrigation of the Government of India has also taken the initiative to set up four Special Teams charged with the task of formulating comprehensive modernisation proposals in respect of selected projects in the country so as to serve as model modernisation projects. The Training Division of the Central Water Commission also conducted recently a refresher Course on Modernisation of Irrigation Projects, attended by 35 Engineers drawn from the Centre as well as the States.

The question of speeding up formulation of modernisation projects and their phased implementation is expected to be discussed at the forthcoming Conference of Irrigation Ministers of the States.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 6-12-78.]

#### **Recommendation Serial No. 20, (Para 2.53)**

The Committee note with concern that although the flood problem in the Ganga and the Brahmaputra basins is serious requiring moderation of peak discharges in reservoirs, it has not been possible so far to construct major storage reservoirs in these regions mainly on account of lack of economically viable sites considering high seismicity of region and high sediment contents of the rivers which severely limit the life and utility of such reserves. Investigations of two multi-purpose storage reservoirs with primary benefit of flood moderation are being carried out by the Government of Assam on the Subansiri and Dihang rivers (tributaries of Brahmaputra). Similarly, possibilities of constructing storage reservoir in Nepal on the tributaries of the Ganga are being explored in consultation with the Government of Nepal. The storage reservoir projects proposed by different State Governments are also examined with a view to see whether these can also help in moderation of floods either by providing specific flood storage or by devising a suitable operation schedule. The various flood affected States as well as the Ganga Flood Control Commission appointed by the Government of India are now preparing comprehensive plans for the construction of reservoirs for flood control in different river basins. In these plans, the possibility of constructing storage reservoir for flood moderation also are being examined. The Committee are anxious that examination of schemes for construction of reservoirs in the Brahmaputra and Ganga Basins, and their flood prone areas should be paid serious attention so that not only floods are moderated but also valuable water reservoirs are utilised for creating additional irrigation potential.

### Reply of Government

The Government of India fully endorse the views expressed by the Estimates Committee on the importance of immediate examination of schemes for construction of reservoirs in the Brahmaputra and Ganga basins both for flood control & Irrigation. A number of shortage projects viz. Tehri Dam, Rajghat Dam and Bansagar Dam have been taken up for construction in the Ganga Basin in the recent years and many more are in the planning and investigation stage. In the Brahmaputra basin as well, investigation are in hand for two major storage projects across Subansiri and Dehang rivers and many other smaller storage projects. It is also planned to set up Brahmaputra River Board for carrying out necessary investigations and formulation of master plan of flood control in the basin keeping in view the multipurpose benefits of irrigation, power, etc. His Majesty's Government of Nepal have been requested to cooperate in the joint studies and discussions regarding development of the rivers common to India and Nepal, keeping in view flood control and other benefits. Agreement has also been reached with Nepal for joint investigations of the Rapti (Bhalubhang) multipurpose project and Pancheshwar Project on the river Sarda at Indo-Nepal border benefiting India and Nepal. With regard to the Karnali Project in Nepal, it has been agreed to establish a committee to examine preliminary issues concerning execution of this project, including carrying out necessary investigations, assessment of costs etc.

[Ministry of Agriculture & Irrigation (Department of Irrigation)

O.M. No. 78/1/78-Coord., dated 1-2-79]

#### Recommendation Serial No. 21 (Para 2.54)

To the extent possible post-monsoon flows of water should be suitably stored in all river beds for irrigation. The Committee desire that a shelf of schemes should be prepared and these should be taken up according to priority.

### Reply of Government

In a tropical country like India, the post monsoon flow in its rivers is quite limited except for the snow fed rivers from the Himalayas. Most of such flows have already been utilised for irrigation. The remaining potential is also proposed to be utilised as early as possible by means of storage, diversion and lift schemes. In case of a few rivers like Narmada, such irrigation potential could not be harnessed at the desired rate on account of inter-State disputes.

The Narmada Water Disputes Tribunal has since submitted its report setting out the facts as found by it and giving its decisions on the matters referred to it. The way has now been cleared for the development of the water resources of Narmada.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78.]

**Recommendation Serial No. 22 (Para 2.80)**

The Committee are concerned to note lack of proper investigation and surveys of projects before preparation of project reports by the State Governments. This has resulted not only in the delay in implementation but also in escalation of costs of projects. The project report submitted by the State Governments to the Central Water Commission suffer from many deficiencies. The Project reports have consequently to be referred back to the State Governments, resulting in avoidable correspondence and delay in clearance. In order to remove deficiencies the Central Water Commission have issued guidelines for investigation of major projects and realistic preparation of cost estimates. Besides the Planning Commission have issued a format and check list indicating the various points to be covered in connection with the different aspects of investigation of projects and preparation of project reports.

**Reply of Government**

Noted.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78.]

**Recommendation Serial No. 23 (Para 2.81)**

The Committee are concerned to note that these guidelines are not properly followed by the State Governments and projects submitted by the State Governments continue to be wanting in proper investigation or cost estimates. It is unfortunate that sometimes on account of local pressures, the projects are referred to the Central Water Commission without carrying out adequate surveys and investigations. The Committee feel unhappy over this state of affairs.

**Reply of Government**

Noted.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78.]

### **Recommendation Serial No. 24 (Para 2.82)**

The Committee were informed during evidence that the main reason for deficiencies in investigation was the non-availability of competent and experienced persons for carrying out investigations on projects which are generally located in difficult and remote undeveloped areas, lacking facilities. No special incentives by way of adequate investigation allowance or survey allowance etc. are given. The Committee feel that there is need for providing adequate incentives and facilities to the staff engaged on investigation/survey, in view of the hardships involved in undertaking this work in difficult and remote areas. The Committee were informed that this matter has been taken up with the State Governments only in a broad way. The Committee hope that necessary and conclusive action would be taken in this regard. The Committee need hardly emphasise the importance to posting competent and qualified staff in the requisite disciplines for investigation and survey works as proper investigation of the project in the very beginning will make expeditious clearance and implementation of projects and obviate costly delays.

### **Recommendation Serial No. 25 (Para 2.83)**

The Expert Committee on Rise in Costs of Irrigation and Multi-purpose Projects (1973) had recommended that for investigation of projects the States should have a broad based organisation involving all disciplines (engineering, geology, hydrology, agriculture etc.). The Conference of State Irrigation Ministers held in July, 1975 also made this recommendation. The Committee note that the States have been requested to set up a broad based organisation and also take steps for improving the data base for planning water resources projects. The Committee are surprised that the State-wise information regarding the measures taken by the States to strengthen the technical personnel and machinery in respect of investigation and preparation of project reports is not available with the Commission. The Committee would like the Ministry to ascertain what follow up action has been taken by the State in setting up a broad based organisation for investigation and formulation of new projects and improving the data base for planning water resources.

### **Reply of Government**

The importance of having a broad based organisation in the States for investigation of projects and the need for providing adequate incentives and facilities to the staff engaged on these works have continued to engage the attention of the Government. The third Conference of State Ministers of Irrigation held in November,

1977 recommended that the organisations for implementation of the irrigation projects in the States should be appropriately restructured and strengthened, keeping in view the requirements of preparation of master plans, investigation of projects, design and construction drawings, research problems, preparation of estimates, quality and cost control, construction programming and monitoring etc.

A Committee consisting of Central and State Government officials has been appointed to decide yardsticks for investigation, research and design units for major and medium irrigation projects with the following terms of reference:—

- (a) To examine by a few case studies the present practices in the States with regard to setting up of Investigation Units for Major and Medium Projects, assess the likely increase in these activities during the next plan and suggest suitable norms for creation of such units.
- (b) To review the existing organisational set-up for preparing designs connected with irrigation projects, assess the future work load and recommend norms for staffing pattern necessary for specific out-turns as related to particular area of work.
- (c) To examine the Research Organisations connected with River Valley Projects existing in the States, the type of research work being carried out with regard to major and medium irrigation projects, assess the schemes likely to be undertaken in future and suggest norms for creation of Research Establishment.
- (d) To propose suitable incentives that may be provided to the staff employed on Investigation, Designs Research work so as to attract the best available talent.
- (e) To suggest a suitable transfer policy to enable the staff engaged in investigations, Research and Designs activities to gain construction experience and vice-versa.

The Committee has just started its work. Necessary and conclusive with regard to investigation work will be taken based on recommendations of this Committee.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70|178-Coord., dated 20-11-78].



### **Recommendation Serial No. 26 (Para 2.84)**

The Committee note that the set up for technical examination of the projects in Central Water Commission has recently been strengthened and the procedure streamlined. Under the new procedure the Member in charge of Planning and Projects holds discussion with the State Chief Engineer about the deficiencies in the project reports instead of entering into long correspondence with the State Governments. By adopting the new procedure, it is claimed the Commission has been able to bring down the period required for clearance of a well investigated and realistically estimated major project to one year. In case of a medium project in which the CWC do not go into the details and give only proforma clearance, a period of six months would be taken. Priority is given to the projects included in the current plan. Out of 649 projects referred to the Central Water Commission upto 31st December, 1976, 334 projects (117 major and 217 medium) were still under examination.

### **Recommendation Serial No. 27 (Para 2.85)**

The Committee stress that with the strengthening of staff and streamlining of their procedure, the Commission should make concerted efforts to minimise the time for clearance of projects referred to by the State Governments. The Committee desire that stricter norms should be laid down and enforced in that behalf.

### **Reply of Government**

Norms have been laid down and guidelines have been issued to the various specialised Directorates in the Central Water Commission. Concerted efforts will continue to be made to minimise the time for clearance of projects referred to the Central Water Commission by the State Governments. In fact, if the States follow strictly the CWC guidelines for investigations of major irrigation and hydro-electric projects and the board guidelines for preparation of projects estimates for major irrigation and multipurpose projects, the clearance of projects would be substantially quicker.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1|78-Coord, dated 20-11-78].

### **Recommendation Serial No. 28 (Para 2.86)**

The Committee suggest that the Ministry should include in the Annual Report factual data about the number of schemes referred to the Commission|Union Government the number received back,

the time taken in the process, the broad reasons therefore and the measures taken/proposed to be taken to improve the position. The Committee note that the Expert Committee recommended in 1973 that the State Governments should set up a well manned organisation at project sites for investigation of projects costing more than Rs. 30 crores and that the Central Water Commission should be associated with such organisation. This need was also impressed upon by the Minister for Irrigation and Power in his letter to the Chief Ministers in August, 1974.

### Reply of Government

The data suggested by the Estimates Committee will be included in the next Annual Report of the Department of Irrigation.

The State Governments have been reminded by the Secretary, Department of Irrigation to intimate the action taken by them on this recommendation of the Expert Committee, and to intimate the names of the projects which are likely to cost more than Rs. 30 crores and are under investigation with them, so that the Central Water Commission could associate itself with their investigation from this stage.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70|178-Coord., dated 6-12-78].

### Recommendation Serial No. 29 (Para 2.87)

The Conference of the State Irrigation Ministers (1975) had recommended that the State Governments should associate the Central Water Commission right from the stage of preliminary investigation and site selecting for major projects costing more than Rs. 30 crores. But the response of the State Governments is not stated to be encouraging. It is now proposed that the Commission would associate themselves with the projects through the Reviewing Committee of the Commission who would review the investigations during the visits to the States periodically. In view of the various lacuna in the investigation carried out by the State Governments and the project reports prepared by them the Committee feel that it is in the interest of the State Governments if the Central Water Commission is associated with the investigation of major projects costing more than Rs. 30 crores from the very beginning so that any deficiencies during the course of investigation could be remedied at the earliest. The Committee suggest that the system of association of the Commission through the Reviewing Committees may be watched

for sometime and improvements made in the light of experience gained in its working. The Committee need hardly point out that if the Commission and more particularly the Members of the Reviewing Committee approach the State authorities in a spirit of rendering assistance in the speedier preparation of the projects, the State authorities are bound to reciprocate this gesture, thus making for better coordination and understanding.

### **Reply of Government**

The programme for investigation of new schemes in the States and progress achieved thereon is being reviewed by the Reviewing Committees in the course of the reviews carried out from time to time. The Review Committees do approach the State authorities in a spirit of rendering assistance in the speedy preparation of projects.

To ensure adequate investigations, detailed guidelines have been issued by Central Water Commission for formulation of new projects, preparation of estimates and modernisation schemes for existing irrigation systems. In individual cases experts of Central Government are sent to States to render advice on location, siting and layout of structures for new projects.

The State Governments have been requested to set up, in the case of all major projects under investigation which will cost more than Rs. 30 crores, a Committee of Direction at the Chief Engineer's level to guide the investigations and studies continuously with a view to complete them on the right lines and preparing project report keeping in view the scope and size of the project, needs for water development etc. The Central Water Commission will be associated with this Committee at appropriate level. The Review Committees headed by the Members, Central Water Commission would also discuss with the State officers during their visits to the States the progress of investigation of these projects and formulation of project reports.

The Government of India have also set up a Committee consisting of Central and State Officers to fix norms for investigation of the Irrigation Projects and suggest methods to expedite and improve the preparation of project reports. The norms evolved by the Committee will be circulated to the State Irrigation Departments and will be finalised after obtaining their views. The work of investigations is likely to be done in a more thorough manner after finalisation of these norms.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70|178-Coord., dated 6-12-78].

### **Recommendation Serial No. 30 (Para 2.117)**

The Committee note that lack of adequate monitoring and evaluation of inputs were the main factors hindering the implementation of irrigation projects and achieving the targets. As early as May, 1967 two Reviewing Committees were set up to examine the progress of work in certain projects which were in the advanced stage of construction and to remove difficulties/bottlenecks experienced in their execution. These Committees were reorganised and replaced by four Reviewing Committees in November, 1970 and entrusted with the review of 24 projects costing over Rs. 20 crores. The Committee are concerned to note that these Review Committees which were required to meet twice a year did not actually hold the meetings at the desired frequency. The result was that the projects were not reviewed regularly. It was only in 1974 and 1975 that special efforts were made to closely monitor the progress of the projects. The Committee regret that adequate attention was not paid by the Reviewing Committees to the task of reviewing the progress of projects assigned to them.

### **Recommendation Serial No. 31 (Para 2.118)**

The Committee note that the work earlier entrusted to the Reviewing Committees has now been assigned to Monitoring Units. The Reviewing Committees have recently been reconstituted and assigned the task of review of the various aspects of irrigation development in the States. The Committee would urge that the functions now assigned to the Reviewing Committees should be critically reviewed to ensure that there is no overlapping with the functions assigned to the Monitoring Units under the new system. It should also be ensured by periodical evaluation that these Review Committees function effectively. The Committee note that a monitoring system envisaged, to accelerate the creation of targeted irrigation potential during the Fifth Five Year Plan. At the Central level, the monitoring organisation was created in the Central Water Commission during August, 1975 which was further expanded in July, 1976 with two full-fledged Chief Engineers exclusively earmarked to monitor 27 selected projects all over the country. The units started functioning from October, 1976 and have so far visited 22 projects. The Committee have been informed that the functioning of the monitoring system has been very encouraging and very effective. The creation of the Central Monitoring units has enabled periodical review of the progress and timely removal of bottlenecks. They note

that the Monitoring Organisation at the Centre is being further expanded to cope with the assigned increased functions and the proposals for staffing and the creation of infrastructure are under examination. The Committee desire that early decision should be taken to facilitate the effective functioning of Central Monitoring Units. The Committee desire special attention to be given to projects which have been lagging behind.

### Reply of Government

The functions of the four Reviewing Committees were reviewed recently in the Department of Irrigation with a view to eliminating any overlapping of functions with the Central Monitoring Organisation, other Wings of the Central Water Commission and other Departments of the Government of India. As a result of the review, it was decided that some of the functions like review of the recommendations of the Central Monitoring Teams for selected on-going projects, recommendations of the Water Utilisation Team for improvement of modernisation of existing irrigation systems and recommendations of the Expert Committee on Integrated Development of Surface and Ground Water need not be included in the functions of the Reviewing Committees since individual Members/Chief Engineers in the Central Water Commission were taking action on these items separately. It was decided that the review of the steps taken by the State Governments regarding creation of infrastructure in the command areas/field channels, field drains, land shaping, lining of field channels, ground water exploitation and proper land and water management which come within the purview of the Department of Agriculture and are being looked after by separate committees constituted by that Department need not be taken up by the reviewing committees. The functions of the reviewing committees have accordingly been modified in the Department of Irrigation O.M. No. 16/23/76-DW-II dated 18-10-1978.

The Monitoring Organisation in the Central Water Commission has now been expanded to three Units, each headed by a Chief Engineer and 67 selected major projects are now being monitored by this Organisation. The progress of important items of work in the individual projects is reviewed every three months and the critical items are identified and vigorously pursued. The flow of benefits from these projects are planned in detail down to the distributaries and minors so that the concerned officers know exactly where work has to be done from month to month to enable necessary advance action and to identify bottlenecks in time for rectification. Special

attention is also being paid to the projects which have been lagging behind.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70|1|78-Coord., dated 6-12-78]

### **Recommendation Serial No. 32 (Para 2.119)**

The Committee have been informed that monitoring units have yet to be set up at the State level and project level in respect of 12 and 10 projects respectively. The Committee decide that the setting up of monitoring units at the State and Project level may be pursued with the State Governments concerned vigorously. The Committee would like to evaluate the working of the monitoring system periodically with a view to bring about necessary improvements in the light of experience gained and to make sure that the expenditure being incurred on it is justified by the results achieved.

### **Reply of Government**

The question of setting up of the monitoring Units at the State and Project levels is being vigorously pursued with the State Governments. Some States have created Monitoring Units to monitor the progress of some selected projects in their States, but a lot more has to be done in this direction. The Chief Ministers of the States concerned have been requested by D.O. letters from the Minister of Agriculture and Irrigation in June-July 1978, impressing upon them the need for creation of these Monitoring Cells in the State Hq. and at the Project level. Deficiencies noticed in this regard are brought to the notice of the concerned authorities through the Monitoring Reports and Status Reports of the Projects visited by the Chief Engineers from time to time. The matter is proposed to be discussed in the next meeting of the State Ministers of Irrigation. In the meantime, a Seminar on Monitoring of Major and Medium Irrigation and Flood Control Projects by the Planning Commission in collaboration with the Department of Irrigation was held on 29th and 30th November, 1978 at New Delhi and concerned officers at senior levels from the States and the Centre participated. The consensus emerging out of this Seminar will be communicated to the State Governments for appropriate action. Central Government will also be approached for appropriate action.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70|1|78-Coord., dated 6-12-1978].

### **Recommendation Serial No. 33 (Para 2.120)**

The Committee note that a Central Coordination Committee of Monitoring of Major Irrigation projects has been constituted in January, 1960. This Committee is the highest tier on Monitoring system at the Central level. The Committee are surprised that since its constitution no sitting of the Central Coordination Committee has been held as no bottlenecks requiring the attention of this Committee are stated to have arisen. The Committee are not convinced. They desire that the Central Coordination Committee should meet periodically to undertake an overall review of the progress and programmes of major irrigation projects to accelerate implementation of projects.

### **Reply of Government**

The first meeting of the Central Coordination Committee on Monitoring was held on 9-5-1978 and the Committee will be meeting at more regular intervals to evaluate the performance of the monitoring systems and also to review the programme and progress of major irrigation projects with a view to accelerating the implementation of the projects. As and when the need arises, special meetings are held to sort out the bottlenecks like availability of cement and explosives. In these special meetings the officers of the concerned Ministries are also invited and the matters are discussed in depth. As a consequence of the deliberations and action taken subsequently it is expected that the position of supply of cement and explosives to the irrigation projects would improve in the coming months so that the shortages of cement and explosives do not hinder the progress of works.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70|1|78-Coord., dated 6-12-1978].

### **Recommendation Serial No. 34 (Para 2.121)**

The Committee note that the State Government make available to the Central Water Commission quarterly progress reports of the progress of all major projects costing more than Rs. 5 crores and yearly progress report of other irrigation projects. On receipt of these reports action is taken by the Central Water Commission to render assistance to the projects in removing difficulties. The Committee regret to note that very few State Governments are sending these reports in time. While the Committee appreciate that the progress of the projects is now being reviewed by the Central Monitoring Units during discussion with the project

authorities, they would like to observe that monitoring is resorted to by the Central units only for 27 projects at present. The Committee feel that it is necessary that the progress reports in case of other projects should also be received by the Central Water Commission regularly, to enable them to keep a watch over the implementation of the projects and remove any bottlenecks. The Committee desire that the question of timely submission of the progress reports may be pursued with the State Governments and successfully resolved.

### **Reply of Government**

The Central Monitoring Units in the Central Water Commission have been strengthened by the creation of a Third Unit with effect from 1-4-1978, and they have taken up monitoring of 67 major schemes which would create about 75 per cent of the targeted irrigation potential by June 1979. These Monitoring Units keep a close watch on the critical items of a project and take timely corrective action. The progress of the projects is reviewed every quarter.

Recently, the monitoring units have been charged with the additional responsibility of taking a consolidated view on the targets and achievements of the potential under all the projects of the States besides the projects which they are monitoring in depth. Thus, an overall review of the progress of all the major irrigation schemes under execution in all the States would be done by those Monitoring Units.

The formats specified by the Planning Commission when the Monitoring Units were started are being revised and up-dated from time to time in the light of experience gained by the Monitoring Units. Unfortunately, the response from the States in the shape of feed-back is still far from satisfactory, and the matter is being pursued vigorously with the States so that the progress reporting becomes streamlined.

A Committee is reviewing the formats for implementation plan formulation and progress reporting with a view to simplifying them further so that States are required to submit only the minimum essential information for identifying critical items and rendering assistance in removing any bottlenecks in individual projects.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70|1|78-Coord., dated 6-12-78]



### Recommendation Serial No. 35 (Para 3.24)

The Committee note that in the first Plan the total plan expenditure on major and medium irrigation projects had received a relatively large share amounting to 15.3 per cent of the total plan outlay. In the subsequent plans the percentage of expenditure on major and medium irrigation projects declined considerably, being 8.1 per cent in the Second Plan, 6.79 per cent in the Third Plan, 6.56 per cent in the Annual Plans (1966-69) and 7.3 per cent in the Fourth Plan. Although the outlay on major and medium irrigation projects had increased manifold from Rs. 300 crores in the First Plan to Rs. 3095 crores in the Fifth Plan, yet its percentage to the total Plan outlay works out 7.8 per cent only. In view of the fact that very large water resources have yet to be harnessed in the interest of increasing and stabilising agricultural production programme of development of irrigation needs high priority. The Committee feel that the percentage outlay on major and medium irrigation projects needs to be reviewed.

### Recommendation Serial No. 36 (Para 3.25)

The Committee note that at present although the Central assistance is given as block loans and grants outlay in respect of selected projects is earmarked which ensure adequate funding to the important schemes. Admittedly there were few cases where funds were diverted for purpose other than irrigation. The Committee desire that there should be built in safeguards in the issue of sanctions to ensure that the funds earmarked for selected irrigation projects are not diverted by the State authorities for other purposes/ projects.

### Reply of Government

The Five Year Plan 1978-83 recognises the need for a large irrigation plan to achieve a significantly higher growth in agriculture. The Plan envisages creation of an additional irrigation potential of 17 million hectares—8 million hectares through major and medium projects and 9 million hectares through minor schemes. The annual additional potential will be 3.4 million hectares per annum on an average against 2 million hectares per annum achieved during the Fifth Plan. The draft Five Year Plan 1978-83 envisages a Public Sector Plan outlay of Rs. 69380 crores. The outlay proposed for major & medium irrigation is Rs. 7250 crores which works out to 10.4 per cent. of the total outlay. The outlay will have to be increased if the potential of 8 million hectares

through major & medium irrigation is to be achieved during the plan period.

The Department of Irrigation have referred to the Planning Commission the matter relating to provision of built-in safeguards to ensure that funds earmarked for selected irrigation projects are not diverted by the States for other purposes or projects.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70|1|78-Coord., dated 1-2-79]

### **Recommendation Serial No. 36 (Para 3.25)**

The Irrigation Commission (1972) had emphasised that unless special arrangements were made or financing large irrigation projects it would not be possible to complete them expeditiously. The National Commission on Agriculture (1976) has also suggested that for planning construction of large irrigation projects on a sound basis, there has to be a reasonable assurance that funds would be forthcoming according to the stipulated construction programme. It has also been suggested that a large project which is apt to drag its feet due to constraint of funds in the state plan should be provided with additional funds for the Centre and the construction carried out at the optimum pace. The entire outlay for the project in the state plan including the additional Central assistance should be earmarked. A protracted period of construction not only delays accrual of benefits from the projects but also make it more expensive. It has also been suggested that the estimates of all the irrigation projects should be reviewed and updated at least once in five years and in any case before the formulation of a Five Year Plan.

### **Reply of Government**

Special efforts have been made for ensuring completion of major on-going schemes, which have been under execution for a number of years. Time bound schedules have been drawn up for their completion and adequate outlays are being provided for these schemes under State Plans to ensure their execution at an optimum pace. In addition, Advance Plan Assistance has been provided to these projects to further accelerate their execution. The Projects which have been given Advance Plan Assistance during 1975-76 1976-77 and 1978 are:—

Nagarjunasagar (Andhra Pradesh)

Pochampad (Andhra Pradesh)

**Some High Level Canal (Bihar)**  
**Gandak Project (Bihar)**  
**Kadana (Gujarat)**  
**Malaprabha (Karnataka)**  
**Ghataprabha-Stage II (Karnataka)**  
**Kallada (Kerala)**  
**Pazhassi (Kerala)**  
**Kuttiadi (Kerala)**  
**Pamba (Kerala)**  
**Tawa Project (Madhya Pradesh)**  
**Jayakwadi (Maharashtra)**  
**Rajasthan Canal (Rajasthan)**  
**Kangsabati (West Bengal)**

To ensure availability of adequate funds, credit assistance has also been obtained from World Bank for completion of major schemes, which have been under execution for the last several years. These include Nagarjunasagar, Rajasthan Canal, Pochampad and Upper Krishna Projects.

As a result of measures taken, most of the above mentioned schemes are likely to be fully completed during the current Plan. There has been distinct improvement with regard to programme in Kerala where yearly outlay for the programme which was of the order of Rs. 7 crores or so in 1973-74, has gone up to Rs. 35 crores in 1978-79. As a result, all the on-going schemes in that State except Kallada and Periyar Valley are likely to be completed within the current Plan. On Kallada project, the tempo of work has been considerably increased. The project is likely to be commissioned within the next two years.

Due to paucity of funds, no real start could be made on Upper Krishna scheme and the works had been proceeded at a very slow pace till recently. With the availability of adequate outlays, this project is now expected to be partially commissioned in next two years.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

**Recommendation Sl. No. 37 (Para 3.27)**

According to the Department of Irrigation till the end of 1974-75, the availability of funds was generally inadequate to achieve the

targets laid down. Inadequate availability of funds coupled with the other factors resulted in shortfall in achievement of targets in various plans and projects. Some typical examples are Nagarjuna-sagar (Andhra Pradesh), Gandak (Bihar and Uttar Pradesh), Mala-prabha (Karnataka) and Kallada (Kerala).

The Committee note that good results were achieved from the special advance assistance amounting to Rs. 55.8 crores given for 18 projects during the year 1975-76. Due to constraint on resources the execution of the projects was slow not going at the optimum pace physically capable of achievements. An additional irrigation potential 283,000 hectares was developed over and above the potential envisaged with the normal outlays, thus adding significantly to the benefits. For the year 1976-77 an amount of Rs. 75.20 crores was sanctioned as advance plan assistance to be given to 26 major and 14 medium irrigation projects in 14 States. Out of the total assistance of Rs. 75.20 crores, the Centre was to provide Rs. 48.10 crores while States have to provide Rs. 27.10 crores from their own resources. The actual amount released by the Ministry of Finance was Rs. 39.90 crores. As a result of this additional outlay an additional potential of 165 thousand hectares was expected to be created in 1976-77. According to the Ministry as a result of the advance Central assistance during 1975-76 and 1976-77, the achievements have exceeded the physical targets. During the year 1977-78, it has been proposed to increase the outlay by 125.75 crores comprising Rs. 100 crores as advance plan assistance by the central and Rs. 25.75 crores additional outlay to be provided by certain States from their own resources to accelerate the progress on certain on-going schemes and for new starts to maintain tempo of irrigation development. Some States have suggested some additions|alterations to the proposal and these were being examined.

#### Reply of Government

Noted.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70|178-Coord. dated 20-11-1978]

#### Recommendation Sl. No. 38 (Para 3.28)

The Committee would stress that while giving special assistance to the States particular consideration should be given to the backwardness of the area to be served, existence of large unharnessed water resources and the ability of the State to undertake large projects as recommended by the Irrigation Commission (1972). Special

attention should also be paid to reduce the imbalance in the various States as compared to the known potential and requirements.

### **Reply of Government**

The Committee's recommendations will be kept in view while processing any case for special assistance to the States for irrigation development.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70|1|78-Coord. dated 20-11-1978]

### **Recommendation Sl. No. 39 (Para 3.29)**

The Committee desire that proposal for additional outlay for the year 1977-78 including the central assistance should be finalised in consultation with the State Governments expeditiously so that the projects selected should not suffer for want of funds and the expected additional potential is actually created. The Committee need hardly stress that Government should draw lessons from the slow progress due to the inadequacy of funds provided for important projects in the past and take suitable steps to ensure that the projects which may be of national importance are rendered special assistance in greater measure in future to accelerate their implementations. The Committee desire that a close watch should be kept over the progress of these projects.

### **Reply of Government**

The progress achieved on major and medium irrigation programmes is being constantly reviewed. Detailed reviews are carried out with State Officers both in Department of Irrigation as well as Central Water Commission twice in a year for formulating the programmes at the time of Annual Plan discussions and then in course of the year for a mid-year review. Apart from these, Department of Irrigation is calling special meetings to discuss the problems of individual States and to render necessary assistance for removal of bottlenecks. The progress of the programmes is also being reviewed by Reviewing Committees during their visits to States. Progress on important projects is being constantly reviewed by the Central Monitoring Units set up for the purpose.

As indicated to the Committee, adequate financial inputs are being ensured by providing sufficient funds under State Plans. In addition, Government of India has been giving advance plan assistance to accelerate the execution of selected projects. Last year

(1977-78), Advance Plan Assistance of Rs. 102.37 crores was given which not only enabled achievement of stipulated target of 1.30 million ha. But also shortfall of 0.16 million ha. in 1976-77 was made up. State Projects Authorities are being constantly advised to take advance action with regard to other inputs such as scarce construction materials, etc. During the last year, inadequate availability of cement and explosives has been a bottleneck on many projects. To sort out these difficulties, a number of inter-departmental meetings were taken by Secretary, Department of Irrigation, when representatives of other concerned Ministries were so invited. As a result, it has been decided to earmark adequate amount of cement for irrigation projects and to channel its distribution through C.W.C. To meet the requirements of explosives, additional quantities are being imported.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70|1|78-Coord., dated 20-11-78]

#### **Recommendation Sl. No 40 (Para 3.43)**

The Committee note that up to the end of Fourth Plan, the assistance from the World Bank as rendered or committed for major and medium irrigation projects amounted to 112.9 million dollars for six projects viz., Sone Barrage Project (Bihar), Sheturunji Project (Gujarat), Puma Project (Maharashtra), Salandi Project (Orissa), Pochampad Project (Andhra Pradesh) and Kadana Project (Gujarat). Apart from the financial assistance that the Bank has been providing, it has also been instrumental in formulation of irrigation projects in the country, especially in the introduction of the concept of composite area development associated with irrigation projects. For the period 1973-74 to 1978-79 the World Bank has entered into credit agreement for 45 million dollars for the Godavari Barrage and 145 million dollars for Nagarjunasagar Composite Project. Negotiations with the Bank for Periyar-Vaigai Project (\$ 24 million) in Tamil Nadu and Jayakwadi Project (\$ 70 million) were carried out in June, 1977 and for medium irrigation projects of Orissa (\$ 58 million) in July-August, 1977. In all 23 projects are stated to have been identified for credit assistance from the Bank. Of these, the Bank has evinced interest to consider providing assistance to twelve projects. The Committee urge that effective steps should be taken to collect expeditiously all the information desired by the World Bank so as to finalise agreements with the Bank for loan assistance for these projects. The Committee further desire that in respect of projects for which agreement have already been entered into, concrete measures should be taken for the timely execution of the Project and release of Waters for agricultural purposes to

generate resources to pay back the loans and pave the way for funding of more such projects by the World Bank.

### Reply of Government

The World Bank assistance which was only \$ 112.9 million upto the end of Fourth Plan, has been gradually increasing and IDA is now willing to provide an assistance of the order of \$ 300 to 400 million per year in the irrigation sector. As the World Bank assistance has been gradually increasing, the identification and appraisal of more and more number of projects has been going on continuously and is now very satisfactory. To utilise the large amount of assistance which the Bank is keen in providing, sufficient number of projects have been identified according to World Bank norms and have been included in the pipeline of projects. During the fiscal year 1978, the following loans have been negotiated and agreements signed with the World Bank:

| Name of Project                      | Assistance (m.\$) | Date % Agreement |
|--------------------------------------|-------------------|------------------|
| 1. Orissa Medium Irrigation -        | 68.0              | 11-10-1977       |
| 2. Jayakwadi (Maharashtra)           | 70.0              | 11-10-1977       |
| 3. Upper Krishna Project (Karnataka) | 126.0             | 12-5-1978        |
| 4. Gujarat Medium Irrigation .       | 85.0              | 17-7-1978        |

(In addition an agreement of 30 million dollars has been signed on 26-8-1978 under USAID for Gujarat Medium Projects).

The lending programme for the World Bank fiscal years 1979 and 1980 and beyond is given below:

| Name of Project                       | Likely assistance (m. £) | Agreement signed on |
|---------------------------------------|--------------------------|---------------------|
| <i>Fiscal Year 1979</i>               |                          |                     |
| 1. Haryana Modernisation . . . . .    | 111                      | 16-8-78             |
| 2. Punjab Modernisation               | 120                      |                     |
| 3. Maharashtra Composite Irrigation . | 180 to 250               |                     |
| <i>Fiscal Year 1980 and beyond</i>    |                          |                     |
| 1. Gujarat Composite                  | 150 to 175               |                     |
| 2. M. P. Composite                    | 100 to 150               |                     |
| 3. Subernarekha (Bihar)               | 100 to 150               |                     |

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|                                |   |   |     |
|--------------------------------|---|---|-----|
| 4. Rengali Irrigation (Orissa) | . | . | 100 |
| 5. Narmada (Gujarat and M. P.) | . | . | 300 |
| 6. Kerala Composite            | . | . | 150 |

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Regarding the programme for the fiscal year 1979, negotiations for Haryana Modernisation Project for loan assistance of 111 million US dollars have been completed and the Bank has approved the project for the above amount. The agreement was signed on 16th August, 1978. Appraisal of the Punjab Modernisation Project has already been completed by the World Bank and the report is expected to be ready before the end of 1978. The negotiations for the loan assistance will be conducted thereafter. The work of preparation of the project for the Maharashtra Composite Irrigation Project is being done by M/s. WAPCOS and the report is expected to be ready by the end of 1978 while the work of the preparation of the report for the Gujarat Composite Irrigation Project is being done by the Project Preparation and Monitoring Cell of the Department of Agriculture. The report is expected to be ready during 1978.

Regarding the subsequent programme the projects listed above for World Bank assistance are in various stages of discussions with various agencies, such as World Bank, FAO, GOI and the State Governments.

Regarding the timely execution of projects for which agreements have been already signed with the World Bank, CWC regularly monitors the progress of these projects through quarterly progress reports from the project authorities. The Central Coordination Committee, headed by Chairman, CWC, reviews the programme and progress of irrigation projects periodically. The Appraisal Committee, headed by Member (P&T), CWC, and Chief Engineer (CWC) monitor the progress of the medium irrigation projects of Orissa and Gujarat respectively. In addition the Monitoring Units headed by Chief Engineers in the Central Water Commission also monitor the progress of some of the projects assisted by the World Bank.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70/1/78-Coord. dated 20-11-1978]

#### **Recommendation Serial No. 41 (Para 3.44)**

The Committee note that the World Bank are increasingly devolving greater responsibility on the Government of India in the preparation and monitoring of major and medium projects to be



assisted by the Bank. During recent discussions the Bank has expressed a desire that the monitoring of the programme and progress, both physical and financial of even major projects being assisted and to be assisted in future, may be undertaken by the Central Water Commission. The Committee are anxious that the assistance from the Bank should be utilised fully to speed up the construction of the projects. The Committee suggest that the Department of Irrigation/Central Water Commission should find out if any difficulties are experienced by the State Governments receiving loans from the World Bank in fulfilling the conditions stipulated for the purpose which might be resulting in delay in the release of the assistance and slow progress of projects. Necessary steps should be taken in consultation with the World Bank and the State Governments to resolve such difficulties.

### **Reply of Government**

The Central Coordination Committee headed by Chairman, CWC, reviews the programme and progress of major irrigation projects getting assistance from the World Bank. The meetings are conducted periodically and attended, among others, by the Project Authorities and State Government representatives. The problems and bottlenecks, if any, are discussed and sorted out in these meetings to fulfil the programme of construction.

The medium irrigation projects are monitored by the Appraisal Committee, headed by Member (P&T) and Chief Engineer (Monitoring), CWC. Appraisal Teams of CWC visit the projects periodically to review the programme and progress. The progress of each project is brought to the notice of the World Bank.

One of the constraints experienced in the implementation of the World Bank Programme has been procedure laid down by the World Bank for finalising the contracts. The State authorities have experienced that the process of approval of contract documents for each tender by the World Bank is time-consuming resulting in delays in adhering to the schedule of construction. Efforts have therefore been made to frame standard contract document which should be applicable to all the projects. The work of standardization of contract document is being done in the CWC in consultation with the State Governments. A team of officers of CWC held discussions on

various aspects with the World Bank representatives. The document is expected to be ready shortly which will greatly facilitate timely finalisation of contract documents on the projects receiving assistance from the World Bank.

[Ministry of Agriculture and Irrigation Department of Irrigation) O.M. No. 70/1/78-Coord., dated 20-11-78]

**Recommendation Serial No. 43 (Para 3.51)**

The Expert Committee on Rise of Cost of Irrigation and Multi-purpose projects (1973) also emphasised the importance, of establishing costing cells in major projects. The First Conference of the State Ministers of Irrigation held in July, 1975 recommended setting up of Cost Control Cells for all projects to keep a continuous watch over construction cost. The Second Conference of the Ministry of Irrigation held in September, 1976 while noting that not much progress has been achieved in this regard recommended that the State Governments should take expeditious action to set up Cost Control Cells in all projects costing Rs. 30 crores or more.

**Reply of Government**

In spite of the best efforts at the level of Hon'ble Minister of erst-while Irrigation and Power, Secretary, Department of Irrigation and the Central Water Commission, encouraging results could not be achieved in this respect. The matter is being pursued further with the State Governments.

[Ministry of Agriculture and Irrigation Department of Irrigation) O.M. No. 70/1/78-Coord., dated 20-11-78]

**Recommendation Serial No. 44 (Para 3.53)**

It is also desirable that the model pattern of functions and duties of the Cost Control Unit which were outlined as long as 1969 are reviewed in the light of developments and updated to make them more pertinent and relevant.

**Reply of Government**

The functions and the structure of the Cost Control Cells at the project and State levels have been reviewed and recommended to the States and Union Territories for taking necessary action in the matter.

[Ministry of Agriculture and Irrigation Department of Irrigation) O.M. No. 70/1/78-Coord., dated 1-2-79]

**Recommendation Serial No. 45 (Para 3.54)**

The Committee need hardly point out that what is important is the exercise of continuous effective check and control on cost factors so as to see that the flow of expenditure is kept within the sanctioned estimates and that cost analysis is put to effective use to carry out on course corrections in the interest of economy and improving efficiency.

**Reply of Government**

Noted.

[Ministry of Agriculture and Irrigation Department of Irrigation) O. M. No. 70|1|78-Coord., dated 20-11-78].

**Recommendation Serial No. 46 (Para 3.55)**

The experience gathered in the maintenance of cost control data may be put to effective use in due course of time by developing a system of management accountancy to aid well-informed cost-conscious decisions being taken in the interest of selection of best suited projects and in ensuring their economic execution.

**Reply of Government**

Noted.

[Ministry of Agriculture & Irrigation (Department of Irrigation) O.M. No. 70/1/78-Coord., Dated 20-11-78.]

**Recommendation Serial No. 47 (Para 3.56)**

The Committee would also like that the officers in the executive who are entrusted with the duties and responsibilities of execution of projects are also made cost-conscious by making available to them meaningful literature and holding suitable training courses of short duration for them.

**Reply of Government**

A course on 'Construction Cost Indices' in River Valley Projects was organised by Central Water Commission from 13-9-1977 to 24-9-77. This course was designed to evolve "Construction Cost Indices" to promote streamlined activity in the following:

- (i) Collection and monitoring of important construction cost data and cost indices.

- (ii) To arrive at reasonable figures for escalation clause in tender contracts.
- (iii) Projection of cost trend for specialised component construction of long duration.
- (iv) Updating of estimate at a short period.
- (iv) Critical Cost review of a completed project.

The course was attended by 26 in-service engineers including officers of Central Water Commission and these nominated by State Government Departments of (i) A. P.-3, (ii) Bihar-4, (iii) Gujarat-2, (iv) Kerala-1, (v) Maharashtra-5, (vi) Manipur-1, (vii) Orissa-3, (viii) West Bengal-1, (ix) Beas Project-2, (x) CWC-4.

These courses will continue to be conducted in the future.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70/1/78-Coord., dated 1-2-79]

**Recommendation Serial No. 47 (Para 3.57)**

The Committee would like to clarify that Cost Control Cell has to justify itself by the results achieved and a watch should be kept at a higher level to see that it does not degenerate into a mere routine constituent of the set up.

**Reply of Government**

Noted.

[Ministry of Agriculture & Irrigation (Department of Irrigation) O.M. No. 70/1/78-Coord., dated 20-11-78.]

**Recommendation Serial No. 48 (Para 3.60)**

The Committee need hardly point out that the Central Government should set a high example by preparing a meaningful performance budget for the Department of Irrigation which would help to co-relate the financial outlay with the physical contents of work, provide parameters to evaluate performance, indicate benefits expected and which have actually accrued.

**Reply of Government**

The Department of Irrigation is already preparing a performance budget on the activities of the Deptt. and its attached/subordinate offices/autonomous bodies which is presented to Parliament

along with other Budget documents. The Department of Economic Affairs (Ministry of Finance) have recently written to the Financial Advisers of all Ministries/Departments of the Government of India regarding the improvements in the preparation of performance budget documents. In the light of these action is already in hand to improve the performance budget. As regards correlating the financial outlay with the physical concepts of work, the areas, in addition to those where this is already being done, are being located. Same applies in case of working out of direct benefits. It may, however, be mentioned here that a number of the Plan schemes operated by the Department are concerned with research and data collection etc. which present special problems in this regard and quantification may be difficult in these cases.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70|1|78-Coord., dated 6-12-78]

**Recommendation Serial No. 49 (Para 3.61)**

The Committee need hardly remind that the performance budget is only a means to an end and, therefore, it is of the utmost importance that the State Governments are persuaded and assisted to have a meaningful performance budget which would help the legislators and the public to understand better the implications of financial outlay, evaluate performance and call to account those entrusted with the power to expand and implement projects.

**Recommendation Serial No. 50 (Para 3.62), . . . .**

The Committee note that the Expert Committee on Rise in Costs of Irrigation and Multipurpose Projects (1973) recommended adoption of performance budgeting system for execution of River Valley Projects with a view to exercising effective financial control. In a recent meeting held in the Department of Personnel it was recommended that performance budgeting should be introduced by the State Government's in one or two departments for example the Departments of Agriculture and Irrigation by 31st March, 1977. The Committee would like to know whether the State Governments have introduced the system of Performance Budget in the Department of Irrigation with effect from the current year.

**Recommendation Serial No. 51 (Para 3.63)**

The Committee desire that the question of introducing the Performance Budgeting system in the River Valley Projects may be seriously pursued with a view to ensure implementation.

### Reply of Government

According to the information received from the State Governments/Union Territories, the performance budgeting system has been introduced for the irrigation sector by Bihar, Haryana, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Orissa, Tamil Nadu and Uttar Pradesh. This system has not been introduced so far in Jammu & Kashmir, Manipur Nagaland, Sikkim, Tripura, Arunachal Pradesh, Chandigarh, Delhi and Goa; Daman & Diu. Information in this regard is awaited from the other States and Union Territories. The matter of introducing the performance budgeting system is being pursued by the Department of Irrigation with the State Governments and the Administrations of the Union Territories.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70/1/78-Coord., dated 6-12-78]

### Comments of the Committee

The Committee desire that the matter may be pursued with the State Governments and the Administration of Union Territories, which have not yet introduced the Performance Budgeting and they may be persuaded to introduce such a system.

### Recommendation Serial No. 52 (Para 3.69)

The Expert Committee on Rise in Costs of Irrigation and Multi-purpose Projects (1973) recommended that a team of officers including technical officers from the various projects in the country should be set up to go into the question of delegation of administrative and financial powers to the project authorities and draw up a model for adoption in the projects to be taken in future. At a meeting held recently by the Department of Administrative Reforms and Personnel, stress was laid on suitable delegation of powers to officers at various levels to inculcate in them a sense of responsibility and also ensure that they would be able to function effectively. It was recommended at the meeting that delegation of additional financial and administrative powers to the Secretariat Departments and Subordinate Departments should be completed by 30th March, 1977. The Committee were also informed that there was also a thinking to further enhance delegation of powers to projects where Control Boards were functioning.

The Committee attach great importance to the delegation of adequate administrative and financial powers to Chief Engineers/

Project Managers in the interest of expeditious and timely completion of projects. The Committee stress that the Central Government should set a worthy example by delegating these powers to Project Managers for projects which are directly under them or for projects which are under Control Boards functioning under the Central Government.

### **Recommendation Serial No. 53 (Para 3.70)**

The Committee would also like to know the extent to which powers have actually been delegated by the State authorities to the Chief Engineers/Project Managers particularly in respect of large and medium projects. The Committee need hardly point out that where the States have not yet enhanced the delegation of such administrative and financial powers the matter may be pursued with them at a high level so as to expedite the matter.

### **Reply of Government**

Regarding delegation of adequate administrative and financial powers to the project authorities where Central Boards are functioning, the matter has been under continuous review. In the case of the Betwa River Board, which has been established in October, 1976 under the Betwa River Board Act, 1976, wide powers have been delegated to the Chief Engineer of the Project as detailed in Appendix I. An Executive Committee has been set up under the Betwa River Board and vested with all the powers which may be exercised by the Board subject to the rules and to the directions of the Board. In addition, the following Sub-Committees have been constituted for effective functioning of the Board:

- (i) Sub-Committee for Personnel Programme and Buildings.
- (ii) Sub-Committee for processing tenders and proposals for purchase of the stores and equipment.
- (iii) Sub-Committee for Land acquisition and rehabilitation
- (iv) Selection Committees for Group A.B.C.&D. posts.

Similar Executive Committee and Sub-Committees have been constituted under Bansagar Central Board for execution of Bansagar Dam across river Sone, another inter-State Project being executed under the aegis of Government of India.

Regarding delegation of powers by the State authorities to the Chief Engineers|Project Managers in respect of major & medium projects, the matter was considered in detail in the Third Conference of State Ministers of Irrigation held in November, 1977. The Conference recommended review of delegation of powers to the engineering administration and also called for creation of suitable machinery in the States for taking expeditious decisions relating to implementation of projects. The matter will be pursued further at a high level.

[Ministry of Agriculture & Irrigation (Department of Irrigation) O.M. No. 70|1/78-Coord., dated 1-2-79].

#### **Recommendation Serial No. 54 (Para 4. 12)**

The Committee note that many irrigation systems in the country are very old and their usefulness is limited by structural handicaps like outmoded head works, absence of silt-excluding devices etc. Both the Irrigation Commission (1972) and the National Commission on Agriculture (1976) have drawn attention to the urgent need for improvement of the existing irrigation systems in order to increase their efficiency and usefulness. In formulating the programme of the Fifth Plan, emphasis was given to modernisation of older irrigation projects for better control in distribution of water and augmentation of supplies. At the start of the Fifth Plan, the States were advised by the Central Water Commission to set up special cells for undertaking a comprehensive review of their pre-plan and earlier plan projects and formulate schemes for their improvement. Early in 1975-76 the Planning Commission also requested the State Governments to undertake a comprehensive study of 10 selected irrigation projects and to frame programmes of action for their modernisation and implementation on a time bound basis. The matter is still being pursued with the State Governments. The Committee note that remodelling or replacement of old structures has been taken up only in a few isolated cases. The Committee regret to observe that the programme for modernisation of old irrigation works has not been implemented in a systematic manner and due importance does not appear to have been given by the State Governments to this matter. They would like that greater attention should be paid to remodelling of existing irrigation systems and the matter should be continuously pursued with the State Governments.



### Reply of Government

There has been an increasing awareness on the part of the States regarding the importance of modernisation of old irrigation systems for improving their efficiency and economising on the use of water. In fact, the programme of modernisation has to have a comprehensive approach which includes a review of the crop pattern and crop calendar to make the best use of the soils in the command with regard to their suitability for growing different crops and to avoid excessive loss in the distribution system, a re-appraisal of the water requirements and frequency of water application, the conjunctive use of ground water to the extent possible, improvements in the drainage conditions of the command area, modifications to canal structures and construction of new structures as necessary, adequate on-farm development works, proper water management and provision for satisfactory maintenance. This calls for a multi-disciplinary team for satisfactory planning and implementation schemes. The required expertise has to be developed in a big way and the Centre has been taking an active part in the process. The Central Water Commission have since brought out a booklet indicating in detail the different aspects to be covered in proposals for modernisation and a Working Group set up by the Department of Irrigation has also drawn up a set of guidelines for preparation of modernisation projects. These have been circulated to the States.

An expenditure of Rs. 410 crores has been proposed to be incurred on modernisation of the more important projects during the Medium Term Plan 1978—83. This is expected to give an additional potential of 3.5 lakhs ha. A list of the important modernisation schemes covered in this Plan is given in Appendix II.

[Ministry of Agriculture & Irrigation (Department of Irrigation) O.M. No. 70/1/78-Coord., dated 20-11-78].

#### Recommendation Serial No. 55 (Para 4.13)

The Committee understand that during the last conference of the State Irrigation Ministers (1976), 15 projects had been identified as priority ones to be included in the Fifth Plan and the State Governments had been asked to prepare project reports for modernisation. But so far, project reports in respect of only 5 of these projects have been received from the State Governments and are under

scrutiny in the Central Water Commission. The Committee desire that the question of preparation of project reports for the remaining 10 projects should be vigorously pursued with the State Governments concerned and the project reports already received scrutinized by the Central Water Commission expeditiously. All efforts should be made to ensure that the 15 priority projects are implemented during the Fifth Plan period and the improved benefits following from them evaluated. The Committee also desire that progress made in the implementation of the scheme should be kept under close watch with a view to initiating measures to ensure their expeditious completion. The benefits accruing from the Schemes should be evaluated and publicised. The experience gained and lessons learnt as a result of the execution of these schemes may be taken into account while sanctioning new projects.

### **Reply of Government**

15 projects had been identified as priority projects for modernisation to be included in the Fifth Plan and the State Governments had been requested to prepare the reports. Some of the projects have been received in the Commission and are being scrutinised.

The review of the project reports for modernisation submitted by the State Governments has revealed that all of the modernisation aspects have not been considered while framing the reports.

In order to overcome the difficulties experienced by the States in the preparation of Modernisation projects "a detailed note on modernisation of irrigation systems" prepared by Central Water Commission has been circulated to the State Governments. Further a Working Group has been constituted by the Department of Irrigation to formulate guidelines for the preparation of projects on modernisation of irrigation system. The sub-group has prepared the guidelines which is also being circulated to the State Governments. The Secretary, Department of Irrigation in all the meetings held with the State Governments has laid emphasis on modernisation of irrigation projects. In addition, four special teams headed by expert consultants have been constituted for preparing modernisation project report for a few selected projects. The project reports prepared by these teams would also be useful as models for preparation of modernisation reports of other projects in the States.

The benefits accruing from the modernisation projects shall be evaluated and publicised when such benefits start accruing after the completion of such projects.

[Ministry of Agriculture & Irrigation (Department of Irrigation) O.M. No. 70/1/78-Coord., dated 20-11-78].

**Recommendation Serial No. 56 (Para 4:14)**

The Committee desire that the State Governments should also be impressed upon to complete the review of the pre-plan and earlier plan projects expeditiously and prepare a systematic programme of their modernisation in a phased manner. The project reports for those projects which are to be included in the Plan may be prepared immediately.

**Reply of Government**

The Central Water Commission has requested the State Governments in 1973 and again in 1977 to review the efficiency and adequacy of irrigation systems and prepared a systematic programme of modernisation in a phased manner. The Central Water Commission is taking further action in the matter this year as well. It was also suggested to the State Governments to consider setting up a Committee of experts for this purpose. Further action has to be taken by the various State Governments in this regard.

So far as modernisation of irrigation projects is concerned, the information is already furnished against para 2.52.

[Ministry of Agriculture & Irrigation (Department of Irrigation) O.M. No. 70/1/78-Coord., dated 20-11-78].

**Recommendation Serial No. 57 (Para 4.15)**

The Committee note that the Central Team constituted by the Department of Irrigation has so far visited 12 irrigation projects. The team has made recommendations for modification of shortcomings in the projects and preparation of project reports. Guidelines have also been evolved for preparation of projects for modernisation. In all, the Department of Irrigation have selected 32 projects for review by the Team. The Committee would like the Central Team to complete the review of the remaining projects entrusted to them according to the time schedule. The Committee hope that the recommendations made by the Central Team, would be helpful to the

State Governments in reviewing their other projects for modernisation.

### **Reply of Government**

The Central Team has so far visited 21 Irrigation Projects upto September 1978. For the projects already visited, detailed inspection reports covering the scope for improvement have been sent. From time to time, the State Governments have been pursued to report on the implementation of these findings. In this connection, the Chief Engineers of some of these projects were recently invited for discussions during which the Leader of the Central Team had detailed discussions on the implementation of the recommendations.

Although initially a tentative list of 32 projects had been drawn up for detailed inspection and studies, it is now felt that the Team may have to visit more number of projects so as to make the expert knowledge of the Central Team available to the State Governments for increasing the operational efficiency of the irrigation projects

[Ministry of Agriculture & Irrigation (Department of Irrigation) O.M. No. 70/1/78-Coord., dated 20-11-78].

### **Recommendation Serial No. 58 (Para 4.19)**

The Committee are concerned to note that there is wastage of water to the extent of 35 to 50 per cent due to seepage. According to the Department wastage could be reduced to 15 per cent if all the channels were lined. The Committee appreciate that due to financial and other constraints it may not be feasible to take up at one time the lining up of all the channels. The Committee note that Government have accepted the recommendations of the National Commission on Agriculture (1976) regarding priorities to be given to lining of busy channels in new projects and smaller channels in existing projects subject to examination of relative economics in each case. They hope that a phased programme will be prepared for lining of channels in new and existing projects giving priorities to those channels where there is too much water wastage to maximise utilisation and its benefits. The Committee feel that lining of channels should be an integral part of the project and this aspect should be borne in mind while scrutinising the project before sanction.

### Reply of Government

The Committee has already been apprised that the Government has accepted the recommendations regarding priorities to be given to the lining of busy channels in new projects and smaller channels of existing projects subject to examination of relative economics in each case. The Department of Irrigation had taken a review of the development of Irrigation potential in the States during July, 1978 in which the modernisation of old irrigation system was discussed. All the States have framed programme of lining older canal systems. Lining of channels is an integral part of modernisation of order canal system. As is well known that wholesale lining of canal is expensive. In the case of existing system the construction work of lining has necessarily to be spread over several years since it can be carried out only during normal period of canal closure. It has been brought out during the review with the States that besides financial constraints, there are constraints now on key materials like cement and coal. While financial constraints disfavour investment of large sums of money for lining of single system, which otherwise could be spread over other projects to benefit needy areas, the constraints in cement and coal oblige the planners to relegate the lining programmes to the low priorities—higher priorities being claimed by the main diversion or storage works, and other pucca works in the major and medium projects. Large scale lining programmes of irrigation system in Haryana and Punjab have been taken in hand recently with World Bank assistance. The Haryana programme involves an outlay of Rs. 100 crores, and is expected to save 1 maft of water. Punjab programme is similar in size and savings in water. In Maharashtra and U. P. (Bundel Khand area) large scale lining programmes are being taken up. It may also be stated that for all new projects lining is being insisted upon in the larger canals and even for smaller canals in those selected reaches where investigations indicate that seepage losses are likely to be heavy. Thus the suggestions of Committee to frame a phased programme is already in active consideration.

[Ministry of Agriculture & Irrigation (Department of Irrigation) O.M. No. 70/1/78-Coord., dated 20-11-78].

#### Recommendation Serial No. 59 (Para 4.20)

The Committee understand that inefficiency in canal operations also results in wastage of water through seepage. The seepage can be controlled if the canal operation are run for 24 hours. The Com-

mittee would like the authorities to so regulate the canal operations so as to minimise the seepage. The Committee suggest that the matter may be suitably pursued by the Centre with the authorities concerned.

### **Reply of Government**

It has been recognised that for the efficient use of water, it is essential to run the canal system in such a way that the channels run continuously for a particular period and during that period its waters are used all the 24 hours under a Warabandi system. Further, the cropping schedule for the various blocks in the command should be so drawn up that there is uniform demand for water along the canal system and also there is least possible requirement of water during the summer months when seepage losses are maximum in the canal and the field. The Model Irrigation Bill finalised in the Department of Irrigation and commanded to the State Governments for consideration covers these aspects also.

[Ministry of Agriculture & Irrigation (Deptt. of Irrigation)  
O.M. No. 70/176-Coord., dated 20-11-78]

### **Recommendation Serial No. 60 (Para 4.28)**

It is well-known that water-logging is harmful to the crops as it decreases response to the inputs and restricts cropping pattern, besides causing salinity. Provision of drainage is therefore, very important and is inseparable from irrigation. Proper drainage not only increase crop yield but also provides better cropping system and results in better utilisation of soil and water resources.

### **Reply of Government**

• As a part of the technical examination of irrigation projects in the C.W.C. adequate provision for drainage of Command Area is insisted upon; implementation, however, rests with the State Governments.

[Ministry of Agriculture & Irrigation (Deptt. of Irrigation)  
O. M. No. 70/176-Coord., dated 20-11-78]

### **Recommendation Serial No. 61 (Para 4.29)**

The Committee are distressed to learn that upto the Fourth Plan, the provision of drainage was not attended to while framing the project estimates. Field drains are practically non-existent in the command or irrigation projects and intermediate and main drains are not properly maintained in majority of the projects. The Expert

Committee set up by the Ministry of Agriculture and Irrigation in 1974 have in their Report (1976) indicated that surface irrigation without proper and/or adequate ground water development has resulted in an alarming rise in ground water table in some parts of the country, creating problems of water logging thereby affecting crop growth adversely and rendering large areas less productive. The Committee have been informed that in the recent years there has been increasing awareness of the importance of drainage in new irrigation schemes. It has been laid down that in all new irrigation schemes there must be adequate provision for drainage. Necessary guidelines have been issued by the Central Water Commission laying emphasis on drainage and anti-water logging aspects for the investigation of irrigation projects. Improvement of drainage would also form integrated part of the modernisation schemes. The Committee are constrained to observe that the awareness about the need for an adequate system of drainage has come rather too late. The Committee feel that the problem of drainage and water logging should have been foreseen at the time of preparation of project reports in respect of the earlier plan schemes and adequate provision made therein. The Committee trust that in the new schemes approved for inclusion in the Plans, drainage system has been adequately planned for.

### **Reply of Government**

While examining irrigation projects in the Central Water Commission, besides provision of drainage in the irrigation command, possibilities in respect of the conjunctive use of surface and ground water are also examined. A model irrigation bill was finalised by the Department of Irrigation in 1976 and circulated to all State Governments for being enacted in replacement of existing Irrigation Acts. The provision of drainage as an essential element of irrigation development is embodied in this bill.

[Ministry of Agriculture & Irrigation (Deptt. of Irrigation)  
O.M. No. 70/1/76-Coord., dated 20-11-78]

### **Recommendation Serial No. 62 (Para 4.30)**

In view of the fact that the importance of drainage has been admittedly over-looked till the formulation of the irrigation project schemes in the Fifth Plan, the Committee desire that institutional arrangements should be made to see that this lapse does not occur again.

### Reply of Government

The Planning Commission have issued instructions that no major or medium irrigation projects should be sanctioned in future unless it contains adequate provision for the development of command including drainage.

In order to correct the situation in existing irrigation projects, emphasis is being laid on modernisation of such projects including provision for adequate drainage. The Command area development programme, which has taken up 60 selected projects where utilisation of the potential created has been particularly lagging behind, aims at undertaking a complete package of activities including drainage that are called for expeditious and efficient utilisation of the irrigation potential created.

[Ministry of Agriculture & Irrigation (Deptt. of Irrigation)  
O.M. No. 70/1/76 Coord., dated 20-11-78]

#### Recommendation Serial No. 63 (Para 4.31)

The Committee have been informed that no survey has been made about the extent of loss/wastage of water in different irrigation projects and the areas suffering from water logging in their commands. However, according to the review made by the National Commission on Agriculture, the projects where considerable loss/wastage of water have been found are those of lower Bhawani Project (Tamil Nadu), Ahatranji Project (Gujarat), Ghod Project (Maharashtra) and Harsi Project (Madhya Pradesh). Some of the other irrigation projects where drainage problems have been acute are Tungabhadra Nira Canals, Hiraakud, Lower Ganga Canal, Kosi Gandak, Mahakadana, Chambal and Godawari deltas. The World Bank has anticipated acute drainage problem in Sharda Sahayak Project if remedial measures are not urgently taken.

### Reply of Government

Noted.

[Ministry of Agriculture & Irrigation (Deptt. of Irrigation)  
O.M. No. 70/1/76 Coord., dated 20-11-78]

#### Recommendation Serial No. 64 (Para 4.32)

The Committee are alarmed at the problem of drainage existing in a number of important projects. The situation would not have



arisen if adequate attention had been paid to the problem of drainage in earlier plans. The Committee desire that the State Governments should formulate schemes for improvement of drainage system and priority should be given to those projects where the drainage problem is very acute. In regard to Sharda Sahayak Project, it is imperative that timely action is taken to remedy the acute drainage problem anticipated by the World Bank. The Committee emphasise that the irrigation potential created at heavy investments should not result in good cultivated land in command areas being rendered unfit for cultivation because of bad drainage and water logging conditions. They would like that an indepth survey of the irrigation water logging in their command areas be made and remedial measures taken according to a time bound programme.

### **Reply of Government**

It is recognised that there is considerable wastage of water in the existing irrigation systems which often causes problems of water-logging and drainage congestion. Besides the heavy seepage through the irrigation channels and water courses and field channels which are mostly unlined, there is considerable wastage in the fields thus causing rise of ground water table. Further the drainage system in the irrigation commands is also very often quite inadequate to enable quick drainage of the monsoon rains and waters wasted during irrigation thus causing drainage congestion. The present status of water management including water distribution leaves much to be desired. There is, therefore, considerable scope for increasing the benefits through better regulation and preventing wastage as also more equitable and efficient water distribution. The programme of modernisation of the irrigation systems which includes lining of the canal systems on selective basis in high filling and porous reaches for minimising seepage, adequate provision for drainage in the irrigation commands and the emphasis given to the conjunctive use of ground and surface waters for providing additional irrigation during non-monsoon months and also exercising control over undue rise of ground water table, are important steps in this direction. The Medium-Term Plan 1978—83 envisages substantial outlays for these programmes with a proposed outlay of Rs. 410 crores for modernisation and Rs. 165 crores for the conjunctive use of ground and surface waters besides the provision in individual new projects for drainage. Considerable provision has been made in important irrigation projects like Kosi, Gandak & Sarda Sahayak for surface drainage while the question of conjunctive use of surface and ground waters on these projects is under active consideration of the State Govern-

ments. It is anticipated that with those measures there would be considerable improvement during the Medium-Term Plan 1978—83.

[Ministry of Agriculture & Irrigation (Deptt. of Irrigation)  
O.M. No. 70|1|78-Coord, dated 1-2-79]

### Comments of the Committee

The Department of Irrigation should keep a close watch over the programme of modernisation of irrigation system which includes lining of the canal system and the conjunctive use of ground and surface waters.

### Recommendation Serial No. 65 (Para 4.44)

The Committee note that studies made of some reservoirs have revealed that the actual rate of siltation in most of them has exceeded the original estimates and in some cases even by more than twice. For instance, the Committee understand that Nizamsagar Dam has silted to the extent of 45 per cent. The magnitude of the problem is so much that there is a thinking of building another reservoir to make up the shortage. According to the Department of Irrigation, hardly anything can be done about the silt deposited in the existing reservoirs. The future siltation can be reduced by adopting soil conservation measures in the catchment areas of the reservoirs. The State Governments are adopting some soil conservation measures in this regard and the Central Government has also sponsored some schemes for this purpose. The Irrigation Commission (1972) had recommended that soil conservation measures in all major projects should be completed in the next 20 years. The Committee note that attention to soil conservation measures is being paid from Third Plan onward. During the Third, Fourth and Fifth Plans, 30 River Valley Projects in all, have been selected for treatment under the centrally sponsored scheme of soil conservation in their catchment areas. The Committee are, however, distressed over the tardy progress made in implementation of the Central Sector Scheme. The total area requiring treatment in these catchments is about 79 million ha. of which 10 million ha. of the area is estimated to be critically eroding and needing treatment on a higher priority basis. Beginning from the Third Plan period till the end of 1975-76, only an area of 1.14 million ha. has been actually treated at a total expenditure of Rs. 50.75 crores under the Central Sector Scheme. According to the Department at this rate the remaining area of 8.96 million ha. could be covered in a period of 110 years at an estimated cost of Rs. 1,330 crores, while the Fifth Plan provision for this purpose is Rs. 32.46 crores. The Committee note that under the State

**Sector Schemes** an area of 18.71 million ha has also been treated up to 1975-76. In view of the enormity of the problem and the slow progress made in this regard so far, the committee suggest that an integrated and realistic programme for treatment of catchment of the various river valley projects to be implemented under the Central Sector and State Sector Schemes should be prepared on a long term basis. Priority may be given to the treatment of catchments of these reservoirs where the rate of siltation is very high.

### Reply of Government

The Central Water Commission is associated with the Centrally sponsored programme of soil conservation measures in the river valley catchment. Suggestions regarding the river valley projects which have to be included in the Centrally sponsored programmes are made by the Central Water Commission. These centrally sponsored programmes of soil conservation in the river valley projects are oriented on a small watershed basis for providing saturation treatment in accordance with the time bound schedule in all types of land irrespective of their land use, ownership and tenure. Priority areas have been identified in the 30 river valley projects which have been taken up under this programme. The package of soil conservation practices has been chosen for each water shed according to the land capability. The selection of the projects under this programme is primarily based on the consideration of sedimentation hazards. The Central Water Commission which is associated with the programme has always stressed the need for making adequate provisions in the plans for the speedy completion of the measure envisaged for the river valley catchments. However, the implementation of the programme has been restricted to the availability of the funds.

With a view to accelerate the measures in the River Valley Projects under the Centrally sponsored programme, the working group on soil conservation with which the Central Water Commission is also associated has recommended an outlay of Rs. 100 crores during the VI Plan. However, it is understood that the provision tentatively agreed to by the Planning Commission is Rs. 67 crores only, which will be adequate to cover about 5 lakhs hectares during the VI Plan.

In this connection the Secretary, Department of Irrigation has written to the Secretary, Department of Agriculture stressing the need for accelerating the soil conservation programme during the VI Five Year Plan. A multi disciplinary team of experts covering soil conservation, afforestation, land management engineering works etc. have been constituted to formulate an action plan which would

ensure substantive benefits of flood control and related fields within a period of 5 to 7 years. The Committee has given action plan. The recommendation of this Committee are before the Planning Commission.

A high level experts Committee has also been constituted under the Chairmanship of Member (Water Resources), Central Water Commission to recommend revised norms for silt storage provision in river valley storage projects, sediment control measures etc.

[Ministry of Agriculture & Irrigation (Deptt. of Irrigation)  
'O.M. No. 70|178-Coord, dated 1-2-79]

### **Recommendation Serial No. 65 (Para 4.45)**

The Committee have been informed that the present norms of siltation are inadequate and a proposal for constitution of a special Committee to review the norms of siltation in the country is under consideration of the Department of Irrigation. The Committee are greatly concerned at the enormity of siltation problem faced by major and medium dams/reservoirs. They need hardly point out that the rate of siltation and the measures to keep it within safe level should have been an integral part of preparing the detailed project schemes and should have received most critical scrutiny before the sanction was accorded. Had these pre-requisites been complied within the letter and spirit, the Committee feel that the present predicament about silting up of a number of reservoirs thus reducing their useful capacity and life would not have arisen in the present acute form. The Committee would like that the study team proposed to review the norms for siltation of dams and reservoirs may be constituted without further delay and they should be asked to review in depth the adequacy or otherwise of decision followed in the light of field experience as also the practice obtaining in other advanced countries so as to ensure that proper norms are laid down at least now in this behalf and strictly observed.

### **Reply of Government**

The Department of Irrigation has already set up a high power Committee on sedimentation of reservoirs under the Chairmanship of Member (WR), Central Water Commission. Various concerned Departments as well as State Governments have been represented on this Committee. The Committee is expected to review and update the norms of sedimentation.

The sedimentation of reservoirs and the consequent slow decrease in the benefits from reservoirs is an inevitable process, and this has been receiving attention all over the world. At present the International Commission of Large Dams (ICLD) is also studying the problem. While the Soil Conservation measures would undoubtedly help in reduction of sedimentation load, these will not eliminate the problem.

In the early years after Independence a number of large river valley projects such as Bhakra DVC, Hirakud, Chambal etc. were taken up. While planning these storages project the guidelines about likely sedimentation of reservoirs as based upon the data and technology available at that time were used. After the commissioning of these projects systematic surveys of sedimentation of reservoirs have been taken up. Also the hydrological network including the network of sediment observation sites in the country has been strengthened.

The reservoirs being planned now take into account the observed rates of sedimentation in the surveyed reservoirs as also the observed sediment data at the sediment measuring sites on the river systems. In evaluating the probable sedimentation rates, the regional variations due to topography, geology, land use etc. are also considered.

Thus the norms regarding sedimentation are progressively under revision and may be further revised and standardised on the basis of the recommendations of the Committee on Sedimentation.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

#### **Recommendation Serial No. 66 (Para 4.46)**

The Committee find that in so far as the siltation of canals is concerned, no systematic study on a national basis has been made. But the common experience is that practically all the canals do get silted up and have to be desilted. These problems are tackled by the project authorities which are under the control of State Governments. The Committee note that the Central Water Commission who are expected to render expert technical assistance to the State Government, have not laid down any guidelines regarding the proper maintenance of irrigation works. The Commission has stated that it has no experience about the maintenance of canal systems. The Committee suggest that the Commission may review the problem in consultation with the States and for this purpose either an expert Committee may be constituted or a seminar etc. held with a view

to evolve guidelines to reduce the incidence of siltage in the canals and evolve efficient measures for maintenance of the canal system in the interest of putting the water resources to best use.

### .. Reply of Government

The siltation of canals has been the subject of continuing study by the Central Board of Irrigation and Power and Universities for several years. The factors which cause silting depend upon diverse reasons such as precipitation, vegetal cover, the lay of the land, the design and operation of diversion works, the nature of water demand Kharif or Rabi etc. Symposia were held in the past on correct selection of location of diversion works on silt carrying rivers. The Central Board of Irrigation and Power has published these, and these form guidelines to the States. The bigger canals, Upper Ganga Canal, Tribeni Canal, UBD do not silt, and are now in regime. Smaller canals do silt. The siltation problem has also been studied for various parts of India, and the Formulae for design of regime canals have been revised. A special committee of ISI is presently seized with the maintenance codes for canals, in which experts of the State and Central Government are represented. As suggested by the Committee, Government also intend to organize a seminar on Maintenance of Canals under the aegis of the Central Board of Irrigation and Power.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### Recommendation Serial No. (Para 5.11)

The Committee note that the utilisation of created irrigation potential which was 9.16 per cent at the end of the Third Plan and 92.5 per cent at the end of the annual plans (1966—69), came down to 90.7 per cent at the end of the 4th Plan to 88.6 per cent at the end of the 1976-77. The Committee note that the problem of under-utilisation of created irrigation potential was discussed at the Conference of State Ministers of Irrigation and Power in 1972 and as a result of the recommendations of that Conference, a Committee of Ministers was appointed in that year to look into this matter. The Committee identified various reasons for this under-utilisation which included delay in construction of field channels, inadequate drainage facilities, inadequate preparation of land, lack of consolidation of land holdings etc. and suggested, *inter alia*, the adoption of the concept of integrated development of command area. The Committee further note

that the Planning Commission in March, 1974 issued instructions to the State Governments to include command area development works as a part of the overall project and furnish project reports for new schemes submitted after March, 1975 on the basis of the revised format so as to ensure utilisation of irrigation potential almost as soon as it created.

### **Reply of Government**

Noted.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### **Recommendation Serial No. 68 (Para 5.12)**

The Committee note that several training projects have been undertaken to train officials and technicians at all levels in the programme of command area development. Guidelines on the different aspects of the common area development programme, particularly on estimating water requirements of crops, drainage, soil surveys, land development etc. have also been issued. With a view to ensuring full utilisation of the irrigation potential created, Government should keep a close watch over the implementation of the guidelines by the State Governments and monitor the progress made in utilisation.

### **Reply of Government**

The Department of Agriculture is closely following the implementation of the guidelines issued on various aspects relating to surveys, planning and preparation of projects for C.A.D. and in their execution. Project reports are scrutinised by the technical officers of the Department to see that they conform to the guidelines issued. Similarly Quarterly and Annual Progress Reports are obtained to monitor the progress. They are scrutinised by the officers to see that the guidelines are followed. The project implementation is reviewed in the field by technical officers of the Department and special Teams set up by the Department and necessary suggestion given whenever necessary to follow the guidelines.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### Recommendation Serial No. 69 (Para 5.13)

It is well known that utilisation of irrigation facilities results in increased production of foodgrains and other crops. The Committee cannot but stress too strongly the importance of optimum utilisation of the created irrigation potential on which heavy investments have been made. The Committee are distressed to note that at the end of 1976-77 there was a vast gap of 2.7 million hectares in the utilisation compared to the created irrigation potential. The committee would like Government to take determined measures to ensure simultaneous execution of command area development works so that the irrigation potential created is utilised immediately. The Committee would like that a close watch should be kept on the utilisation of irrigation potential in respect of all irrigation projects and remedial measures taken expeditiously to avoid any bottlenecks in the utilisation of irrigation facilities.

### Reply of Government

Close watch is now being kept on the utilisation of irrigation potential in respect of all irrigation projects. In the case of new irrigation projects, it is being insisted upon that provision for command area development may be made within the project itself, when it is originally formulated. In order to speed up utilisation of irrigation potential on the existing irrigation projects, command area development programme has already been taken up on 60 selected projects where utilisation of the potential created has been particularly lagging behind. The Command Area Development Programme taken up aims at undertaking a complete package of activities that are called for expeditious and efficient utilisation of the irrigation potential created.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### Recommendation Serial No. 70 (Para 5:20)

The Committee note that the non-provision of field channels constitutes the main cause for the lag in the utilisation of irrigation potential. This is *inter alia*, attributed to lack of spirit of cooperation among the cultivators and lack of funds particularly with small farmers. The Committee of State Ministers of Irrigation recommended that adequate provisions should be made in the existing



state laws to empower irrigation departments to take up field channel works on behalf of the cultivators. The Committee were informed that to expedite the construction of field channels, most of the State Governments have enacted suitable laws. The draft model Irrigation Bill which has been commended to the State Governments, by the Department of Irrigation also makes suitable provision in this regard. The Committee desire that this matter should be pursued vigorously with the State Governments concerned to ensure that adequate provision in this regard is made by all of them.

### **Reply of Government**

The Department of Agriculture is pursuing with the State Governments the matter regarding expeditious construction of field channels in order to step up the utilisation of the irrigation potential created. The State who have not enacted laws for construction of field channels are being persuaded to enact suitable legislation to take up construction of field channels on compulsory basis. Central assistance in the form of loans is being made available to the States for construction of field channels under the Command Area Development Programme.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### **Recommendation Serial No. 71 (Para 5.21)**

The Committee learn that under the Command Area Development Programme, the work of construction of field channel is done at the cost of farmers, by arranging loans from institutional sources. This work is however in the initial stages and is likely to catch up as the flow of institutional funds gets streamlined. The Government of India has also been giving loans to the States for accelerating the construction of field channels. The Committee need hardly emphasise the importance of field channels in ensuring accelerated utilisation of irrigation potential. The Committee urge that concerted efforts should be made to streamline and remove bottlenecks in the flow of institutional credit for the construction of field channels so that there is no lag in the utilisation of created irrigation potential.

### **Reply of Government**

Under the Command Area Development Programme, construction of field channels are undertaken as a part of on-farm development works financed by loans from financial institutions. All efforts are being made to streamline the flow of institutional credit. The proforma for the loan application has been simplified. A Special

Loan Accounts has been created with the Agricultural Refinance and Development Corporation (A.R.D.C.) for advancing loans to farmers who are not eligible for institutional credit. Other steps, including organising drive for improving recovery position, improving the lending eligibility of the banks and advancing interim finance by A.R.D.C. to executing agencies, have also been taken to step up the flow of institutional credit for construction of field channels and on-farm development works so as to reduce the time lag between the creation of irrigation potential and its utilisation.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### Recommendation Serial No. 72 (Para 5.22)

The Committee find that a number of important projects in the State of Andhra Pradesh, Assam, Bihar, Gujarat, Maharashtra and Uttar Pradesh are lagging behind in the construction of field channels. The Committee desire that necessary steps should be taken to expedite the construction of field channels in these projects and the Committee informed of the development effect as a result thereof.

### Reply of Government

For expediting construction of field channels various steps have been taken including advancing loans to the State Governments, simplifying the procedure for the flow of institutional credit, arranging aerial photography to speed up the process of survey and planning, etc. under the Command Area Development Programme. As a result of the various steps taken, the progress achieved in the construction of field channels in the States of Andhra Pradesh, Assam, Bihar, Gujarat, Maharashtra and Uttar Pradesh upto March, 1976 and June, 1978 as compared to the ultimate potential is given in the table below:

| Project and State                  | Ultimate Potential | Progress achieved upto |               |
|------------------------------------|--------------------|------------------------|---------------|
|                                    |                    | March, 1976            | June, 1978    |
| 1                                  | 2                  | 3                      | 4             |
| (In 1000 hectares)                 |                    |                        |               |
| <b>ANDHRA PRADESH</b>              |                    |                        |               |
| 1. Nagarjunasagar Left Bank Canal  | 831.87             |                        | 11.70<br>7.02 |
| 2. Nagarjunasagar Right Bank Canal |                    |                        |               |
| 3. Poohampad                       | 230.67             | 47.66                  | 51.81         |
| 4. Tungabhadra                     | 153.98             | ..                     | 1.38          |
| <b>TOTAL</b>                       | <b>1216.52</b>     | <b>47.66</b>           | <b>71.91</b>  |

|                                   | 1 | 2 | 3       | 4             |
|-----------------------------------|---|---|---------|---------------|
| <b>ASSAM</b>                      |   |   |         |               |
| 1 Irrigation Scheme . . . . .     |   |   | 33.00   | .. 2.41       |
| <b>BIHAR</b>                      |   |   |         |               |
| 1 Gandak . . . . .                |   |   | 1131.00 | .. 0.16       |
| 2 K iul, Badua. Chandan . . . . . |   |   | 131.18  | .. 0.31       |
| 3 Kosi . . . . .                  |   |   | 434.00  | 0.18 0.78     |
| 4 Sone . . . . .                  |   |   | 285.40  | 0.07 0.54     |
|                                   |   |   |         |               |
| TOTAL . . . . .                   |   |   | 1981.58 | 0.25 1.79     |
| <b>GUJARAT</b>                    |   |   |         |               |
| 1 Mahi Kadana . . . . .           |   |   | 274.79  | 87.32 116.2   |
| 2 Shetrunji . . . . .             |   |   | 42.53   | 6.11 11.61    |
| 3 Ukai Kakrapar . . . . .         |   |   | 381.00  | 159.78 208.02 |
|                                   |   |   |         |               |
| TOTAL . . . . .                   |   |   | 697.32  | 253.21 335.84 |
| <b>MAHARASHTRA</b>                |   |   |         |               |
| 1 Bagh . . . . .                  |   |   | 33.67   | 13.49 19.82   |
| 2 Itiadoh . . . . .               |   |   | 40.08   | 12.66 16.22   |
| 3 Bhima . . . . .                 |   |   | 173.89  | 4.37 8.91     |
| 4 Ghod . . . . .                  |   |   | 24.60   | 29.37 30.33   |
| 5 Purna . . . . .                 |   |   | 61.51   | 62.24 63.93   |
| 6 Jayakwadi . . . . .             |   |   | 141.61  | 35.19 70.10   |
| 7 Girna . . . . .                 |   |   | 57.21   | 76.53 77.69   |
| 8 Uppertapi . . . . .             |   |   | 55.23   | .. 0.10       |
|                                   |   |   |         |               |
| 9 Krishna . . . . .               |   |   | 106.13  | .. 9.59       |
|                                   |   |   |         |               |
| TOTAL . . . . .                   |   |   | 699.93  | 233.85 296.69 |

| 1                          | 2              | 3             | 4             |
|----------------------------|----------------|---------------|---------------|
| <b>UTTAR PRADESH</b>       |                |               |               |
| 1 Ranganga . . . . .       | 575.48         | 112.00        | 207.06        |
| 2 Sharda Sahayak . . . . . | 1728.00        | 40.32         | 241.95        |
| 3 Gandak . . . . .         | 308.37         | 94.33         | 136.01        |
| <b>TOTAL . . . . .</b>     | <b>2611.85</b> | <b>246.65</b> | <b>585.02</b> |

[Ministry of Agrl. and Irrigation (Deptt. of Irrigation) O.M. No. 70/1/78-Coord. dated 20-11-78]

### Recommendation Serial No. 79 (Para 5.44)

The Committee are distressed to note that in the case of the Gandak Project, out of total potential of 731 thousand hectares created up to March, 1976, the actual utilisation at the end of March, 1977 was 400 thousand hectares. The lag in utilisation was 331 thousand hectares (45.3 per cent) even after a lapse of one year. Out of the two beneficiary States of Bihar and U.P., the position of utilisation was much worse in Bihar. In both the States, the lag in utilisation has been attributed to lack of adequate drainage and field channels. The Committee note that Command Area Development Authorities have been set up in both the States for integrated development of Command Area. Additional allocations are being provided for construction of field channels and drainage schemes are being expedited. The Committee would like to stress that a concerted drive should be undertaken for the construction of field channels, execution of drainage schemes and development of Command Area, particularly in the State of Bihar where the lag in utilisation of potential is very large.

### Reply of Government

The problem of under utilisation of irrigation potential on the Gandak Project in Bihar has been brought to the notice of the Bihar Government during discussions with State Officers in the meeting of Nepal benefit works of Kosi & Gandak Projects. Stress has been laid on completion of the remaining works of Gandak Project, including the construction of the drainage net works during the current Medium Term Plan. As regards field channels, the Command Area Development Authority of the Project is taking necessary

steps. This was also stressed in the Ministers' Conference on Minor Irrigation and Command Area Development held in September, 1978.

In a tropical country like India, which receives most of its annual rainfall within a few months of the monsoon season, the rivers are in high floods in these months and carry considerable amount of silt. The quantum of silt is much more in case of rivers coming down the Himalayas which have very steep slopes and narrow valleys. Moreover, the Himalayas have very poor rocks criss-crossed with innumerable faults and folds and are also seismically very active.

The need for preventing the entry of bed load and also most of the suspended silt load into the canal systems has been recognised. The silt entry in the canals is controlled by proper design of barrages and head regulators and construction of special devices, like silt ejector and excluders. Provision of suitable sectional profiles and bed slopes to the canals enable them to carry the silt entering the system to the fields.

The suggestions of the Committee for issue of guidelines by the Central Water Commission will be acted upon.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

#### Recommendation Serial No. 80 (Para 5.50)

The Committee note that according to the original project the distribution system of the Rajasthan Canal was to be constructed unlined. Subsequently, it was decided to line the distribution system and thereby increase the scope of the project by having an irrigation intensity of 110 per cent as against 75 per cent in the original project. The distribution system up to Mile 48 of the Canal which has actually been constructed unlined, has been taken up for lining. Although the lining has not been completed, the project authorities have been reporting the potential created on the basis of the intensity as envisaged in the revised project. On the basis of the actual carrying capacity of the canals the real lag between the potential created upto the end of March, 1975 (328000 ha.) and utilisation upto March, 1976 (288000 ha.) was stated to be 40 thousand hectares (12.2 per cent). It has been stated that there is likely to be delay in utilisation of full potential created in this project due to extension of canal system to desert areas which have relatively very small population.

For speeding up the development of the Command Area, a colonisation Department has been set up which is entrusted with the job of land allotment. The Committee are, however concerned to find that while the created irrigation potential increased to 393,000 ha. upto the end of the March 1976, the utilisation continued to be 288,000 ha. upto March, 1977, the lag having increased to 105,000 ha. (26.7 per cent). The Committee desire that serious attention should be paid to improve the utilisation of the potential created.

### Recommendation Serial No. 82 (Para 5.52)

The Committee note that a loan of 83 million dollars has been sanctioned from the World Bank for the development of the Command Area. The Committee desire that greater attention should be given to the colonisation scheme and the development of the Command area so that the potential created is fully utilised within a minimum time lag.

### Reply of Government

Agreement was signed with I.D.A. for a loan of \$ 83 million for development of 2 lakh ha. area of Rajasthan Canal Stage-I. The Central Government (Department of Agriculture) are in constant touch with the State Government in regard to progress and problems relating to colonisation and the development of the command area with a view to ensuring full utilisation of the irrigation potential created within a minimum time lag.

Out of total cultivable command area of 13.4 lakh acres (5.4 lakh ha.) record for 12.08 lakh acres for allotment of land has been prepared by the State Colonisation Department, and out of this the position in regard to 10.76 lakh acres is as follows:

|  |                      |
|--|----------------------|
| (a) Land allotted to landless upto June 1978 | 9.31 lakh acres      |
| (b) Land with old Khatedars                  | 1.03 lakh ,,         |
| (c) Land under abadies and nurseries         | 0.42 lakh ,,         |
| <b>TOTAL</b>                                 | <b>10.76 lakh ,,</b> |

An area of 1.0 lakh acres is not available for allotment due to various restrictions. The remaining area is in the process of allotment.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78.]

### **Recommendation Serial No. 81 (Para 5.51)**

The Committee are constrained to observe that originally the distribution system of this project was to be constructed unlined with a lower capacity. With lining the capacity has been increased from 75 per cent to 110 per cent that is an increase of 35 per cent. The Committee are unable to appreciate why this aspect was not taken care of at the planning stage of the project which is in the desert area. They would like that the lining of the distribution system which has already been constructed unlined should be expedited, particularly in vulnerable reaches.

#### **Reply of Government**

Progress on the work of lining the unlined distributary system is governed by the physical constraint of the short closure periods available in operating system. The work is now in an advanced stage, and is likely to be completed by March, 1980.

[Ministry of Agriculture and Irrigation (Deppt. of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

#### **Comments of the Committee**

The Committee hope that concerted efforts would be made to complete the work by March 1980 as contemplated.

### **Recommendation Serial No. 83 (Para 5.55)**

The Committee note that considerable under-utilisation of the irrigation potential continues in Tungabhadra H. & L. Level Canals. The lag between potential created by March, 1976 and utilisation achieved by March, 1977 was 71 thousand hectares (15.8 per cent). With a view to improving utilisation of irrigation potential, a scheme for strengthening and raising the canal embankments has been taken up for execution. The Committee have been informed that the recommendations of the Central Team which reviewed the project in September, 1975 are also under consideration of the State Government. The Committee hope that necessary follow up action will be taken on the recommendations of the Central Team with a view to effect improvements in the project and maximise the utilisation of the potential.

#### **Reply of Government**

The potential created by March, 1977 was 434 th. ha. while the utilisation at the end of March, 1978 was 384 th. ha. Thus the lag has been reduced to 50 th. ha. (11.5 per cent). The question of follow-up action to be taken by the State Governments on recommendations of the Central Team is being pursued. For formation

of a detailed modernisation scheme for the Left Bank Low Level Canal, a special Team has been constituted by Government of India and preliminary work for collection of required data started.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### **Recommendation Serial No. 83 (Para 5.56)**

In paragraph 4.11 of this report it has been mentioned that this project is one of 15 projects selected for modernisation during Fifth Plan, and the State Government has been asked to prepare the project report on a priority basis. The Committee have been informed that a project for lining of distribution system in the vulnerable reaches as well as for drainage is under preparation. The Committee urge that the preparation of project report for improvement and modernisation would be expedited and implementation undertaken at the earliest.

### **Reply of Government**

The project report on modernisation of Tungabhadra High Level Canals system has been received in the Central Water Commission and is under examination in consultation with the project Authorities.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### **Comments of the Committee**

The Committee desire that examination of the project report should be expedited and implementation undertaken at the earliest.

### **Recommendation Serial No. 84 (Para 5.70)**

The Committee note that the lack of field channels is the main reason in under utilisation of irrigation potential in Kakrapar, Ukai, Mahi Stage-I, Chambal, Sone and Ramganga projects. Command Area Development Authorities have been set up in these projects. The Committee desire that the work relating to the construction of field channels should be given priority. It should be ensured that necessary fund are to be made available for the purpose of construction of field channels and other on-farm development works.

### **Reply of Government**

The construction of field channels and O.F.D. works are given high priority under the Command Area Development Programme



undertaken in the projects of Ukai-Kakrapar, Mahi-Kadana, Chambal, Sone and Ramganga. In addition to construction of field channels and O.F.D. works in these projects with institutional finance, the Centre has advanced loan amounts to the State Governments for construction of field channels as indicated in the table below:—

(Rs. in lakhs)

| Sl. No. | Name of the State | 1975-76<br>(Loan amount released) | 1976-77 | 1977-78 | Total  |
|---------|-------------------|-----------------------------------|---------|---------|--------|
| 1       | Bihar             | ..                                | 50.00   |         | 50.00  |
| 2       | Gujarat           | 125.17                            | 82.33   | 120.00  | 327.50 |
| 3       | Madhya Pradesh    | 20.00                             | 35.00   | ..      | 55.00  |
| 4       | Rajasthan         |                                   | 50.00   | 25.00   | 75.00  |
| 5       | Uttar Pradesh     | 75.00                             | 143.00  | 260.00  | 478.00 |
|         | TOTAL             | 220.17                            | 360.33  | 405.00  | 985.50 |

[Ministry of Agriculture & Irrigation (Deptt. of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### Recommendation Serial No. 85 (Para 5.71)

The Committee find that in some projects like Kakrapar, Ukai and Mahi-Stage-I the under-utilisation of irrigation potential created is also due to the fact that under the existing cropping pattern, the demand of water by cultivators is low particularly during the monsoon. The Committee consider that these aspects should be taken care of at the time of preparation of the projects and advance preparations should be made to educate the farmers to take a new cropping pattern which would increase the yield and the income. The Committee desire that the cropping pattern in the areas of these and other such projects should be carefully evolved and necessary steps taken to encourage the cultivators to adopt improved variety of crops in order to ensure fuller utilisation of irrigation potential and greater benefit to the farmers through increase in yields. The Committee suggest that cropping pattern and the irrigation water requirements in the Command Areas of the various projects should be kept under constant review in view of rapid development in the new varieties of crops.

### Reply of Government

Under the Command Area Development Programme the States have been requested to review the existing cropping pattern and to evolve suitable cropping patterns consistent with the soil, agro-climatic conditions and water available keeping in view the needs of the farmers. The States have set up expert committees for recommending the cropping pattern to be followed in the commands and efforts are made to accept the recommendations of the committees. Besides, in order to encourage the cultivators to adopt improved variety of crops to ensure fuller utilisation of the irrigation potential and greater benefits to the farmers through increase in the yields the States have been requested to introduce the new intensive agricultural extension pattern called the T & V System. Besides, special inter-departmental teams have been set up by the Department of Agriculture to review the C.A.D. Programme including the cropping pattern and to make recommendations for optimising production in the irrigated areas.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78.]

#### Recommendation Serial No. 86 (Para 5.88)

The Committee note that a modest beginning was made during the Fourth Five Year Plan in respect of Command Area Development Programme. Central assistance was provided to the States in the form of infrastructure items like construction of Ayacut roads and market complex in the command area of 19 irrigation projects in the country. The cost of works sanctioned was Rs. 29.29 crores but due to constraints of resources and curtailment of budget provision a sum of Rs. 14.78 crores only was released to the States till the end of the Plan. With regard to the Land Development Programme it was contemplated that the State would provide necessary services and inputs and the Cooperative Sector could be brought in to get credit facilities for farmers but the participation of the States did not come up to expectations. The Committee are concerned to note that while some progress was made in the construction programme of roads and markets with Central assistance, the State Governments did not make the expected headway in their implementation of the land development programme as a whole. As a result of review, it was decided that the roads and market programmes should not be proceeded with and higher priority should be given to construction of field channels and on-farm development works. The Committee regret to observe that the Command Area

Development programme for the Fourth Plan was neither well conceived nor properly implemented in the field.

### **Reply of Government**

At the time of formulation of the Fourth Plan, it was recognised that integrated development of command areas of selected irrigation projects should be taken up. A package of items were to be covered for this purpose and it was visualised that these would be shared between the States and the Centre. The Centre agreed to finance the construction of rural roads and regulated markets and the rest were to be implemented by the State Governments.

At the time of formulation of the Fifth Plan it was realised that not much had been done by the States in respect of the items to be covered by them and the integrated development conceived earlier was still to be achieved. Accordingly it was decided that road and regulated markets would be taken care of by the States and the cost of implementing other items would be shared between the Centre and the States.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### **Recommendation Serial No. 87 (Para 5.89)**

The programme of work for the Fifth Plan covers survey, design and preparation of plans for on-farm development which include construction of field channels, field drainage, land levelling and land shaping, strengthening of existing extension services, improvement of irrigation systems, strengthening of communications, scientific crop planning etc. Fifty one irrigation commands in 16 States having ultimate irrigation potential of about 13 million hectares have been identified for integrated Command Area Development. A provision of Rs. 120 crores has been made in the Central sector, and Rs. 96.63 crores in the State sector. An investment of Rs. 210 crores is envisaged from institutional sources for giving loans to the farmers for on-farm development works. The Committee however find that progress of implementation of the programme continues to be tardy. Out of 51 only 36 Command Area Development authorities have been set up. The question of setting up Command Area Development authorities is still under correspondence with some States like Tamil Nadu and Kerala. Whatever be the decision about the Constitution of the authority, the Committee stress that integrated development of Command Areas should not be allowed to

suffer. The work should be progressed to achieve the physical targets in the Fifth Plan. During the First two years of the Fifth Plan an amount of Rs. 26 crores was released by the Centre to the States which include Rs. 11.6 crores for spill over works of the Fourth Plan. There were serious shortfalls in achievement of targets in construction of field channels (shortfall 16 thousand hectare) field drainage (shortfall 4 thousand hectare) and land levelling and shaping (shortfall 87 thousand hectare). The Committee are not satisfied with the progress of establishment of Command Area Development Authorities, flow of funds and the achievements during first two years of the Fifth Plan. The Committee would like that the activities of the Command Area Organisations should be closely watched and monitored and any bottlenecks experienced in the smooth progress of work should be removed without delay. It is also important that the Central Committee on Acceleration of Irrigation Projects, Command Area Development and Coordination Committee set up by the State Governments are made effective in the speedy implementation of the programme. The Committee need hardly emphasise that integrated development of command area is necessary to achieve optimum utilisation of irrigation potential created and increased agricultural production. The Committee suggest that physical target in hectares and increased agricultural production should be fixed for each Command Area and achievements reviewed periodically.

### Reply of Government

The implementation of Command Area Development Programme is closely monitored by the Department of Agriculture by obtaining regularly quarterly and annual progress reports both physical and financial. The progress is reviewed periodically by convening regional meetings and also annually at the time of preparation of Annual Plans. Special inter-departmental teams have also been set up who conduct review of implementation of the programme in its totality.

The Central Coordination Committee with Member(S), Planning Commission as the Chairman and including Members from the Department of Irrigation, Indian Council of Agricultural Research and Department of Expenditure, review the project implementation periodically and gives guidelines on policy matters on a national level. The State Coordination Committee also meet periodically and

review the State programmes and sort out the local problems of financing and technical faced in implementation of the programme.

Physical targets in hectares have been drawn for 1978-79 and for the entire Five Year Plan period (1978—83) for on-farm development (construction of field channels, land levelling, field drains, etc.) and the progress closely monitored by the Department of Agriculture. Concerted efforts are also being made to fix project-wise targets for increased agricultural production. The performance against the target fixed would be actively monitored during the Sixth Plan.

[Ministry of Agriculture and Irrigation (Department of Irrigation O.M. No. 70/1/78-Coord., dated 20-11-78)]

#### **Recommendation Serial No. 88 (Para 5.90)**

The Department should ensure that the State authorities submit progress reports regularly and these are scrutinised carefully with a view to resolving difficulties and extending technical assistance for speedier implementation. Periodical visits should be paid to the main projects so that the problems affecting implementation of the programme are discussed and resolved with the Command Area Development Authorities in field.

#### **Reply of Government**

Quarterly and yearly progress reports are obtained regularly from the States. These are scrutinized by the officers of the Department of Agriculture and Technical and other problems are sorted out and necessary guidance provided in resolving them. The officers of the Department individually and in teams visit the Projects periodically and review the progress and discuss specific problems in the field with the CAD authorities with a view to undertaking remedial measures. The problems faced in implementation of the Projects are also discussed in the regional meetings for sorting out the problems. An All India Conference was also held recently when all the problems were discussed threadbare. The recommendations of the Conference would be pursued vigorously. Besides, technical bulletins are being issued on various aspects of CAD for general guidance in implementation of the CAD Programme.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78]

### Recommendation Serial No. 89 (Para 5.91)

During the Fifth Plan an investment of Rs. 210 crores is envisaged from the institutional source for giving loans to the farmers for on-farm development works. The procedure for arranging bank loans for on-farm development involving millions of farmers was stated to be lengthy and complex and had to stand in the way of quick progress in the implementation of the command area development programme. One of the difficulties has been that loans are not sanctioned to the farmers who do not have clear titles over the land against which development loans are applied for. The percentage of such ineligible farmers is stated to be quite high. The Committee are informed that a number of measures have since been taken to remove the difficulties of farmers in this respect. For giving loans to the farmers who are not eligible for ordinary bank loans, special loan account has been opened with the Agricultural Refinance Development Corporation (ARDC) to which the Government of India, State Governments and Agricultural Refinance Development Corporation would contribute in the ratio of 2:1:1. Besides the States and Command Area Authorities have taken up a special drive to make the land titles up-to-date thereby reducing the number of ineligibilities. Other measures taken include simplification of the procedure for obtaining bank loans, whereby only the farmer's signature is to be obtained on the loan application and requirement of attaching a photograph and his going to the banks has been obviated. In some States like U.P., Maharashtra the need for signing land Mortgage deed by individual farmers has also been dispensed with and the loan is treated as charge on the land revenue, if not paid in time. Steps have also been taken to reduce the time involved in clearance of individual credit schemes by ARDC. The Committee would like a close watch to be kept over the difficulties coming in the way of implementation of the Command Area Development Programme with particular reference to meeting the needs of the farmers and remedial measures taken without delay. They would like to judge the adequacy and efficacy of the measures already taken and that may henceforth be taken by the results achieved in the implementation of on-farm development works.

### Reply of Government

A close watch is being kept on the flow of funds from the institutional sources with a view to stepping up the progress of On-farm Development works. The States are being insisted upon to prepare

concrete year-wise credit plans for mobilisation of institutional investment. In addition to the measures already taken as indicated, the ARDC has since agreed to restrict the definition of ineligible farmers to will-full defaulters so that the percentage of ineligible farmers may be reduced. The ARDC has also agreed to provide interim finance for starting the work after the scheme has been technically approved and before individual application and consent forms are processed. The problems of credit have been discussed the readbare in a Conference on Command Area Development recently convened in which the Command Area Administrators, the representative of the Banks and the Agricultural Refinance Development Corporation had participated. It is hoped that from the current year, i.e. 1978-79, the flow of institutional credit would be stepped up appreciably from year to year and the progress under OFD would be accelerated accordingly.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78]

#### **Recommendation Serial No. 90 (Para 5.92)**

The Committee note that in order to obtain willing participation of the farmers in the programme, extension services are being strengthened to prepare the farmers and convince them about the importance of programme. Action has also been taken to enact suitable laws where adequate laws to make on-farm development programme compulsory are lacking. The Committee desire that intensive efforts should be made to ensure effective participation by the farmers in the various activities of the command area development programme. In areas which are at present not covered by the programme, the farmers may be motivated to taken up such works themselves.

#### **Reply of Government**

The Intensive Agricultural Extension Programme, commonly referred to as the T & V System, has been introduced in many command area development projects and the States are being urged to introduce it in all the commands, if not the entire States. This system of extension has proved to be very successful and includes encouragement to farmers to give their consent for systematic land development. Keeping in view the intensive nature of the activities in command areas, the ratio of village level worker to number of farmers has been kept at around 1:500 as against 1:800/1:1000 in other areas. The command area approach is proposed to be introduced in areas covered by minor irrigation also. The matter has been recently discussed in an All

India Conference. The recommendation emerging from this Conference would be followed vigorously.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., Dated 20-11-78]

### **Recommendation Serial No. 91 (Para 5.101)**

The Committee note that according to the Expert Committee on the Integrated Development of Surface and Ground Water (June 1976) although integrated development and conjunctive use of surface and ground water is in vogue in some form or the other in some States, there is no scientific planning behind this. The Expert Committee has recommended establishment of Pilot schemes for integrated and conjunctive use in the commands of 19 projects in 11 States. The Conference of the State Irrigation Ministers held in September, 1976 also recommended that the State Governments concerned should undertake Pilot projects and collect all the relevant techno-economic data. The Committee desire that the matter should be vigorously pursued with the State Governments concerned and a close watch kept over the progress made by the Pilot projects in the collection of the requisite data. The Committee need hardly emphasise the importance of integrated area planning with harmonised development of surface and ground water resources with a view to achieving optimal utilisation of total water resources and maximising agricultural production. The Committee desire that as a result of the experience of the working of pilot projects, suitable schemes may be taken up involving scientific planning of integrated use of surface and ground water resources in the country.

### **Reply of Government**

The importance of conjunctive use of ground and surface waters with a view to enhance irrigation benefits and better regulate the cropping pattern for getting optimum use of the waters and also with the object of minimising the problems of drainage and water logging has been emphasised in the various meetings held with the State Officers. The requirement of such schemes for the Medium Term Plan 1978—83 has been assessed to be Rs. 165 crores, mainly for the States of Punjab, Haryana, U.P. and Bihar where a large scope exists for the conjunctive use of surface and ground waters. The additional irrigation benefits from these schemes are expected to be of the order of 2 lakh hac.

It is learnt that the U.P. Government have, on the advice of their Consultants, finalised a programme to take up a number of State



tubewells in the Command area of Gandak Project, on a pilot basis. On the basis of experience gained, many more such tubewells would be taken up in the Gandak Canal Command and also in the commands of Sarda Sahayak Project and Ramganga Project for which adequate data has been collected by U.P. Ground Water Board. This subject was also discussed in the Irrigation Ministers' Conference on Minor Irrigation and Command Area Development held in September 1978.

Ground water assessment in the command areas, covering the whole command areas instead of pilot areas only as recommended by the Experts Committee on Integrated Development of Surface and Ground water with a view to having conjunctive use of the surface and ground waters, is being given high priority by the Central Ground Water Organisations as well as the State Ground Water Organisations. Ground Water Development in the Command Areas through construction of private dug wells and tubewells is being given maximum priority. The preparation by Command Area Authorities of area development schemes in respect of these works in the command areas on a priority basis is being insisted upon. Subsidies are being extended to small and marginal farmers for encouraging these works in the command areas. Public direct irrigation and augmentation tubewells are also to be taken up wherever found feasible.

(Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78)

### **Recommendation Serial No. 92 (Para 5.105)**

The Committee note that with a view to ensure efficient water use and soil management in irrigation commands, 50 Pilot Projects on Soil and Water Management are proposed to be established by the end of the Fifth Plan. 46 Pilot projects have so far been sanctioned including 23 such projects sanctioned upto the end of Fourth Plan. The Committee however find that out of these, only 13 projects have so far been completed. The Committee are unhappy over the slow progress made in completing the Pilot projects which have been assigned the important task of evolving and demonstrating Soil and water management practices in an integrated manner. The Committee desire that vigorous steps should be taken to speed up the completion of the remaining projects. The Committee need hardly emphasise that the experience gained from these projects should be utilised in planning soil and water management programmes in the irrigation commands on a large scale.

### Reply of Government

Out of the 51 Water Management Pilot Projects sanctioned, 16 projects have been completed. In another 7 projects, the work has been completed and is in the process of being wound up. Out of the remaining 28 projects which are under implementation, most of them would be completed during the current year.

All efforts by way of giving assistance for formulation of work programme and its approval, procurement of equipment, release of funds, etc., in time are being taken to speed up implementation of these projects. The findings of the project are utilized in framing programmes for on-farm development, water management, cropping pattern etc., in the command areas.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70|1|78-Coord., dated 20-11-78].

#### Recommendation Serial No. 93 (Para 6.7)

The Committee note that a sum of Rs. 2.45 crores was sanctioned in September, 1975 by the Ministry of Irrigation and Power for data collection and studies for preparation of schemes to utilise surplus water resources of the river basins in the drought prone areas during the Fifth Five Year Plan. For this purpose a Drought Area Study Organisation has been set up in the Central Water Commission. The Organisation will carry out comprehensive studies for all the 88 districts in 12 States which have been identified as drought prone areas by the erstwhile Ministry of Food and Agriculture and the Irrigation Commission (1972). These studies would involve identification of Drought Prone Areas, availability of water at present, potential for harnessing further water and possibility of transferring water from adjoining areas having surplus water. According to the Department of Irrigation, the study is expected to take time since active support of the State Governments is essential for purposeful study of making suitable schemes for the benefit of drought prone areas. The Committee, however, find that data collection for only 2 districts in U.P. and Gujarat was expected to be completed during 1976-77 and this work is to be taken up in 35 districts during 1977-78. The Committee are not satisfied with the programme envisaged for the years 1976-77 and 1977-78. They desire that the data collection and detailed studies should be speeded up and a time bound programme prepared for completing the whole work with active cooperation of the State Governments.

### Reply of Government

Collection of data and field investigations have since been stepped up. More than 20 district reports have already been prepared and drafts for another 18 are under final compilation. Field investigations for various alternative inter-basin transfers are in different stages of progress. As part of the investigations and studies, it is proposed to bring out a comprehensive 'Drought Atlas' for India. Some studies and investigations have been entrusted to the Indian Institute of Technology, Kanpur, Sardar Patel Institute of Economic and Social Research, Ahmedabad and the Institute for Social and Economic Change, Bangalore. The entire work of investigations has been fully geared up and it is expected that by the year 1980-81 these studies and investigations will be completed and specific project reports submitted for implementation of schemes.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O. M. No. 70/1/78-Coord., dated 20-11-78]

#### Recommendation Serial No. 94 (Para 6.8)

The Committee note that under the Drought Prone Areas Programme 24 medium irrigation schemes having irrigation potential of 59,000 hectares, have been sanctioned the States of Bihar, West Bengal, J. & K., Tamil Nadu, Andhra Pradesh, Gujarat, Haryana, Rajasthan, Madhya Pradesh, Maharashtra, Karnataka, Uttar Pradesh and Orissa at an estimated cost of Rs. 34 crores. Only such schemes have been selected as can be started immediately and completed within 2 or 3 working seasons so that substantial benefit can accrue by the end of the Fifth Plan. Besides minor irrigation schemes with an outlay of Rs. 111 crores have also been included in the programme for the Fifth Plan. During the period April 1974 to 30th September, 1976, a number of minor irrigation schemes have been completed creating an irrigation potential of about 76,000 hectares at an expenditure of Rs. 41 crores. The Committee are anxious that these medium and minor irrigation schemes included in the Drought Prone Area Programme should be given priority and all out efforts be made to complete them during the Fifth Plan, so that the needs of the areas are met to the extent possible.

### Reply of Government

During the Fifth Plan, an allocation of Rs. 2337.25 lakhs was made for 25 medium irrigation schemes costing Rs. 3487.65 lakhs in 13 States. Though an amount of Rs. 150 lakhs was allocated to Haryana for Mohindergarh lift irrigation project, but work on it could not be started since it was not approved by the Central Water

Commission. Therefore, only 24 medium irrigation schemes have been taken up in 12 States with a central allocation of Rs. 2187.25 lakhs. The irrigation potential to be created under the 24 projects work out to 50,084 hectares. Till the end of March, 1978, an expenditure of Rs. 1147.70 lakhs was reported under these schemes though an amount of Rs. 1547.98 lakhs was released to these States except Gujarat, Uttar Pradesh, and J & K, all the other 9 States have done well in the implementation of the programme. All the allocated money is being released to these 9 States. In the case of the remaining 3 States special efforts are being made to tone up the programme implementation. The balance of allocations will also be released after the schemes catch up some progress. The State-wise expenditure incurred under the medium irrigation schemes is as shown below:—

(Rs. in lakhs)

| States                             | Expenditure<br>(end of March, 1978) |
|------------------------------------|-------------------------------------|
| 1. Andhra Pradesh . . . . .        | 222.41                              |
| 2 Bihar . . . . .                  | 65.00                               |
| 3. Gujarat . . . . .               | 82.70                               |
| 4. J. & K. . . . .                 | 3.54                                |
| 5 <sup>1</sup> Karnataka . . . . . | 114.45                              |
| 6. Madhya Pradesh . . . . .        | 138.03                              |
| 7. Maharashtra . . . . .           | 112.22                              |
| 8. Orissa . . . . .                | 42.00                               |
| 9. Rajasthan . . . . .             | 242.13                              |
| 10. Tamil Nadu . . . . .           | 65.70                               |
| 11. Uttar Pradesh . . . . .        | 12.57                               |
| 12. West Bengal . . . . .          | 76.95                               |
| <b>TOTAL . . . . .</b>             | <b>1147.70</b>                      |

The Project costs have gone up in almost all the States and the completion of the projects and the realisation of the targeted irrigation potential depends on the meeting the enhanced costs by the State Governments. It was stipulated at the time of sanctioning of these projects that the State Governments would bear the excess of expenditure over the allocations to complete the projects in time. This point is being impressed on the State Governments.

So far as minor irrigation projects are concerned, an expenditure of Rs. 7998.95 lakhs was incurred out of a total expenditure of Rs. 17749.93 lakhs i.e., 45.06 per cent of the total expenditure of Rs. (excluding medium irrigation). The total expenditure on medium and minor irrigation projects together works out to Rs. 9146.65 lakhs out of a total expenditure of Rs. 18897.63 lakhs under DPAP. This works out to 48.40 per cent of the total expenditure on DPAP including medium irrigation projects.

Minor irrigation schemes under DPAP have created by the end of March, 1978 a potential of 2.30 lakh hectares. Surface irrigation schemes accounted for a potential of 1.92 lakh hectares while ground water schemes contributed to 0.38 lakh hectares. Much stress have been laid in discussions with the State Governments on completion of irrigation projects under DPAP.

The State-wise expenditure incurred on the minor irrigation projects and the potential created during 1974—78 is shown below:

| State                       | Expenditure<br>1974—78<br>(Rs. in lakhs) | Potential created<br>1974—78 |                 |
|-----------------------------|--|------------------------------|-----------------|
|                             |  | Surface<br>Irrigation        | Ground<br>Water |
| (In hectares)               |  |                              |                 |
| 1. Andhra Pradesh . . . . . | 725.82                                   | 14473                        | 4641            |
| 2. Bihar . . . . .          | 467.66                                   | 268                          | 8172            |
| 3. Gujarat . . . . .        | 849.93                                   | 18563                        | 8708            |
| 4. J. & K. . . . .          | 152.07                                   |                              |                 |
| 5. Haryana . . . . .        | 91.06                                    | 13440                        | 1038            |
| 6. Karnataka . . . . .      | 701.52                                   | 21386                        | 1084            |
| 7. Madhya Pradesh . . . . . | 1307.24                                  | 27232                        | —               |
| 8. Maharashtra . . . . .    | 510.48                                   | 9159                         | 31              |
| 9. Orissa . . . . .         | 418.08                                   | 6058                         | 3927            |
| 10. Rajasthan . . . . .     | 692.61                                   | 17089                        | 2271            |
| 11. Tamil Nadu . . . . .    | 595.25                                   | 3373                         | —               |
| 12. Uttar Pradesh . . . . . | 1020.30                                  | 51218                        | 7822            |
| 13. West Bengal . . . . .   | 465.93                                   | 10026                        | 299             |
| <b>TOTAL . . . . .</b>      | <b>7998.95</b>                           | <b>192285</b>                | <b>37993</b>    |

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70/1/78-Coord. dated 20-11-78].

### **Recommendation Serial No. 95 (Para 6.9)**

The Committee note that during the period 1974—77 an amount of Rs. 114 crores was spent for relief works in drought prone areas and of that, nearly Rs. 88 crores was allocated for augmentation of water for irrigation and drinking. The Committee recommend that a shelf of schemes should be kept handy for implementation in drought prone areas where such funds could be usefully spent in order to create durable capital assets which would help to reduce the proneness to drought.

#### **Reply of Government**

Government agree with the recommendation of the Committee that a shelf of schemes should be kept handy for implementation in drought-prone areas. During annual plan discussions and also in Review Committee meetings, State Governments are being reminded on the urgency and importance of keeping a shelf of schemes particularly for the drought-prone areas.

During annual plan discussions the States are impressed upon to provide adequate funds for investigation of schemes for benefiting drought-prone areas.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70|1|78-Coord., dated 6-12-78].

### **Recommendation Serial No. 96 (Para 6.10)**

The Committee desire that it should be ensured that bottlenecks like inadequacy of funds should not stand in the way of providing irrigation facilities in the drought prone areas. The Committee emphasise that creation of irrigation facilities in these areas would go a long way in reducing large scale expenditure incurred on relief measures in these areas.

#### **Reply of Government**

Government agree with the Committee's recommendations that investment in irrigation in drought-prone areas will help in reducing the large scale expenditure on relief measures in such areas. It is in this context that several investigations are being carried out to provide irrigation facilities to drought-prone areas (*vide* reply to paragraph 6.7).

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70|1|78-Coord., dated 6-12-78].

## **Recommendation Serial No. 97 (Para 7.16)**

The Committee note that under the provisions of Inter-State Water Disputes Act 1956, 3 tribunals were appointed in 1969 to adjudicate on water disputes pertaining to Krishna, Gadavari, Narmda rivers. Working of these tribunals has shown that recourse to adjudication by tribunals for Inter-State Water Disputes is very dilatory, time consuming and expensive and has in no way acted as deterrent to the multiplicity of disputes. Only one tribunal (Krishna Water Dispute Tribunal) has given its final report in May, 1976. The other two disputes on Godavari and Narmada Waters which are before the tribunals are still outstanding. The Committee feel concerned that these disputes have not been settled even after a lapse of seven years. They would urge that effective measures may be taken by all concerned so that these disputes are settled expeditiously.

### **Reply of Government**

The recommendation of the Committee has been brought to the notice of the State Governments concerned who have been requested to take all effective measures towards the expeditious settlement of the disputes.

The Narmada Water Disputes Tribunal has since investigated the matter referred to it and given its report to the Government of India on 16th August, 1978. Copies of the report have been sent to all the concerned State Governments and the Departments at the Centre to enable the Centre and the State Governments to seek explanations or guidance from the Tribunal within the stipulated period of 3 months of the decision, as provided under the Inter-State Water Disputes Act, 1956. After investigating such references, if any, the Tribunal may forward a further report and the decisions of the Tribunal shall then be published by the Central Government in the Gazette of India and shall be final and binding on the parties to the dispute and shall be given effect to by them.

As regards the Godavari Water Disputes Tribunal, the adjudication proceedings are in progress.

As a result of efforts made by the Union Minister of Agriculture and Irrigation, an agreement was reached in December, 1975 amongst the concerned States for taking up new irrigation projects in the Godavari Basin pending the award of the Tribunal and without prejudice to the States' claims before the Tribunal. Certain

new projects were also agreed to be taken up as joint ventures. As per this agreement, nearly 2300 TMC of water out of 75 per cent dependable yield of about 3000 TMC of water of Godavari was allocated. Subsequently, agreements were also concluded between the Governments of Karnataka and Andhra Pradesh on 4th August, 1978 and between the Governments of Maharashtra, Madhya Pradesh and Andhra Pradesh on 7th August, 1978. All these agreements were filed before the Tribunal.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70|1|78-Coord. dated 20-11-78]

### **Recommendation Serial No. 98 (Para 7.17)**

The Committee are glad to note that during the last few years good results have been achieved in the settlement of seven Inter-State Water Disputes as a result of negotiations. Out of remaining four major disputes, in case of Godavari and Narmada Waters, as a result of negotiations the States concerned have reached some agreements, pending decisions of the tribunals, without prejudice to their claims before the tribunals. Under these agreements some projects can be cleared for being taken up by the States concerned. In the case of 2 other major disputes relating to the use of waters of Yamuna and certain rivers in Bihar and West Bengal also some progress has been made. The Committee desire that all out efforts should be continued to bring about settlement of the outstanding issues.

### **Reply of Government**

The recommendation has been brought to the notice of the State Governments concerned and they have been requested to make all out efforts to settle the outstanding issues expeditiously.

Agreements have since been concluded between the Governments of West Bengal and Bihar on 19th July, 1978 and between the Governments of West Bengal, Bihar and Orissa on 7th August, 1978 with regard to utilisation of the water resources of the basins common to them. Efforts also continue to be made to bring about a settlement on the sharing of Yamuna waters. For this, further inter-State discussions were held on 15th July, 1978, and in pursuance of the decisions then taken, a comprehensive note has been prepared and sent to all concerned, for study. Thereafter, an official level



meeting preparatory to the meeting at the level of Ministers, is proposed to be held to find a solution to this long outstanding dispute.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78].

### **Recommendation Serial No. 98 (Para 7.18)**

The Committee need hardly emphasise that the Union Government should assume an effective and beneficial role in the speedy settlement of Inter-State Water Disputes so that the interest of the country as a whole for the development of irrigation facilities does not suffer because of such dispute.

### **Reply of Government**

According to our Constitution, Water—Water supplies, irrigation and canals, drainage and embankments, water storage and water power—comes under the State List. Accordingly, the State Governments exercise full control on planning, development, regulation, distribution and use of the waters flowing through their territories. However, most of the water resource is contributed by inter-State rivers, whose basins lie in more than one State. Differences with regard to use, distribution or control of the water of inter-State rivers sometimes do arise and efforts are made to resolve them by negotiations either by the concerned States themselves or with the assistance of the Centre. Disputes which cannot be resolved by negotiations are referred to the Tribunals constituted under the Inter-State Water Disputes Act, 1956.

As a result of sustained efforts by the Central and the State Governments, following more agreements have been concluded recently:

- (1) Agreement about Thein Dam amongst the States of Punjab, Haryana, Rajasthan, Himachal Pradesh and Jammu & Kashmir on 3-10-1977.
- (2) Agreement for conveying 15 TMC of Krishna water for water supply to Madras City, amongst the States of Andhra Pradesh, Maharashtra, Karnataka and Tamil Nadu on 28-10-1977.
- (3) Supplemental agreement about the exploitation of Mahi River between Rajasthan and Gujarat on 5-4-1978.
- (4) Agreement for taking up of certain medium schemes pending Narmada Tribunal's award and without prejudice

to the States' claim before it, between Gujarat and Madhya Pradesh on 5-4-1978.

- (5) Agreement on utilisation of the water resources of the Damodar Barakar, Ajoy, Mayurakshi, Sidheshwari Noon Bheel and Mahananda River Basins between the States of West Bengal and Bihar on 19-7-1978.
- (6) Agreement on the utilisation of the water resources of the Subarnarekha-Kharkai basin between West Bengal, Bihar and Orissa on 7-8-1978.

The Narmada Water Disputes Tribunal has also submitted its report to the Central Government on 16th August, 1978 setting out the facts as found by it and giving its decisions on the matters relating to Narmada Waters, referred to it.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78].

#### Recommendation Serial No. 99 (Para 8.9)

The Committee note that there is multiplicity of State Laws covering various aspects of Irrigation Management and Administration. As early as 1972 the Irrigation Commission had recommended that the laws relating to study existing irrigation Acts and suggest a model legislation for guidance of the Commission the Indian Law Institute which was asked to study existing irrigation Acts and suggest a model legislation for guidance of States, prepared a draft of "Model Canal Irrigation and Drainage Bill". A Committee of Experts which was appointed in July, 1974 to examine the Draft Bill finalised it in February, 1976 which was commended to the State Governments for adoption. The Second State Irrigation Ministers' Conference held in September, 1976 also considered the model bill and recommended that this may be considered by the State Governments for adoption with such modifications as may be necessary. The Committee are concerned that a period of more than four years has been taken in drafting and finalising the Model Bill. The Committee feel that in view of the importance of a uniform legislation, the process of drafting and finalisation of the model bill should have been expedited and a time limit fixed therefor. The Committee note that the Bill contains important provisions aimed at fuller utilisation of created irrigation potential and greater crop production. It provide for expeditious construction of field channels, on-farm development, drainage, scientific cropping pattern,

public participation in administrative irrigation system, checking unauthorised use of water, and settlement of disputes. The Model Bill also seeks to remove impediments in realisation of betterment levy and provides a basis for determining the unearned increment in the value of land as a result of irrigation. The Committee desire that the Department of Irrigation should actively pursue with the State Governments the speedy adoption of the model Bill, with necessary modifications relevant to their local conditions, so that the important objective of fuller utilisation of irrigation potential is realised at the earliest.

### Reply of Government

The latest position about implementation of the above recommendations by various State Governments/Union Territories is as under:

Government of Maharashtra has intimated that Maharashtra Irrigation Act 1976, which has been passed by legislature incorporated almost all the provisions of the Draft Model Irrigation Bill with slight modifications to suit local conditions and irrigation practices followed in the State. Delhi Administration has stated that they are co-ordinating to the extent that the Haryana Drainage and Canals Act 1974 which would meet their requirement in this connection. The Government of West Bengal have informed that some of the provisions of the Model Bill are incorporated in the Act already in vogue. They propose to observe application of the existing Act for sometime more before attempting the formation of consolidated Act. However, the other aspects of the model bill are receiving active consideration.

The Governments of Meghalaya and Nagaland have informed that the proposal is not applicable to them at this stage. The Government of Gujarat have informed that some of the recommendations of the Draft Model Bill have already been considered by them. The Government of Tripura have stated that the matter is receiving their attention. Administration of Lakshadweep have mentioned that no action is to be taken by them as no irrigation scheme exists in the territory. The Government of U.P. have sent an interim reply that the matter is under consideration. The Government of J & K have already enacted the irrigation bill after considering the recommendation of the bill. The Government of Kerala have intimated that Kerala Irrigation Bill is in the drafting stage and that the provisions in the Model Irrigation Bill will be considered while drafting the Bill. The Government of Tam'il Nadu have informed that matter

is still under consultation with the Board of Revenue (Food Production) of the State.

The remaining State Governments have been requested to expedite action.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 6-12-78]

**Recommendation Serial No. 100 (Para 8.27)**

The Committee note that revenue realised through irrigation rates on the projects functioning at the time of Independence in 1947 was by and large able to meet the operational and maintenance expenditure of projects and also the interest on capital expenditure. But subsequently on account of the general escalations of cost and necessity of taking up bigger projects involving large storage structure, the position has changed considerably. Although the cost of projects has gone up considerably yet the water rates have not been revised upward proportionately. According to the figures furnished by the Department of Irrigation, the rates fixed by the State Governments are lower than the average water rates worked out on the basis of interest liability and cost of maintenance and operation.

**Reply of Government**

Observations noted.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 1-2-78]

**Recommendation Serial No. 100 (Para 8.28)**

The Committee note that as a result of a critical study of irrigation rates and betterment levy, the Department of Irrigation has issued guidelines to the State Governments for fixation of water rates. The First Conference of the State Irrigation Ministers held in 1975 urged the State Governments to increase the water rates in a phased manner and recommended that Standing Inter-Departmental Water Rates Review Boards might be set up by the State Governments in order to review on a continuous basis, the water rates structure and for making appropriate increase in the irrigation rates and recovery of betterment levy. The Second Conference of State Irrigation Ministers held in 1976 while reiterating the recommendation made by the First Conference, further recommended that suitable rates should be introduced in the States where no water

rates were charged at present. The Committee note that so far only six States namely Bihar, Gujarat, Punjab, Rajasthan, Maharashtra, and Orissa have set up Inter-Departmental Water Rates Review Boards and the matter is still under correspondence with other States. The Committee desire that necessary follow up action should be taken to persuade the remaining States to set up the Inter-Departmental Water Rates Review Boards.

### **Reply of Government**

To overcome diversities in levying of irrigation rates and rationalise them, the First Conference of the State Ministers of Irrigation held in July, 1976 recommended that the State Governments should set up 'Standing Inter-Departmental Water Rates Review Board' in order to review on continuing basis the rate of structure and recommend to the State Governments necessary revision in water rates for flow and lift irrigation and recovery of betterment levy. The Second Conference held in September, 1976 again stressed the need for setting up these boards. This Conference also recommended that in a few States where no water rates are charged, suitable water rates may be introduced as soon as possible.

In pursuance of these resolutions the following States have already set up Inter-Departmental Water Rates Review Boards:—

1. Bihar,
2. Gujarat,
3. Punjab,
4. Rajasthan,
5. Maharashtra,
6. Orissa, and
7. Haryana.

The State of Karnataka, U.P. and Andhra Pradesh have indicated that the constitution of water rates review board in their States is not necessary.

Madhya Pradesh has mentioned that a Water Rate Committee is already functioning in that State. This Committee comprises members of Vidhan Sabha and the State is examining as to how the functions of this Standing Inter-Departmental Board and the above Committee can be integrated so that they do not overlap.

The State of Assam has stated that they are realising irrigation charges on *ad-hoc* basis since 1974-75 only. The provision for realisation of water rates was made in detail in the draft "Assam Irrigation Ordinance 1977" which is awaiting approval of President. On its introduction the realisation of water rates will be made and the setting up of Inter-Departmental Review Board will be looked into.

West Bengal has stated that in order to impose water rates at an enhanced rate and on a compulsory and uniform basis a new legislation namely the West Bengal Irrigation (Imposition of Water Rate) Act, 1974 was enacted in the year 1974. While fixing the ceiling rates in the State the following factors have been taken into account:—

1. Maintenance and operation cost of the Project,
2. Interest charged by the Government of India, and
3. Depreciation at the rate of 2½ per cent.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78].

#### Recommendation Serial No. 101 (Para 8.29)

The Committee hope that water rates would be fixed by these Boards realistically taking into account the various factors like operational and maintenance etc. expenditure of the projects and the effect on price structure of agricultural commodities.

#### Reply of Government

In pursuance of the resolution, the States of Bihar, Gujarat, Punjab, Rajasthan, Maharashtra, Orissa and Haryana have already set up Inter-Departmental Water Rates Review Boards. The States of Karnataka, U.P. and A.P. have indicated that the constitution of Water Rates Review Boards in their States is not necessary. The reasons given being 'existing machinery being adequate to take such decisions' in case of Karnataka, 'periodical review of water rate structure' by U.P. and 'a decision being taken by State Government that water rates should be reviewed and revised in the fourth year of every plan' in case of A.P. The State of Madhya Pradesh has mentioned that a water rate committee is already functioning in that State. This Committee comprises of members of Vidhan Sabha and State is examining as to how the function of the Inter-Departmental Board and the above committee may be integrated.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 6-12-78]

**Recommendation Serial No. 102 (Para 8.30)**

The Committee would further stress that utmost economy should be observed in the execution of irrigation projects by reducing overheads, delays in execution etc. as these tend to increase the costs considerably.

**Reply of Government**

The need for exercising utmost economy in the execution of irrigation projects by completing them within a time-bound programme and also for carrying out detailed investigations prior to undertaking the works so that the cost does not increase on account of certain unforeseen problems which may arise during execution of the irrigation projects, has been emphasised on the State irrigation officers in many meetings besides the Irrigation Ministers' Conferences. The Estimates Committee's recommendations are also being communicated to the States.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78].

**Recommendation Serial No. 103 (Para 9.3)**

The Committee note that irrigation research stations have been established by most of the States to tackle the various irrigation problems connected with major irrigation projects. The Union Government have also set up two Research Stations viz. Central Water and Power Research Station, Pune and Central soil and Material Research Station, New Delhi. The Central Water and Power Research Station, Pune is the premier Hydraulic Engineering Allied Research Institute and has 31 divisions to study various problems through hydraulic models, experimental stress analysis etc. The Central Soil and Material Research Station, New Delhi conducts field and laboratory investigations for Water and Power projects along with the research in all branches of material science. The Central Board of Irrigation and Power, an autonomous body coordinates research in the field of irrigation engineering and for the dissemination of knowledge obtained through researches being carried out at the various research stations in the country. To encourage basic research grants are being given to various research stations, educational institutions and autonomous bodies to whom problems are allotted for conducting research. The Committee desire that the problem for research for allotment to the various institutions

should be carefully selected to avoid any overlapping and wasteful duplication of efforts. Priority should be given to the problems needing immediate attention and the progress made by the research stations should be kept under watch. The Committee also recommends that there should be a system of periodical evaluation of the research work done by the various Central and State Research Stations, with a view to assessing the benefits from the research work done by them and effecting improvement in strengthening research efforts, where necessary.

### Reply of Government

The scheme for sanctioning grants-in-aid to various research stations, educational institutions and autonomous bodies has been in operation for number of years and based on the experience gained and taking note of the present stage of progress in the country in this field, a well thought out methodology has been evolved for formulating, processing and monitoring research projects under this scheme. This methodology has been reviewed at a number of high level meetings held in the Ministry of I&I and the CWC. Based on the discussions and the consensus arrived at, a three tier arrangement formulating, reviewing and processing research projects under this has been evolved.

*First Tier:* In the first tier, the primary task of identifying fresh areas where research work is required to be undertaken, formulating details of methodology to be followed, assess the time and funds required for carrying out the studies has been entrusted to 16 task forces constituted one for each of the 16 subjects which have been identified. The Central Water Commission and Central Water and Power Research Station, Pune being the top most technical organisations in the country have been intimately associated with the work of these task forces. The conveners of the task forces have been chosen from the Directors of relevant directorates in the above organisations or recognised experts in the respective fields. Other experts in the country both from the States and also from IITs and other high educational institutions have been included as members of the task forces. As the conveners of the task forces are Directors of the CWC in their relevant subjects it has also thereby been ensured that the results of research are made use of during scrutiny and approval of projects at the Central Water Commission.



Three specialist coordinators have been nominated one each in the fields of hydraulics, soils and concrete and they have been requested to take up the following functions:—

1. To ensure during initial scrutiny of the projects proposed to be started, that the results of the study will have immediate application in water resources development projects and that the results could be brought to the stage of field applications within two or three years.

2. To evolve and monitor research work at the various research stations to avoid any slippage in the achievement of the targets specified and to guide the research workers in their research studies and also assist them whenever necessary so as to ensure maximum applicability of the studies to the project works.

3. To propagate the results of the studies to the field officers and monitor application of the results in the field as well as assess the benefits accruing from research findings.

*Second Tier:* At the second tier of examination, working groups consisting of senior Chief Engineers from States, Members of the CWC, Members of IITs and Directors of national research institutes relevant to the subject have been constituted. Three such groups covering major areas of research namely hydraulics, soils and concrete have been functioning. These groups are consulted before approval for taking up any research project is granted. Reports on the work done at the research stations are placed before these working groups annually so that they could study the progress and suggest any modifications or reorientations required to meet current day needs.

*Third Tier:* The overall direction and control of the scheme is under the Standing Advisory Committee under the Chairmanship of the Chairman, Central Water Commission. Representatives from the Ministry of Agriculture and Irrigation, Planning Commission, CWC and three specialists are included in the Standing Advisory Committee. This Committee lays down general policy and also controls the distribution of funds to the various research stations taking note of the projects in operation at each of the research stations.

*Monitoring the progress:* The CBI&P maintains close watch of the progress of work at the various research stations under the scheme. For this purpose monthly progress reports indicating both the technical progress achieved on each research scheme as well as

the expenditure incurred are obtained from the research stations. These are compiled and scrutinised on a monthly basis. Important research studies in progress are reported in the quarterly Irrigation and Power Research Digest which is issued by the CBI&P for the benefit of all research workers and other practising engineers.

Annual reports containing full details of the work carried out under the research scheme at all the research stations are obtained and these are compiled and published as Annual Reviews. These annual reviews are placed before the members of the working group already referred for their examination, comments and further suggestions. An annual research review meeting is also arranged to which representatives of the research stations as well as research workers carrying out the studies are invited and the annual review is discussed in detail at these research review meetings. The specialist coordinators already mentioned as well as the members of the working group are invited specially to attend the research review meetings and for taking part in the deliberations for technical scrutiny of the work carried out and also to suggest additions and alterations in the scope or methodology adopted for the study for the various problems.

The research works which have achieved a certain degree of finality are compiled as research session papers and they are discussed at the Annual Research Session arranged by the CBI&P. Further, after substantial progress is achieved on selected subjects, they are compiled as technical reports and these are published by the Board. These technical reports form authentic records of the work done and they also form invaluable reference material for the field engineers.

An assessment of the impact of the research studies is obtained from the various research stations as well as field engineers. Based on these assessment reports, the results of the research are evaluated indicating how far the results of the research under the scheme have been implemented in the field.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/178-Coord., dated 20-11-78]

#### **Recommendation Serial No. 104 (Para 9.4)**

The Committee note that the results of research conducted have been applied with advantage in some projects. The Committee, however, understand that much remains to be done for tackling problems of irrigation projects. The projects to be undertaken are

likely to present many complicated problems not encountered so far as the schemes are undertaken at locations which are much less favourable than already completed. For example, dams have to be constructed where foundation conditions are poor and the hazard of earthquakes exists. At some places, it is difficult to obtain proper construction materials within reasonable distance. Cost of construction materials needs be brought down through research on the use of cheaper materials' standardisation which can lead to economy needs to be promoted. Research is also needed to revise many conventional concepts regarding the rate of flow and distribution of sediments in reservoirs. The Committee stress that research and development activities should be intensified to effect economy and to provide solution to many such problems as are expected to be encountered during the execution of new projects. The Committee also understand that future research would involve use of more sophisticated instruments and tools. The Committee are anxious adequate funds be made available to cope with future activities of the research station.

### Reply of Government

The question of expanding the research activities under the research scheme applied to River Valley Projects was discussed some time back and 15 additional topics for study and research were identified which had special emphasis on tackling problem faced by the design engineers in connection with the designing of various components of irrigation structures, in view of the difficult foundation conditions, inadequacy of construction materials of appropriate quality etc. Certain studies for reducing the cost of construction materials had also been initiated.

Recently under the NCST an overall review of the research needs in the various sectors has been undertaken. Based on this review a number of priority areas which require investigations and study have been identified along with the tentative research projects which could be taken up. However, the finance required for taking up all these studies was found to be on the high side. Keeping in view the availability of financial resources as well as the possible build up in the infrastructure required for taking up studies, 4 priority areas were identified and research projects were taken up for study, during the past 2 years. In the Sixth Plan few more priority areas have also been chosen and research project on these subjects have been called for from all the research stations. Keeping in view the

infrastructure available for taking up the research studies, a tentative provision of Rs. 200 lakhs has been proposed for taking up additional research projects under the NCST schemes. The outlay under the research scheme applied to River Valley Projects has also been proposed to be stepped up to Rs. 260 lakhs during the Sixth plan period as compared to Rs. 187 lakhs in the Fifth Plan.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/178-Coord., dated 20-11-78]

#### **Recommendation Serial No. 106 (Para 9.5)**

The Committee note that a dam safety service has been established in the Central Water Commission specifically changed with the responsibility of reviewing important designs features and exercising check during construction, commissioning and subsequent operation important dams so as to obviate or reduce the possibility of failures of such structures. The Committee are concerned to learn that in the past there were 13 failures and 27 accidents in dams in service would intensify their activities in fulfilling the task assigned our country. The Committee have no doubt that the dam safety service would intensify their activities in fulfilling the task assigned to them. They hope that with the setting up of dam safety service, the failures and accidents on the dams will be minimised if not eliminated, altogether.

#### **Reply of Government**

Noted.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/178-Coord., dated 20-11-78]

#### **Recommendation Serial No. 106 (Para 9.19)**

The Committee note that a beginning was made by the Central Water Commission in 1974-75 to arrange refresher courses in specialised fields for the benefit of practising engineers. During the period October, 1974 to January 1978, 476 engineers including 220 engineers of Central Water Commission, 238 engineers deputed by the various State Governments and 18 engineers deputed by 3 foreign Governments were trained. The Central Water Commission has also been sending its officers for long term and short term refresher courses to various technical institutes in the country. Besides, the Commission sponsors officers for various technical seminars| symposia being held in various parts of the country. In view of the increased activity in the development of irrigation, the Committee feel that greater attention should be paid to the training of practising engineers in the various specialised fields. The Committee

note that the Commission propose to run another special course for the serving engineers with particular emphasis on agricultural engineering. The Committee desire that the Commission should identify more areas in which specialised refresher courses may be necessary for the serving engineers.

### Reply of Government

The first refresher course for in-service engineers organised by CWC was arranged from 3-10-1974 to 23-10-1974. Since then such refresher courses are being arranged annually. In view of the encouraging response from the in-service engineers, the number of these courses has been gradually increased from year to year as follows:—

| Year    | Number of Courses | Number of Participants |
|---------|-------------------|------------------------|
| 1974-75 | 2                 | 64                     |
| 1975-76 | 3                 | 73                     |
| 1976-77 | 5                 | 142                    |
| 1977-78 | 7                 | 225                    |
|         |                   | 504                    |

During 1978-79, eleven courses have been planned of which five have been held up to September, 1978 involving 176 participants. Thus, it may be seen that up to the end of 1977-78, 504 in-service engineers have participated in these refresher courses, which also includes 256 nominated by various State Government Engineering Departments, and 18 engineers nominated by the Governments of Sudan, Iraq and Afghanistan.

Though a few of the more important courses were repeated but each year more specialised areas have been identified for these courses. Some of the important specialised areas include Computer Programming and its application in Water Resources Planning; Project Management; Irrigation Engineering; Design and Installation of Hydraulic Gates and Controlled Structures; Project Hydrology; Inventory Control Techniques; Canal Lining; Construction Cost Indices in River Valley projects, Drainage Engineering and Agricultural Aspects in Irrigation Projects; and Systems Engineering.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70|1|78-Coord., dated 20-11-78]

### Recommendation Serial No. 107 (Para 9.20)

The Committee also suggest that the frequency of the courses and the number of trainees may also be suitably increased. It  
765 LS—8.

should also be ensured that the engineers deputed to the courses take the training seriously and not merely as a holiday trip so that the training imparted to them is really helpful in efficient discharge of their duties.

### **Reply of Government**

Some more important areas of specialisation like photo interpretation, flood forecasting, project construction and planning, modernisation of Irrigation Systems etc. have been included in the courses for 1978-79.

The Course content includes workshop sessions, field visits etc. to give a practical orientation. The participants are encouraged to pose practical problems encountered by them in the field to the faculty which are discussed with them in the workshop sessions. In some courses, tests are conducted, while in others assessment of individual participants is made at the end of the course. Before the commencement of a course, from the year 1978-79 lecture notes covering the entire syllabus are prepared by the faculty and supplied to the participants in a bound book form. These have proved of immense value and are in great demand even from the parent organisation of the participants. These are full time courses with a very tight and heavy schedule where the attendance is almost cent per cent. It can be said that there is full undivided involvement of the participants and interaction with the course faculty during courses organised by CWC so far.

In addition to the training of in-service engineers in the above courses, officers are being deputed to various long-term (upto 2 years) and short term (upto 6 months) courses arranged by various technical institutions in the country, which includes, University of Roorkee, Indian Institute of Public Administration, Lal Bahadur Shastri National Academy of Administration, and various Indian Institutes of Technologies. On an average number of officers sent for these long-term/short-term courses is about 35 annually.

Officers are also deputed abroad for specialised courses in various countries under different training programmes.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### **Recommendation Serial No. 108 (Para 9.21)**

The Committee note that 4 batches of Senior Officers working in the different command area development projects were trained at

the National Institute of Community Development, Hyderabad. The object of the training was to expose the officers to the various policies as well as technical, administrative and financial aspects of the command area development programme. The Committee also note that the training facilities for extension workers are extended by the Soil and Water Management Projects in the different States. The Committee desire that the department should constantly keep under review the need for trained officers and workers with a view to introducing more training programmes for senior and medium level officers and strengthening training facilities for extension workers.

#### **Reply of Government**

The need and arrangement for training in relation to the Command Area Development Programme is being kept under review, as emphasised by the Committee. In addition to the measures previously indicated, a training programme for middle level officers working in the command areas has been arranged at the Water Technology Centre, New Delhi, with the help of the Indian Council of Agricultural Research. Training of Senior level officers are organised by the Department in collaboration with the Administrative Staff College at Hyderabad. Special workshops, Seminars and training programme are also being organised in the States assisted by the Central Officers. The Department also assist the States in strengthening training facilities for extension workers.

[Ministry of Agriculture & Irrigation (Department of Irrigation O. M. No. 70|1|78-Coord., dated 20-11-1978].

#### **Recommendation Serial No. 109 (Para 9.22)**

The Committee are perturbed to note that out of 4 teams of officers sent during 1973-74 on Study Tours to foreign countries on UNDP/FAO fellowship to see the various aspects of integrated command area development works, 2 batches of officers who were expected to submit reports did not submit any report. The Committee take a serious view of the non-submission of reports by the officers concerned. They would urge that in all cases where officers are sent abroad on Study Tours the Department concerned should insist upon submission of reports so that the knowledge gathered by them can be of benefit to others. The Committee desire that officers concerned in these cases should be suitably dealt with for their failure to submit a report of the study tour.

#### **Reply of Government**

The directive of the Committee has been noted and the matter is being actively pursued.

According to the records available, 3 teams had been sent on study tours under the United Nations Development Programme during 1973-74. The reports of the two teams have been received and the report of the third team is expected to be received shortly. Other officers/teams now visiting abroad are being insisted upon to submit their report within 1-2 months on their return.

[Ministry of Agriculture & Irrigation (Department of Irrigation O. M. No. 70/1/78-Coord., dated 20-11-1978)].

### **Recommendation Serial No. 110 (Para 10.23)**

In paragraph 2.78 of their 76th Report (1974-75), the Committee had observed that there is need for closer attention being paid to minor irrigation programme so as to achieve the maximum benefit in the shortest possible time. The Committee have been informed that measure have been taken to step up the tempo of minor irrigation. These measures include allocation of increased plan sector outlay on priority basis and making concerted efforts to remove bottlenecks in mobilising institutional investment. During the Fifth Plan a very substantial step up in the rate of institutional investment of the order of Rs. 1462 crores is envisaged. The Committee however note that the institutional investment during the first two years of the Plan was Rs. 347.49 crores only. They have been informed that the problems of institutional investment have been identified and measures are being taken to remove the deficiencies. In view of the fact that institutional financing is important for successful implementation of the programme of minor irrigation the Committee urge that concerted steps should be taken to step up the investment of institutional finance and remove bottlenecks in its mobilisation so as to ensure that the target of Rs. 1462 crores envisaged for the purpose during the period 1974-75 to 1978-79 is achieved. The Committee would stress that special attention should be paid to less developed States where the credit structure is weak.

### **Reply of Government**

Consistent and concerted efforts are being made to step up the flow of institutional investment for minor irrigation. These include:—

- (i) Expeditious preparation, processing and implementation of the schemes—special monitoring of these aspects.
- (ii) Simplification of application form and streamlining of procedures involved in the scrutiny and sanction of loan applications.



- (iii) Organising and sustaining drives for improving the recovery position and lending eligibility of the banks.
- (iv) Active involvement of the Revenue Staff, the village level workers etc. in the collection of loan applications by providing special incentives to the workers in the form of some payment of honorarium per each successful application.
- (v) Organising special campaigns for clearance of a large number of loan applications on the spot.
- (vi) Up-dating and completion of land records by taking short-cut procedures for certification of the land in regions with incomplete records.
- (vii) Strengthening the State Ground Water Organisation for faster preparation and scrutiny of feasible ground water schemes duly supported with authentic data required for their processing and sanctioning by the institutional agencies.
- (viii) Taking concrete measures for greater involvement of the commercial Banks as well as the Rural Banks in the Programme.
- (ix) Strengthening the regional office of ARDC at Gauhati with technical staff for expeditious sanctioning of the scheme in the North Eastern Region.

As a result of these measures institutional investment has been increasing from year to year, as would appear from the following table:

|                           | (Rs. in crores) |
|---------------------------|-----------------|
| During 1974-75            | 162.82          |
| During 1975-76            | 174.88          |
| During 1976-77            | 210.02          |
| During 1977-78            | 240.52          |
| During 1978-79 (expected) | 300.00          |

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[Ministry of Agriculture & Irrigation (Department of Irrigation O. M. No. 70/1/78-Coord., dated 20-11-1978)].

**Recommendation Serial No. 111 (Para 10.24)**

The other measures taken to step up tempo of minor irrigation are stated to be intensification of arrangements for monitoring of programmes at the Central as well as State level, strengthening Surface Water and Ground Water Organisations in the States, stepping up rural electrification programme and providing power for irrigation, pumping on an over-riding basis. The Committee need hardly stress that all out efforts should be made to implement these measures and timely action should be taken to remove bottlenecks, if any, in their implementation. The Committee emphasise that effective steps should be taken to achieve the target of net addition of 6 million hectares envisaged by the end of 1978-79.

**Reply of Government**

The action taken in implementation of the measures to step up the tempo of minor irrigation programme are as below:—

- (1) Intensification of arrangements for monitoring of programme at the Central and State level:
  - (i) At the Central level, a Cell has been created for active monitoring and coordination of the programme. The Regional Directors of the Central Ground Water Board have also been made responsible to collect the progress reports of various items of minor irrigation works from the States in which their headquarters are located on a monthly/quarterly basis. For the remaining States, the senior officers of the Ministry have been entrusted with this work. The quarterly reports so collected are analysed and letters written to the States at the highest level indicating the shortfalls and stressing the need for taking necessary measures to accelerate the programme
  - (ii) Arrangements have been made to review the progress in the Eastern States by sending Central teams from the Ministry.
  - (iii) Statewise annual targets have been prepared and communicated to the Chief Secretaries of the States through

a D.O. letter from Secretary (A&RD) emphasising the need for taking specific measures to realise the proposed targets.

- (iv) The States have been requested to set up a Coordination Committee in each State under the Chairmanship of Chief Secretary which should include representatives of various Departments and agencies connected with minor irrigation works so as to coordinate and monitor all aspects of the minor irrigation programme including critically watching, compiling and reporting the consolidated progress under the programme. He shall also be the convener of the Coordination Committee. The States have been further advised to set up Coordination Committees, if necessary, at the district and block level also.

## 2. Strengthening the surface water and ground water organisations in the States.

Vigorous efforts have been made in this direction in strengthening these organisations under a Centrally sponsored scheme in which 50 per cent matching grant is being made available by the Government of India. So far, 22 schemes in all in 14 different States involving a total outlay of Rs. 7.5 crores during the 5th Plan period have been sanctioned. In addition, about 4-5 schemes have been screened and are expected to be sanctioned shortly while a same number of proposals are under examination. The remaining few States are also being pursued to submit these schemes.

## (3) Stepping up Rural Electrification programme and providing power for irrigation.

- (i) Increased target of energisation of 20 lakh pump/sets has been set in the mid-term plan against the likely achievement of 8.83 lacs during 5th Plan (4 years—1974—78).

- (ii) Apart from providing funds from State Plan outlay under REC schemes, ARDC reimbursement programme and MNP, another new scheme called "Special Programme Agriculture" (SPA) has been introduced for energising

6 lakh pumpsets against the estimated cost of Rs. 360 crores for the area outside REC schemes. The REC, commercial banks and ARDC will jointly finance this programme.

- (iii) Under the ARDC reimbursement programme the ARDC have since agreed to increase the amount of reimbursement of Rs. 4,500 to Rs. 5,000 per pump-set of 5 H. P.
- (iv) The Ministry of Energy are being regularly and actively requested for the following measures:—
  - (a) Improving the availability of power for agricultural purposes, minimising the power shedding and providing exclusive feeds for public tubewells so that these can run round-the-clock in period of peak demand for irrigation.
  - (b) Reservation of certain minimum percentage of power generated from new projects exclusively for agricultural purposes.
  - (v) Chief Secretaries of important States viz., Assam, Bihar, West Bengal, Uttar Pradesh, Orissa and Kerala have been addressed by the Secretary (A&RD) for taking necessary steps to accelerate the programme of rural electrification.

In view of these measures being taken, it is expected that by the end of 1978-79 during the 5th Plan period (1978-79) a net additional irrigation potential of 5.25 million hectares will be created against the target of 5 million hectares fixed by the Planning Commission.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/178-Coord., dated 20-11-78]

#### **Recommendation Serial No. 112, (Para 10.25)**

The Committee note that a Centrally sponsored scheme has been approved for strengthening the State Surface Water Minor Irrigation and Ground Water Organisation during the remaining period of Fifth Plan under which 50 per cent grant on a matching basis will be provided to the States. In their 23rd Action Taken Report (1975-76) the Committee while commenting upon the non-receipt of proposals from State Governments for strengthening their existing minor irrigation organisations desired that the State Government should

be approached, if, necessary, at higher levels to submit scheme for strengthening of their organisation for minor irrigation and this should be implemented on an urgent basis. The Committee trust that the State Government have submitted their schemes in this regard. In case where the schemes have not been received from the State Governments, the matter should be vigorously pursued with them. The Committee desire that these schemes should be implemented on urgent basis.

### Reply of Government

The schemes of strengthening State Surface and Ground Water Organisations have been implemented on an urgent basis as desired by the Committee. So far 22 schemes in 14 States have been sanctioned. (The States are—Andhra Pradesh, Bihar, Gujarat, Haryana; Himachal Pradesh; Kerala; Madhya Pradesh, Maharashtra, Orissa, Rajasthan; Tamil Nadu, Tripura, Uttar Pradesh and West Bengal).

In the remaining States about 5 schemes are under sanction while an equal number of schemes are under scrutiny. The States which have not submitted the schemes so far are being constantly reminded through letters and in various meetings, to expedite the schemes.

[Ministry of Agriculture & Irrigation (Department of Irrigation)  
O.M. No. 70/178-Coord., dated 20-11-78]

### Recommendation Serial No. 113 (Para 10.26)

All minor irrigation works have a limited span of life. The failures occur due to siltage, damage from floods, cyclones, land slides etc. gradual depreciation followed by collapse of structure and wear and tear of pumping equipment. The rates of depreciation per annum for different minor irrigation works have been stated to vary from 1 per cent to 16 per cent. The weighted average roughly comes to 5 to 6 per cent per annum. The Committee desire that necessary steps should be taken to provide technical assistance to the States in the matter of better designing, construction and maintenance of minor irrigation works with a view to minimising loss of potential due to failures and depreciation.

In paragraph 2.80 of their 76th Report (1974-75) the Committee had recommended creation of facilities for short-time training in tubewell repairs and servicing and encouragement of service co-operatives of technical personnel who could undertake repairs of tubewells on custom basis. The Committee were informed that this

suggestion was being communicated to the State Governments for their consideration and implementation. The Committee desire that the progress made in the implementation of this suggestion should be kept under close watch with a view to ensuring that tubewells are properly maintained.

### Reply of Government

In respect of Committee's recommendations to provide assistance to the States in the matter of better designing, construction and maintenance of minor irrigation works, it may be stated that this aspect had been vigorously pursued with the States. To help them in the discharge of these functions a specific scheme to strengthen the surface and ground water organisations for these jobs on 50 per cent matching grants basis have been sanctioned in 14 States so far and are under sanction for some other States. There is a proposal also to set up an All India Groundwater Institute with UNDP—assistance for imparting training in these aspects for groundwater structures to State Government officers at various levels.

As regard to the maintenance of minor irrigation works, the matter is being constantly impressed upon the State Governments. The problem was discussed in the State Ministers' Conference for Irrigation held in November, 1977. It was further highlighted in the All India Conference of State Ministers incharge of Minor Irrigation and Command Area Development held in September, 1978. The need for further follow-up action as emerged from the discussions in the Conference is as below:—

- (i) The following recommendations made by the National Commission on Agriculture on the subject needs to be given particular attention:
  - (a) In case of tanks maintained by the Department, the annual maintenance grants often fall short of the requirements; these need to be suitably increased in view of the price increase and taking into consideration the actual requirements for proper sustained maintenance.
  - (b) Where Panchavats are responsible for maintenance of tanks, they should raise sufficient financial resources

through water charges for satisfactorily maintaining the tanks and should employ sufficient staff for the purpose.

- (c) There should be a suitable legislation for recovering water charges from beneficiaries of tank irrigation at present exempt under 'Fard-abpashi' and 'Wajib-ul arz' in order to cover maintenance cost of the tanks.
- (d) The circle system of inspection and repairs of tanks as in vogue in erstwhile Madras State should be introduced in all States which have fairly large tank irrigation.
- (ii) The small works that are still expected to be maintained by the beneficiaries themselves should be brought under the orbit of some organisations such as the Irrigation Department, Panchayati Raj Department, Rural Engineering Organisation etc., to ensure that maintenance gets adequate attention.
- (iii) The provision of maintenance grants should not be subjected to any cuts whenever the latter become necessary due to financial stringency or otherwise.
- (iv) In utilisation of scarce maintenance grants, priority should be given to treatment of crucial sore-spots on the works, instead of mere routine tending to the earth work. Periodical desiltation of tanks should also be included in the maintenance routine.
- (v) The whole field of administration and management of public tubewells and lift irrigation projects should be given special attention to remove the existing deficiencies. Drastic administrative measures should be taken to control the thefts of transformers and conductors. Special watch may be kept during the period of keen irrigation demand.

The matter will be actively followed up with the State Governments.

With regard to Committee's recommendations of facilities for training in tubewell repairs and servicing and encouragement of service cooperatives of technical personnels who could undertake repairs of tubewells on custom basis, the matter had been taken up with the State Governments. Considering the importance of this subject, Conference of the APCs was convened in the month of July, 1977 particularly, to discuss the issues regarding pricing, quality,

after-sales service and repair of pumpsets. In the pursuance of decisions taken, a Committee on pumpsets is being set up in each State in which the officers of this Ministry shall also be represented.

This problem was further highlighted in the All India Conference of State Ministers of Minor Irrigation held in September, 1978. The following recommendations emerged from discussions in the Conference:

- (i) The field agencies of the State Governments, the Land Development Banks and the Commercial Banks, the manufacturers of pumps, Agro-industries Corporations, Agro-service Centres and private entrepreneurs should come together to form a broad based complex of repair shops, spare-parts depots and mobile units for providing service and repair facilities for pumpsets and other items of works within the easy reach of the farmers.
- (ii) Progressive young farmers should be specifically trained in handling mechanical and electrical equipments in carrying out petty repairs on the spot.
- (iii) The pumpset manufacturers/dealers in the approved list may be required to provide efficient after sales service discharge of warranty obligations, assistance to farmers in installing pumpsets, training to farmers and post warranty service including stocking and supply of spare-parts.

The matter will be actively followed up with the State Governments.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70|1|78-Coord., dated 20-11-78]

#### **Recommendation Serial No. 114, (Para 10.44)**

The Committee note that out of the total area of about 26 lakh Sq. Kms. requiring systematic hydrogeological survey in the country, the Central Ground Water Board had covered an area of 10.69 lakh Sq. Kms. upto the end of Fourth Five Year Plan. It is expected that an additional area of 5 lakh Sq. Kms. will be covered during by the end of 1978-79.

Thus an area of about 10.3 lakh Sq. Kms. will be left uncovered by the end of 1978-79. The Committee have been informed that it



is expected that the bulk of the remaining area would be covered during the subsequent plan if increased financial allocations are agreed to. The Committee are not satisfied with the progress made in carrying out hydrogeological surveys. They consider that in view of the importance of these surveys for assessing the ground water potential to meet the needs of irrigation and drinking water, higher priority was required to be accorded to this work. The Committee urge that necessary steps should be taken to accelerate the survey programme of the uncovered area and adequate funds may be made available for the purpose, so that hydrogeological survey of the remaining area is completed during the next five years.

### **Reply of Government**

It has now been finally estimated that the coverable area of the country under the systematic hydrogeological surveys is 28 lakhs sq. kms. An area of 14.4 lakh sq. kms. has been subjected to the surveys till 31-3-1978 thereby leaving a balance of 13.6 lakh sq. kms. The Board is able to cover an area of about 80,000 sq. kms. with the personnel available. However, it is proposed to accelerate the tempo and to cover bulk of the remaining area during the 6th Plan.

To achieve this, it is proposed to strengthen the Board by creation of two additional Regional Directorates and providing additional personnel to undertake the job.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 20-11-78]

### **Recommendation Serial No. 115 (Para 10.45)**

An important function of the Central Ground Water Board is to carry out deep exploratory drilling in prospective areas for large scale ground water development with an approximate assessment of ground water potential. Upto the end of the Fourth Plan, 984 exploratory bore holes, 109 observation holes were drilled. The target for the period 1973-74 to 1978-79 is 606 exploratory bore holes, 451 observation holes and 86 slim holes. Against these targets upto the end of December, 1976, 238 exploratory bore holes, 141 observation bore holes and 28 slim holes have been drilled. The Committee feel that the progress made in deep exploratory drilling by the Central Ground Water Board is far from satisfactory. As the large scale development of ground water would depend on the deep exploratory drilling, the Committee desire that vigorous efforts should be made to step up the programme and achieve the targets laid down for the period 1973-74 to 1978-79. The Committee further suggest that a

perspective plan with time bound programme may be drawn up for undertaking deep exploratory drilling work. The Committee need hardly emphasize that techniques should continue to be improved to increase the percentage of successful bores.

### **Reply of Government**

The recommendations of the Committee regarding stepping up of drilling programme are accepted and efforts are being made to step up the programme for achieving the laid down targets.

The following measures have been proposed to accelerate the progress of work:

1. Procurement of 7 new rigs in addition to the 54 rigs already deployed in the C.G.W.B.
2. Creation of new Circles, Divisions etc. to cope up with the enhanced work-load in the Board.
3. Introduction of development and Testing Units for the quick development of wells, thus saving the idle time of the rigs engaged in such work.

We are also trying to improve drilling techniques by sending officers on training abroad to have advance techniques in water well construction.

A need-based perspective plan for the period 1978-83 has been drawn up according to which a total of 2350 boreholes of various categories are proposed to be drilled to support the country-wide programme of ground water exploration.

In addition, deposit wells on an average of 30-40 per year are being constructed to cater to the water supply needs of defence establishments, Railways and other sister organisations.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70/178-Coord., dated 20-11-78]

### **Recommendation Serial No. 116 (Para 10.46)**

The Committee find that a long term perspective plan for investigations to be carried out by the Central Water Board had been formulated in 1971. This perspective plan had tentatively visualised undertaking of 27 projects to cover different representative hydro-geological situations in the country. The Committee, however, find

that so far only four special projects have been actually completed and seven are under execution. The Committee feel that progress in the completion of the projects is very slow. In view of the importance of these projects in developing technology, norms and standards for planning and implementation of ground water schemes, the Committee desire that the completion of the seven projects in hand should be expedited. The Committee have been informed that the position is proposed to be reviewed in the light of experience gained on the completed projects when the subsequent Plan proposals of the Board are formulated. The Committee recommend that the question of taking up the remaining projects should be carefully considered and a time bound programme prepared for their completion.

### **Reply of Government**

Of the 11 Projects so far put on the ground, 7 would stand completed on 30-10-1978. Remaining 4 projects would be completed before 1981. Proposals for undertaking 6 more projects in Gujarat, Tribal areas of Chhota Nagpur and East Coast (Bengal, Bihar and Orissa) drought prone area of Pen Ganga River Basin, East Maharashtra, drought prone area of Anantpur District, Andhra Pradesh and in the multi-hydrogeological set ups of the Coastal Kerala are under consideration of the Government of India. The U.N.D.P. has already agreed for collaboration on two of the above projects, one in the State of Gujarat and the other in Tribal areas of Chhota Nagpur and East Coast (Bengal, Bihar and Orissa). With the completion of the above 6 projects proposed during the mid-term plan 1978-83, the Board would have completed 17 out of the 27 projects tentatively suggested by the Working Group. Proposals for additional projects would be formulated after the on-going 4 projects are completed and the position of the projects is reviewed.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70/178-Coord., dated 20-11-78]

### **Recommendation Serial No. 117 (Para 10.47)**

The Committee note that two Standing Teams have been constituted for special monitoring of the programme in six States of the Eastern region (U.P., Bihar, West Bengal, Assam, Orissa and Madhya Pradesh) and detailed guidelines and check lists have been prepared for the purpose of review to be carried out by the Central Teams. A Cell for monitoring of the programme is now in the process of being set up under the Development Wing of Central

Ground Water Board. The Committee desire that the setting up of the Cell should be expedited. The Committee stress that serious attention should be paid by the Standing Teams and Monitoring Cell to keep the programme of ground water development under close review. They should identify the technical, organisational and other weaknesses in the development programme and take necessary steps to remove the bottlenecks coming in the way of speedy development of ground water resources.

### **Reply of Government**

The directive of the Committee has been noted. All possible efforts are being made to expedite the setting up of this Cell by filling up the new posts created. The Teams have been regularly visiting the States assigned to them and their terms of reference include identification of technical, organisational and other weaknesses in the development programme and recommending necessary steps to remove the bottlenecks coming in the way of speedy development of the ground-water resources. It may be added that as a result of close monitoring and scrutiny by these teams, the pace of development of minor irrigation in the six States has gone up considerably during the last two years.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70|1|78-Coord., dated 20-11-78]

### **Recommendation Serial No. 118 (Para 10.48)**

The Committee note that technical hand books, guidelines and papers have been prepared and circulated widely for providing guidance to field officers. The reports completed by the Central Ground Water Boards are being put to full use by the States in planning of ground water schemes, in the design and construction of ground water structure under these schemes. The Committee hope that in the light of experience gained, the Central Ground Water Board would continue to review the guidelines and provide technical literature for bringing about improvement in planning and execution of ground water development schemes.

### **Reply of Government**

These activities are being continued with a new orientation towards preparation of Ground Water status reports Statewise and Districtive so as to help State Governments in planning Ground Water Development on scientific lines. The technical guidelines and

other pertinent literature on Ground Water Structures is under constant review and is issued to Sates from time to time.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70|178-Coord., dated 20-11-78]

### **Recommendation Serial No. 119 (Para 10.49)**

From 1966 to March, 1974 (end of the Fourth Plan) 15 training Courses have been conducted by the Board in which 335 officers were trained. 22 officers were trained in the 16th Course (1974-75) and 23 officers were trained in the 17th Course (1976-77). Thus a total of 380 officers were trained at the completion of the 17th Course. At present 26 officers are being trained in the 18th course which started with effect from 1st November, 1977. The Committee have been informed that the need for training facilities in the field of ground water are proposed to be revised in consultation with the State Governments in the next one or two years when the subsequent Plan proposals of the Central Ground Water Board are drawn up. The Committee feel that adequate trained man power will go a long way in bringing about efficiency and economy as also in removing organisational and technical weaknesses in the ground water development programmes. The Committee, therefore, desire that the requirements for training of officers and staff should be carefully reviewed.

### **Reply of Government**

The regular training programme of the Board is continuing and under this 18 courses have so far been completed and 406 Officers from the States, Central Agencies and Central Ground Water Board have been provided exhaustive training in the field techniques on ground water investigation, exploration, development and management.

The training requirements in relation to Sixth Plan have been revised. The scope of the training programme is proposed to be enlarged in respect of the following:—

(a) training is to be imparted to the officers and staff at various levels.

(b) The training would also be more comprehensive to cover different aspects of planning and Ground Water Struc-

tures and selection of pump-sets and areas where considerable improvement is called for.

A proposal to set up a Regional training centre for this purpose in collaboration with U.N.D.P. is under active consideration.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70|1|78-Coord., dated 20-11-78]

### **Recommendation Serial No. 120 (Para 10.50)**

The Irrigation Commission in their report (1972) and the National Commission on Agriculture in 1976 recommended that legislation should be enacted for regulating the use of ground water in the States wherever over-exploitation is in evidence. The Committee understand that in some States like Gujarat, Haryana, Punjab, Rajasthan and Tamil Nadu, the development of ground water will reach its limit during the Fifth Plan. They note that a Model Bill was circulated to the States by the Union Ministry of Agriculture in 1970. The Committee desire that the question of having suitable legislation for regulation, control and management of ground water should be pursued with the State Governments concerned.

### **Reply of Government**

The question of having suitable legislation for regulation, control and management of ground water has been actively pursued with the State Governments concerned. In respect of Gujarat, an Ordinance for ground water control has already been promulgated. The Government of Tamil Nadu has also prepared a draft bill which is in the process of enactment. In case of other States viz. Haryana, Punjab, Rajasthan, the respective Chief Ministers have been requested by the Minister (A&I) to give due consideration to this matter and expedite early enactment of the legislation. The States are also being pursued at all meetings and discussions to expedite the legislation.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70|1|78-Coord., dated 20-11-78]

### **Recommendation Serial No. 121 (Para 10.51)**

The Committee are of the view that rain waters and surplus river waters rainy in season can be used advantage to recharge the underground water wherever the underground water level has gone down and the low water level is causing scarcity of water. They would like to suggest that feasibility studies for utilisation of such

waters may be undertaken and necessary schemes formulated and implemented to augment the underground water resources.

### Reply of Government

Schemes have been formulated by the Central Ground Water Board for undertaking feasibility studies on artificial recharging the aquifer system. Some work in this respect was done under UNDP assisted Ghaggar Project and results thereof would be available shortly. Pilot studies on artificial recharge are also proposed to be undertaken in Mehsana and Coastal areas of Saurashtra with the assistance of U.N.D.P. Another project on induced recharge is proposed to be undertaken in Ballia and Buxar Areas in the Gan-<sup>g</sup> Basin.

[Ministry of Agriculture and Irrigation (Department of Irrigation) <sup>Gi</sup>

O.M. No. 70|1|78-Coord., dated 20-11-78]

### Recommendation Serial No. 122, (Para 11.13)

The Committee note that with effect from 1st November, 1974, a separate Department of Irrigation has been set up under the reconstituted Ministry of Agriculture & Irrigation. The Department of Irrigation is responsible for laying down the national policy for development and regulation of country's water resources in respect of major and medium irrigation schemes. Minor irrigation, Command Area Wing and Central Ground Water Board are under the control of the Department of Agriculture. The Irrigation Commission in their report (1972) recommended that the Central Ground Water Board should be transferred from the Ministry of Agriculture to the Ministry of Irrigation and Power. The National Commission on Agriculture recommended in 1976 transfer of minor irrigation and Command Area Wing from the Department of Agriculture to the Department of Irrigation. The Committee have been informed that no decision has yet been taken on the recommendations of the Irrigation Commission made in 1972 and of the National Commission on Agriculture in 1976. These recommendations would be examined by the Committee of Secretaries, and it is not presently possible to indicate the precise time when a final decision is likely to be taken on these recommendations. The Committee regret the delay in taking decision on these important recommendations. They would like Government to take an early decision in the matter. The Committee hope that in the mean time, effective coordination would be maintained between the various Departments with a view to speedy implementation of the irrigation and Command Area Development Projects.

### Reply of Government

A meeting of the Committee of Secretaries and Irrigation Departments was held on the 24th August, 1978 to consider the National Commission on Agriculture's recommendation about the transfer of minor irrigation and Central Ground Water Board to the Department of Irrigation. During the meeting, the consensus was that what was necessary was coordinated utilisation of water resources for which coordination between the Departments of Agriculture and Irrigation will be necessary.

1 Effective coordination is being maintained between the Departments of Agriculture and Irrigation with a view to having integrated utilisation of water resources and expeditious and more efficient utilisation of irrigation potential through Command Area Development. The officers concerned in the two Departments have joint meetings for this purpose and also undertake joint tours to the States.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord., dated 6-12-78]

### Recommendation Serial No. 123 (Para 11.14)

The Committee are glad to note that in pursuance of the recommendations of the Irrigation Commission (1972), both technocrats and generalists are treated at par in the case of appointment to the post of Secretary to the newly constituted Department of Irrigation. The Committee hope that this will help in increasing the efficiency and expedition of work in the Department.

### Reply of Government

Noted.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord. dated 20-11-78]

### Recommendation Serial No. 124 (Para 11.22)

The Committee note that for the efficient execution of various major inter-State projects, the Central Government has established Control Boards. At present five inter-State Control Boards are functioning (Mahi, Gandak, Tungabhadra, Dhakra and Beas) and two more Control Boards (Betwa and Bansagar) have been set up recently but these have not started functioning. The Committee note that there is no uniformity in the functioning of the various Control Boards, while the Mahi Project has a number of special committees



to look after different aspects of the project, there are no such committees in case of Gandak and Tungabhadra projects. There is also no fixed periodicity for the meeting of the Control Boards. The Committee consider that since the Control Boards are functioning in a number of projects, it would be desirable if their working is evaluated with a view to evolving a broad organisational pattern and bringing about improvements in their functioning so as to make them more effective for speedy and economic execution of the projects.

### **Reply of Government**

The suggestion of the esteemed Committee that there should be uniformity in the functioning of the various Control Boards, is noted. As far as possible, efforts will be made to follow this suggestion. However, each project has its own peculiarities and depending on the complexity and also on the desires of the participating States, the constitution and functioning of the Control Boards, is decided. The periodicity of the meetings also depends on the requirements of each of the project under consideration. The suggestion of the esteemed Committee to evaluate the functioning of the Boards with a view to evolving a broad organisational pattern and bringing about improvements in their functioning so as to make them more effective for speedy and economic execution of the projects, is noted.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord. dated 20-11-78]

## CHAPTER III

### RECOMMENDATIONS/OBSERVATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF GOVERNMENT'S REPLIES

#### **Recommendation Serial No. 5 (Para 1.45)**

The Committee note that development of water resources is essentially a State subject and therefore the responsibility for investigation, formulation, implementation and operation of irrigation projects, vests mainly in the State Governments. Under Entry 56 of Union List, the Central Government can be entrusted with the regulation and development of inter-State rivers and river valleys to the extent to which such regulation and development under the control of Union is declared by Parliament by Law to be expedient in the public interest. The powers of control and regulation exercised by the Central Government are thus mostly advisory in nature. The Committee however note that certain laws have been enacted by the Centre to meet specific situations such as DVC Act, 1948 for development of Damodar Valley, Andhra Pradesh State Act of 1953 making provisions for the Tungabhadra Project, Punjab Re-organisation Act, 1956, specifying arrangements for Bhakra Nangal and Beas Project, the Betwa River Board Act, 1976 to deal with the development of Betwa River Waters. The Central Government have also been responsible in establishing a number of Control Boards for efficient execution of various major inter-State Projects. Under provisions of Entry 56 of the Union List, the River Boards Act, 1956 has been enacted by Parliament but it has not been possible so far to set up any River Board on account of unwillingness or opposition shown by States.

#### **Recommendation Serial No. 5 (Para 1.46)**

The Committee note that in the absence of proper authority in the matter of regulation and development of water resources, the Centre finds itself handicapped in various ways, such as resolution of the conflicting claims of the various users of water in different parts of the country, proper management of inter-State rivers and waterways in regard to flood control, navigation, drainage etc., planning

and development river basins in an integrated manner which cover many States etc. To overcome this difficulty the Centre addressed the States in February, 1973 at the highest level seeking their views on the setting up of National Water Resources Council to evolve a National Water Policy and to resolve disputes as also to set up river commissions to draw up Master Plans etc. The Committee note that the majority of the States did not favour the idea of amending the Constitution which could give sufficient powers to the Centre in this regard. The matter was also referred to the Attorney General and his opinion regarding the extent to which Centre could legislate in these matters under the provisions of Entry 56, is under consideration.

#### **Recommendation Serial No. 5 (Para 1.47)**

The Committee consider that for the proper management of the rivers and waterways as also for optimum utilisation of the utilisable water in the overall interest of the country, it is but appropriate that the Central Government should play an active role in the development and use of water resources. For this purpose, it may also be desirable that a National Water Policy is evolved in consultation with the States. The Committee would like Government to seek the cooperation of the State Governments in this regard and examine the question of enacting suitable legislation under Entry 56 of the Union List of the Constitution.

#### **Recommendation Serial No. 6 (Para 1.48)**

The Committee note that the question of direct involvement of the Centre in the planning of uses of waters of inter-State rivers and other related matters is under active examination. The Committee desire that this matter should be finalised early.

#### **Reply of Government**

The question of evolving appropriate institutional arrangements for ensuring proper management and optimum utilisation of waters of the inter-State rivers and the related proposals for legislation under Entry 56 of the Union List of the Constitution have been considered by the Government. The proposals for Legislation under Entry 56 and the setting up of a National Water Resources Council have been dropped, for the time being. The Government consider that the desired objectives of preparing Basin Plans could be better achieved by informally obtaining the willing consent of the States

concerned and in rare cases the setting up of the River Boards also can be envisaged.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O. M. No. 70/1/78-Coord. dated 1-2-79]

**Recommendation Sl. No. 73 (Para 5.36)**

The Committee feel concerned over the large gap between the irrigation potential created by the Kosi Project and its utilisation. As against the potential of 416,000 ha. created by the end of March, 1976, the utilisation upto the March, 1977 was 198,000 ha., the lag in utilisation being 218,000 ha (52 per cent).

**Recommendation Serial No. 74 (Para 5.37)**

One of the major reasons for under-utilisation of the potential is the inability of the canal to take full discharge due to heavy siltation in head reaches and frequent shut-down of power house after its completion. The Committee learn that the problem of siltation in the Canal has engaged the attention of a number of Committees of Experts. As a result of the measures taken in pursuance of the recommendations made by Expert Committees in 1969, silting was reduced. A silt ejector for ejecting silt entering the canal was installed in 1970, but this was found to be inadequate. In 1973 another technical Committee went into the problem and suggested further measures both short-term and long-term which included detailed recommendations about the canal operation during monsoon season, construction of a second silt ejector, deployment of dredgers, pitching of canal banks in vulnerable reaches and measures for controlling sediment yield. As a long term solution, investigations have been suggested for exploring feasibility of high dam for silt storage and check dams across two tributaries of the river Kosi, Extensive Soil Conservation measures in the Catchment area in Nepal have also been suggested. The Committee have been informed that the construction of the Second silt ejector is under consideration. The canal has been lined and pitched up to 43 Kms. By operating the canal as per suggestions made by the Expert Committee, the canal has been run into full authorised discharge without silting during 1973-74. As regards disruptions caused due to outage of power house, a permanent bypass has been constructed for ensuring continuous supplies in the Canal in the event of shut-down of the power house. The Committee consider that it is necessary to have a permanent solution of the problem of siltation. They are not happy over the

delay in taking a decision on the recommendations made by the Expert Committee set up in 1973 in this regard. The Committee desire that a decision on these recommendations should be taken without further delay.

**Recommendation Serial No. 75 (Para 5.38)**

Another reason for under-utilisation of the irrigation potential is the unrealistic cropping pattern envisaged in the project. The project report envisaged sizeable percentage of area to be irrigated in the monsoon period but due to heavy rainfall during the monsoon period the cultivators were not prepared to take water from the canal. The Committee would like Government to take concerted measures to promote hot weather and other crops which would result not only in utilisation of the irrigation facilities but higher yields and income to the farmers.

**Recommendation Serial No. 76 (Para 5.39)**

The Committee note that there is inadequate response from cultivators about construction of field channels and that there are inadequate extension facilities in the Command area. They note that Kosi Command Area Authority was set up on October, 1973. The Committee desire that under the Command Area Development Programme, concerted efforts should be made to speed up construction of field channels, develop proper cropping pattern and provide adequate extension facilities. The Committee need hardly stress that all efforts should be made to fully utilise the irrigation potential created at a considerable cost.

**Recommendation Serial No. 77 (Para 5.40)**

The Committee understand that because of occurrence of high patches and water logged areas in the project command, the area actually available for irrigation is less than what was assumed in the original project. A Committee set up by the Govt. of Bihar in September, 1973 has suggested reduction in the potential of the project and that the matter is under consideration of the Government of Bihar. It is thus evident that the project report was not prepared after careful survey and investigation. The Committee emphasise that the irrigation potential should be realistically estimated at the time of preparation of project reports.

**Recommendation Serial No. 78 (Para 5.41)**

The Committee would like to point out that the main reasons which have been adduced for under utilisation of irrigation potential in this project are:—

(i) Unrealistic Crop pattern envisaged in the original project of the irrigation potential shown is not appreciable.

(ii) Heavy siltation.

(iii) Inadequate extension facilities in the Command area.

The Committee consider that these difficulties are largely the result of defective planning and surveying and want of advance action. The Committee desire that a careful study be made of the difficulties/deficiencies experienced in these projects so as to draw meaningful lessons to avoid the same in future projects. The Central Water Commission should take necessary remedial measures to ensure better planning of irrigation projects by State Governments and their critical scrutiny by the Commission. The guidelines regarding the preparation of irrigation project reports may be modified suitably where considered necessary.

**Reply of Government**

According to the latest information supplied by Bihar Government, the irrigation potential of 2.46 lakh ha. has been created upto 1977-78 with an utilisation of 1.85 lakh ha. i.e. 75 per cent. The total potential from the project is now estimated at 5.79 lakh ha. which is expected to be developed fully by 1983. The potential created and the utilisation from 1971-72 to 1977-78 are furnished below:—

| Year    | Potential created | (In thousand hectare Utilisation | Percentage |
|---------|-------------------|----------------------------------|------------|
| 1971-72 | N.A.              | 98.33                            |            |
| 1972-73 | N.A.              | 108.69                           |            |
| 1973-74 | N.A.              | 109.72                           | ..         |
| 1974-75 | 184.62            | 130.61                           | 70.74      |
| 1975-76 | 208.91            | 170.32                           | 81.55      |
| 1976-77 | 232.39            | 173.79                           | 74.84      |
| 1977-78 | 246.47            | 184.62                           | 74.90      |

It would be seen from the above table that the lag in utilisation of the irrigation potential shown is not appreciable.

The Kosi Irrigation System, however, has certain engineering problems viz. excessive silt entry on account of the abnormal silt load in the river Kosi, heavy seepage losses in the Porous reaches and poor drainage. Moreover, most of the Kosi command area is undulating and sandy on account of the gradual shifting of river Kosi to the West by 120 Km during the last 200 years with the result that the area is very badly cut up with a large number of old river channels traversing the area. Consequently, there is an urgent need for land levelling in the area. Consolidation of land holdings is also needed. Large areas are cultivated by share croppers who are not eligible for loans etc. for improving the land and constructing field channels. Consequently, land reforms are also urgently called for. The cropping pattern for the command area has to be adjusted to meet the present day needs and also keeping in view the erratic rainfall pattern.

The question of a second silt erector is under consideration of the Bihar Government and the same would be taken up if required. It is now proposed to modernise the Kosi Canal system which would include lining of the channels in sandy and high filling reaches to reduce the seepage losses. Construction of drainage net work has also been commenced and would be completed during the next few years.

Command Area Development Authority has been established and would take up land levelling and construction of field channels. Suitable cropping pattern is also being evolved by them in consultation with the Agriculture Department.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord. dated 20-11-78]

#### **Recommendation Serial No. 109 (Para 10.22)**

The Committee have been informed that there was no overall shortfall under the minor irrigation programme in the various plans. Upto the Fourth Plan against the target of 23.44 million hectares, the actual potential created was 23.96 million hectares (Gross). The Committee have however noticed that even up to the Fourth Plan there was shortfall in targets in some States like Andhra Pradesh, Bihar, Madhya Pradesh and Eastern States. The target fixed during

the Fifth Plan is 6 million hectares (net). But the actual achievement during the first two years of the Fifth Plan was 1.99 million hectares only. The Committee apprehend that at this rate it would be difficult to achieve the target of 6 million hectares by the end of 1978-79. In view of the importance of minor irrigation for increasing production of agricultural commodities including foodgrains, the Committee would like Government to take concerted measures to step up the execution of minor irrigation schemes so that the target of 6 million hectares is achieved by the end of 1978-79.

### **Reply of Government**

The original target of 6 million hectares envisaged for the 5th Plan (1974—79) was lowered to 5 million hectares by the Planning Commission. The estimated achievement during the 4 year period of the 5th Plan (1974-75—1977-78) is 3.8 million hectares. If the target of 1.45 million hectares proposed for 1978-79 is taken into account the expected achievement would be 5.25 million hectares. Thus the target of 5 million hectares for the period 1974-75 to 1978-79 is likely to be exceeded during the same period.

[Ministry of Agriculture and Irrigation (Department of Irrigation)  
O.M. No. 70/1/78-Coord. dated 20-11-78]



## CHAPTER IV

### RECOMMENDATION IN RESPECT OF WHICH GOVERNMENT'S REPLY HAS NOT BEEN ACCEPTED BY THE COMMITTEE

#### Recommendation Serial No. 42 (Para 3.50)

The Committee are perturbed that no perceptible progress has been made in setting up of cost Control Cells in major irrigation projects although the matter is being pursued with the State Governments since 1962. In May, 1962 the State Governments were advised to take action on the recommendations of Rates and Cost Committee which *inter alia* suggested establishment of costing cells in River Valley Projects costing Rs. 15 crores or above. The Committee are surprised that the Ministry took 7 years to prepare the model pattern of costing cells and its duties and functions, which were communicated to the State Governments only in August, 1969. The Committee desire that the reasons for this inordinate delay should be investigated.

#### Reply of Government

In 1962, the recommendations of the Rates and Costs Committee contained in Part 1 of their report, as modified by the team of officers, were communicated to the State Governments for necessary action. Recommendation No. 4 dealt with the establishment of costing cells in all river valley projects costing more than Rs. 15 crores, more particularly, where construction work was mostly carried out departmentally. The main object of this recommendation was:

- (i) To furnish the maximum amount of information from both operation and cost angles;
- (ii) To present in the most practical way the facts that reveal actual performances and aid in the attainment of high standard of efficiency and, therefore, of realisation of maximum economy; and
- (ii) To aid in determining operational policies.

It was stressed that the implementation of these recommendations would ensure better efficiency and overall economy in the implementation of the river valley projects.

Although, the Union Ministry had been pursuing this matter regularly with the State Governments since then by letters and also during discussions in the various meetings, the response was poor. The matter was further considered in the Department of Irrigation and it was decided to give specific guidelines to the States and the model pattern of the cost engineering cells was prepared and recommended to the States in August 1969 for implementation.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O. M. No. 70|1|78-Coord., dated 20-11-78].

## CHAPTER V

### RECOMMENDATION IN RESPECT OF WHICH FINAL REPLY OF GOVERNMENT IS STILL AWAITED

#### Recommendation Serial No. 43 (Para 3.52)

The Committee desire that as projects costing Rs. 30 crores or more are major projects for which sanction is required to be issued by the Central Government, it may be made obligatory for the authorities submitting the estimates to include in it a provision for cost Control Cells. The Committee would like Government to scrutinise in particular the provision for this Cell before according sanction.

#### Reply of Government

Further action is being taken on this recommendation in consultation with the Planning Commission.

[Ministry of Agriculture and Irrigation (Department of Irrigation) O.M. No. 70|1|78-Coord., dated 20-11-78].

NEW DELHI  
April 26, 1979

Vaisakha 6, 1901 (S)

SATYENDRA NARAYAN SINHA,  
Chairman,  
Estimates Committee.

## APPENDIX I

(Vide Sl. No. 53—Para 3.70—Chapter II)

*Powers delegated to Chief Engineer, Rajshahi Dam Project  
(RULE 31)*

| S. No. | Nature of Power Works | Power Delegated to the Chief Engineer | Remarks |
|--------|-----------------------|---------------------------------------|---------|
| 1      | 2                     | 3                                     | 4       |

### *Technical Sanction*

- |   |  |                    |   |
|---|--|--------------------|---|
| 1 | To accord technical sanction to estimates. . . . .   | Full Powers.       | This will be subject to the provisions in the Project. Till such time as the project estimates are approved by the Board, these powers will be subject to the provision for individual works approved by the Executive Committee. |
| 2 | To accord Technical sanction to revised estimates. . . . .                                   | Full Powers.       |   |
| 3 | To accord Technical sanction to estimates for buildings.                                     | Full Powers.       |   |
| 4 | To accord Technical sanction to estimates for special repair (within appropriation limits)   | Full Powers.       |   |
| 5 | To accord Technical sanction to estimates for ordinary repairs (within appropriation limits) | Full Powers.       |   |
| 6 | To pass excess expenditure over technical sanction. . . . .                                  | 10% over estimate. |   |
| 7 | To divert contingency on additional works or repairs not provided in the estimates.          | Full Powers.       |   |

### *Schedule of Rates*

- |   |  |              |   |
|---|--|--------------|---|
| 1 | To formulate/revise the schedule of rates or evolve rates for new items not covered by the existing schedules. | Full Powers. | Copies of the approved schedule of rate shall be supplied to Financial Adviser. |
|---|--|--------------|---|

**Work-charged Establishments**

- 1 To sanction employment of work-charged establishment when
  - (a) Specific provision exists in estimate. . . . . Full Powers.
  - (b) No specific provisions exists in the estimates. . . . . Any post up to Rs. 500/- P.M.
- 2 To pass bills of work-charged establishment . . . . . Full Powers.

**Contracts and Tenders for Works**

- 1
  - (a) To accept lowest tender for works when more than one valid tender is received. . . . . Rs. 50,00,000
  - (b) To accept (i) single tender (ii) tender other than the lowest (iii) tenders which involve negotiations. . . . . Rs. 50,00,000
  - (c) To allot work by negotiations and selection after infrequent call of tenders. . . . . Rs. 25,00,000

The Powers of the Chief Engineer shall be exercised through a sub-committee consisting of Chief Engineer, Financial Adviser and Superintending Engineer concerned provided that substantial variations or changes in the approved tender form should not be permitted. The tender forms for invitation of bids shall be got approved from the Board.

- 2 To enter into agreements for all original works and repairs. . . . . Full powers subject to limitations of acceptance specified in (1) above.
- 3 To alter the time-limit of contracts. . . . . Full Powers.
- 4 To permit or reduce the penalty provided in all contracts. . . . . Full Powers.
- 5 To rescind contracts as per conditions of contract and to take action for completion of the work. . . . . Full Powers.
- 6 To repay security deposits of contractor after the Final Bill has been settled and on lapse of the period and according to conditions specified in the contract. . . . . Full Powers.
- 7 To pass first and final and running bills . . . . . Full Powers.

3 To award work without calling for tenders under normal conditions on work orders.

Rs. 10,000  
(Excluding cost of material supplied by the project)

The work will be awarded to contractors registered with the Board. The rates provided will be in accordance with approved analysis of materials and schedule of rates.

*Purchase of Stores, special T & P, Ordinary T. & P. Equipment, Vehicles etc.*

1 (a) To accept lowest tender when more than one valid tender is received. Rs. 25 lakhs\*

(b) To accept

(i) Single tender  
(ii) Tender other than the lowest tender  
(iii) Tender which involve negotiations

} Rs. 20 lakhs.

2 To make purchases without calling for tenders in case of emergency. Rs. 50,000\*

The powers of the Chief Engineer shall be exercised through a sub-committee consisting of Chief Engineer, Financial Adviser and Superintending Engineer concerned.

3 Purchased against DGS&D rate/running contracts. Full Powers\*

4 Purchase of steel from the Manufacturers at J.P.C. rates notified from time to time from the stock yards of the main producers of steel viz. Hindustan Steel Ltd. Tata Iron and Steel Co. and Indian Iron and Steel Co. at the approved rates without calling tenders/quotations. Full Powers\*

5 Purchase of stores at Central rates fixed by Government. Full Powers.\*

\*The above powers will be exercised against sanctioned estimates and subject to provision in the budget.

*Establishment.*

- 1 To pass pay bills, his own and for staff under him. . . . . Full Powers.
- 2 To Pass T.A. bills. . . . . Full Powers.
- 3 To fix headquarters and jurisdictions of staff within the project area. . . . . Full Powers.

*Office Equipment.*

To sanction the supply or replacement of typewriters, dulpicators and calculators and office equipment. . . . . Full Powers.

*Survey, Drawing and Mathematical Equipment.*

To sanction the supply of survey instruments, drawing and mathematical equipment and instruments. . . . . Full Powers.

*Stationery and Printing.*

- 1 To sanction local purchases of Stationery. . . . . Rs. 1000 at a time and
- 2 To sanction printing of forms etc. . . . . Rs. 5000 in a year
- Rs. 25,000 at a time and
- Rs. 10,000 in a year. %

Subject to Budget provision.

*Miscellaneous\**

- 1 To sanction office telephones. . . . . Full Powers.
- 2 To sanction residential telephones for officers of the level of Superintending Engineers and above. . . . . Full Powers.
- 3 To rent accommodation for offices and stores. . . . . Full Powers.
- 4 To Sanction local purchase of office seals and rubber stamps. . . . . Full Powers.
- 5 To hire office furniture, electric fans, Water Coolers and type-writers. . . . . Full Powers.
- 6 To purchase bicycles for official use. . . . . Full Powers.
- 7 To pay telephone charges. . . . . Full Powers.

Subject to such general rules as may be laid down by the Board for hiring accommodation for public purposes.

On rate contract.

\* Exercise of the powers will be subject to budget provisions.

| 1  | 4   | 3   | 4   |
|----|---|---|---|
| 8  | To incur contingent expenditure on items other than those on which limits/ scales have been prescribed by the Board.  | Rs. 1000 per annum recurring. Rs. 5000 per annum non-recurring. |   |
| 9  | To directly indent on and purchase from Survey of India , Full Powers. Geological Survey of India and India Meteorological Department etc. maps , literature etc. | Full Powers.  | The rules laid down by Survey of India for safe custody of restricted maps will be complied with. |
| 10 | To sanction preparation of Shajras and kharas.  | Full Powers.  |   |
| 11 | To purchase medicines and first aid equipment.  | Rs. 1000 per annum.   |   |



## APPENDIX II

(Vide Sl. No. 54—Para 4.12—Chapter II)  
(of reply to Para 4.12)

### *List of important Modernisation Schemes*

Name of State/Scheme

#### ANDHRA PRADESH

1. Modernisation of Krishna Delta System.
2. Modernisation of Godavari Delta System.
3. Modernisation of K. C. Canal.
4. Modernisation of T.B.P. Canal.

#### BIHAR

5. Remodelling and modernising Tribeni Canal.
6. Sone Remodelling.

#### HARYANA

7. Lining of channels of N.J.C., Bhakra Tract.

#### KARNATAKA

8. Modernisation of K. B. Sagar Canal System.

#### MAHARASHTRA

9. Lining of Nira Canal.

#### ORISSA

10. Modernisation of Rushikalya System.
11. Extension and improvement of Hirakud Canal System.

#### PUNJAB

12. Lining of channels on Sirhind and Bhakra System.

#### RAJASTHAN

13. Modernisation of Gang Canal.

**TAMIL NADU**

14. Modernisation of Cauvery Delta system.
15. Lining of lower Bhavani Canal.

**UTTAR PRADESH**

16. Modernisation of Eastern Yamuna Canal.
17. Modernisation of Agra Canal.
18. Modernisation of Ghagra Canal.
19. Modernisation of Upper Ganga Canal.
- 20. Modernisation of Upper and Lower Ganga Canal System.

**WEST BENGAL**

21. Lining of Mayurakshi and D.V.C. Systems.

### APPENDIX III

*Analysis of the action taken by Government on the recommendation contained in the Twelfth Report of Estimates Committee (Sixth Lok Sabha).*

|      |  |       |
|------|--|-------|
| I.   | Total number of recommendations  | 124   |
| II.  | Recommendations that have been accepted by Government <i>vide</i> recommendations at Sl. Nos. 1 to 4, 7 to 41, 44 to 72, 79 to 108, 110 to 124.            |       |
|      | Number   | 113   |
|      | Percentage to total  | 91.1% |
| III. | Recommendations which the Committee do not desire to pursue in view of Government's replies <i>vide</i> recommendation at Sl. Nos. 5, 6, 73 to 78 and 109. |       |
|      | Number   | 9     |
|      | Percentage to total  | 7.3%  |
| IV.  | Recommendations in respect of which Government's replies have not been accepted by the Committee.  |       |
|      | Sl. No. 42.  |       |
|      | Number   | 1     |
|      | Percentage to total  | 0.8%  |
| V.   | Recommendations in respect of which final reply of Government is still awaited.  |       |
|      | Sl. No. 43   |       |
|      | Number   | 1     |
|      | Percentage to total  | 0.8%  |