

SIXTH REPORT
STANDING COMMITTEE ON
AGRICULTURE
(1993-94)

(TENTH LOK SABHA)

MINISTRY OF WATER RESOURCES
ANNUAL REPORT (1992-93)

Presented to Lok Sabha on —December, 1993
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**COMPOSITION OF THE STANDING COMMITTEE ON
AGRICULTURE
(1993-94)**

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3. Shri Hari Pal Singh — *Under Secretary*

PREFACE

1. I, the Chairman of the Standing Committee on Agriculture (1993-94) having been authorised to submit the Report on their behalf, present this Sixth Report on the Ministry of Water Resources—Annual Report (1992-93).

2. In this Report, the Committee have examined the Annual Report (1992-93) of the Ministry of Water Resources. The Committee also took evidence of the representatives of the Ministry of Water Resources on 12th & 13th July, 1993. The Committee wish to express their thanks to the Officers of the Ministry for placing before them the material and information which they desired in connection with the examination of the subject and for giving evidence before the Committee.

3. The Report was considered and adopted by the Committee on 26th November, 1993.

NEW DELHI;
December, 1993

NITISH KUMAR,
*Chairman,
Standing Committee on
Agriculture.*

1. INTRODUCTION & OVERVIEW

1.1 Irrigation being a state subject, the only role entrusted to the Central Ministry of Water Resources is laying down of policy guidelines and programmes for the development and regulation of the national water resources. The Ministry also helps in field of sectoral planning, coordination, technical examination, assistance in respect of water resources projects, facilitation of external assistance and resolution of inter-state water disputes.

1.2 Since water sector encompasses various needs the working of the Ministry is mainly linked with Union Ministry of Agriculture, Power, Rural Development and Urban Development.

1.3 Out of 4000 cubic kilometres (cu kms) of total precipitation, the average annual flow available in the rivers is around 1850 cu kms. Out of this the utilizable surface water is assessed at 690 cu kms and annual replenishable ground water reserves are 450 cu kms which are under reassessment.

1.4 A total of 352 major irrigation projects and 1057 medium irrigation projects have been taken up so far out of which 185 major and 793 medium projects have been completed besides tens of thousands of minor irrigation projects. As per present mode of classification, a project irrigating more than 10,000 hectares is termed major, between 10,000 hectares and 2,000 hectares is termed medium and less than 2,000 hectares is termed as a minor project.

1.5 The maximum irrigation potential is estimated to be 113.5 M.ha comprising 58.5 M.ha through major & medium and 55 M.ha under minor irrigation (40 M.ha from ground water and 15 M.ha from surface water). In addition inter-basin transfers can enable irrigation in about 35 M.ha. Irrigation potential created by the end of 1992-93 is 83.5 M.ha comprising 31.4 M.ha through medium & major and 52.14 M.ha through minor irrigation schemes. Out of this, about 75.1 M.ha is utilized leaving a gap of 8.4 M.ha.

1.6 One of the most widely discussed problems of major and medium irrigation works is the lag between the creation of potential and its utilization. At the end of 6th Plan, the reported potential was 67 M.ha and the utilization was 60 M.ha as reported by the Ministry of Water Resources. But according to revenue records or Ministry of Agriculture the actual utilization was about 54 M.ha. This shows almost 20-25% discrepancy between the potential created and utilized.

1.7 Over the past 40 years, about Rs. 45,000 crores have been directly invested by the public sector including institutional finances in various categories of water control works; about Rs. 28,000 crores of it in major and medium irrigation works (including Command Area Development); Rs. 14,500 crores in minor irrigation and Rs. 2,500 crores in flood control. Besides this, direct investments have been made by the public sector mainly in the form of subsidies to minor irrigation development through other programmes of the Centre and States, and also through the rural electrification programme.

1.8 Taking the last four decades as a whole, public and publicly funded outlays in irrigation and flood control sector account for 11 per cent of total public plan outlays. However, the proportion has been declining over successive plans.

1.9 On the other hand, while the investment per hectare in major and medium irrigation projects has increased by more than 45 times at 1980-81 prices, the investment per hectare in minor irrigation projects has been declining since 1966-67.

1.10 Though under VIII Plan, CAD Programme has been prioritized and allocated a sum of Rs. 830 crores, i.e. 55.33 per cent of the total plan allocation to the Central I & CAD sector, the scope of CAD programmes has turned out to be considerably narrower than originally envisaged. The progress in terms of land improvement and development of drainage facilities has been meagre and so has the effort and research in evolving and propagating cropping patterns and agricultural practices for optimum use of water under the conditions prevailing in each irrigation command.

1.11 The biggest single malady in the major and medium irrigation sector right from the First Five Year Plan has been the continued tendency on the part of State Governments to add more and more new projects resulting in proliferation of projects and the consequential time and cost overruns, as a result of thin spreading of available resource. Though all five year plans, without exception, declared their intention to give priority to complete the on-going schemes, the addition of new schemes continued unabated.

1.12 Though there is a set procedure to clear the projects and approve the revised cost estimates, the experience of last forty years has revealed that these mechanisms for scrutiny and appraisal have not worked satisfactorily and that there is ample scope for improvement.

1.13 The traditional knowledge and institutional arrangements in respect of surface works and traditional local system have weakened. The repair of these systems has been neglected by users for various reasons and the States have not paid much attention to these. The capacity of these local systems has been reduced and a large number have in fact, gone out of use. It is clear that the maintenance of tanks is being neglected due to which 17 lakhs ha. area has gone out of irrigation in 15 years.

1.14 Micro irrigation systems as drip and sprinkler systems have found greater acceptability among the farmers in recent years especially in water scarcity areas. Under Drip Irrigation, increases in yield upto 230 per cent have been recorded. The input cost of fertilisers, weedicides, pesticides, power and irrigation have been also noted to decrease by as much as 30 per cent. In India, an area of only about 16,000 ha has been covered under this system with major concentration in Maharashtra. This is quite negligible compared to the total area under cultivation in the country.

1.15 Injudicious use of canal water—typically arising from over-irrigation and neglect of drainage—causes water logging, and rise in the water table which if left uncorrected eventually lead to salinisation. Although irrigation and drainage both should go hand in hand, the drainage aspect has not been given due attention even in the major and medium irrigation projects.

1.16 An area of 40 million ha, i.e. nearly one eighth of the country's geographical area is flood prone. The total areas affected annually are on an average of about 7.7 million ha.

1.17 Sutlej Yamuna Link Project (SYL)—Project was started in April 1982 and came to a halt in July 1990. The latest approved cost of the Project has reached about Rs. 500 crores. Ministry of Water Resources has released Rs. 496 crores so far. Only about 3% of earth work, 5% of lining and 14% of structures are remaining to be completed.

1.18 Provision for R&D as a part of central sector during the 8th Plan is of the order of 3%.

1.19 Spillover requirements of funds for on going major and medium projects alone is Rs. 39044 crores (at 1990-91 price level) which has to be met with early atleast in the 9th Plan. Meanwhile, new projects cannot be undertaken unless exceptional circumstances call for their implementation.

2. ORGANISATIONAL SET-UP

2.1 Central Water Commission (CWC) is the apex organisation and technical arm of the Ministry responsible for initiating, coordinating and furthering in consultation with the State Governments concerned, schemes for control, conservation and utilisation of water resources for the purpose of flood management, irrigation, navigation and water power generation. It is headed by a Chairman who is a ex-officio Secretary to GOI and four Members (ex-officio Additional Secretaries) heading Design and Research Wing, Planning & Progress Wing, Water Planning Wing and the River Management Wing.

2.2 Central Ground Water Board (CGWB) carries out nation-wide survey and assessment of ground water resources and lay down broad policy guidelines for their development and management. It is headed by a Chairman (Chief Engineer level) and has two Wings, namely, Hydrogeology and Mechanical Engineering.

2.3 Central Water & Power Research Station (CWPRS) is a research institution offering comprehensive support to the field of water and energy research, water transport and advisers on projects in diverse fields such as river training and flood control, irrigation and hydro electric structures, harbours, waterways and coastal protection, pumps and turbines, hydro dynamics etc. It is headed by a Director at Chief Engineer level.

2.4 National Water Development Agency (NWDA) plans for optimum development of water resources in the framework of National perspective. It prepares feasibility reports for inter basin transfer of waters from surplus to deficit areas. Out of a total of 36 water transfer links, 17 fall under Peninsular component and 19 under Himalayan component. Studies have been completed for 12 links in Peninsular component and field surveys and investigations in respect of 3 links has been taken up. It is headed by Director General who is of the level of Member, CWC.

3. APEX INSTITUTIONAL ARRANGEMENTS

3.1 National Water Resources Council (NWRC) is headed by the Prime Minister and comprises concerned Union Ministers, Chief Ministers and State Chief Ministers. The Council lays down and reviews National Water Policy, accepts and reviews water development plans; directs coordinated studies for such plans; advises on resolving inter-State water disputes and looks into administrative arrangements and regulations for fair and equitable distribution and utilisation of water resources. The following issues are to be considered in the 3rd meeting of the Council likely to be held shortly:

- (i) Ultimate needs of stable population of India and development plans to meet with them during the next twenty years.
- (ii) Controversies being faced by the Water Resources Sector and Govt. of India's stand.
- (iii) Improving the performance of existing projects.
- (iv) Resolution of Inter-State water disputes.
- (v) Implementation of National Water Policy.

3.2 National Water Board (NWB) is the apex official level body to implement National Water Policy and report to the NWRC. The Board set up in 1990 has so far firmed up following action:

- (i) Draft Policy for Pricing of Irrigation Water.
- (ii) Draft Policy for Rehabilitation and Resettlement.
- (iii) Draft National Irrigation Management Policy.

4. PRIORITY & STRATEGY FOR IRRIGATION DURING VIIIITH PLAN

4.1 Strengthening of irrigation sector has been termed as one of the priority sectors in the objectives of the VIIIth Plan formulated by the Planning Commission. This necessitated giving greater thrust to the development of Science & Technology through establishing and setting Central institutions in the water resources sector like Central Water Commission, Central Ground Water Board, Central Soils & Materials Research Station, Central Water & Power Research Station and National Institute of Hydrology and speeding up of their continuing programmes on one hand and undertaking of new innovative programmes on the other which are very essential for the proper and balanced development of water resources of the country during the 8th Plan period. With these dual objectives, the Ministry had prepared 8th Plan (1992-97) proposals for Rs. 5886 crores. Special thrust was laid on (a) Early completion of National projects through Central assistance to the States for Rs. 750 crores, (b) Irrigation development schemes for SC/ST and specially identified backward blocks preparation of master plan in 250 blocks and its implementation in 100 blocks with a provision of Rs. 150 crores, (c) Taking up multipurpose projects in North-Eastern sector, (d) Greater thrust to the Command Area Development Programme, so as to close the gap between the irrigation potential created and its utilisation by 10 million hectares with a provision of Rs. 2100 crores, (e) Setting up of National Irrigation Management Institute for imparting training in better water management practices with an outlay of Rs. 15 crores, (f) Setting up of a Tank Irrigation Management Board with a provision of Rs. 50 crores, (g) Construction of Tipaimukh and Pagladiya Dams with an outlay of Rs. 542 crores. However, with the meagre allocation of Rs. 1500 crores, it has not been possible for the Ministry to undertake the above programmes as had been envisaged. The Ministry have time and again taken up the issue of enhancement to outlays with the Planning Commission who have agreed to consider the same through Annual Plan allocations depending upon the availability of funds. Besides the Ministry have also taken up the issue of assigning priority to irrigation sector with the State Governments and have suggested them to enhance the outlays to atleast about 20% which is considered minimum for the proper and optimal development of this sector.

4.2 For the irrigation, Command Area Development and Flood control sector as whole, the main elements of the strategy for the Eighth Plan inter-alia include:

- (i) Completion of on-going projects with a strict prioritisation of funds under major and medium irrigation sector. No new projects will be included unless the needs of on-going projects are fully met.
- (ii) Encouragement to greater user participation in major and medium irrigation projects both at the system level and at local level.

- (iii) Reviewing of CAD Programme in each State to make it a more effective instrument for ensuring speedy transit to irrigated agriculture and optimum use of water.
- (iv) Modernisation and improvement of older irrigation systems including minor irrigation.
- (v) Repair and improvement of minor irrigation task as well as the development of new works as part of the integrated micro development projects will be encouraged.
- (vi) Speedy completion of large number of on-going surface water minor irrigation schemes.
- (vii) Encouragement of minor surface water lift irrigation schemes both individually and community owned.
- (viii) Introduction of CAD concept in large minor irrigation schemes above 500 ha. or in a group of schemes to make continuous block of 500 ha. and above.
- (ix) Verification and periodically updating of the basic data on the number of wells.
- (x) Discouragement of over exploitation of ground water.
- (xi) Installation of sprinkler and drip irrigation system in water scare and drought prone areas.
- (xii) Improvement in the utilization of public tubewells and their rehabilitation.
- (xiii) Emphasis on conjunctive use of surface and ground water particularly in those irrigation commands with large scale waterlogging.
- (xiv) Extension in the coverage of flood forecasting and warning systems.
- (xv) Preparation of flood control master plan for various basins.
- (xvi) Strengthening of training and research programme.

5. 8TH PLAN PROVISION

5.1 Although Irrigation Sector is a priority sector, plan allocation which was 18.7% of the total first plan was reduced to 8.9% in the 7th Plan. During the 8th Plan, of the total plan size of Rs. 434000 crores, I&CAD and Flood Control Sector has been allocated Rs. 32525 crores which constitutes 7.5% which is the lowest so far. In the States for the VIIIth Plan, percentage allocation for irrigation goes upto a maximum of 33% but lowers around 15% for major States. In the Central Sector, allocation in the I&CAD Sector in the 8th Plan is only Rs. 1500 crores which is about 0.6% of Central Sector Plan. The State and Central Water Sector

provisions are in 95:5 proportion only, although Ministry of Water resources has been seeking a larger share for Central Sector. During the 8th Plan and for 1993-94 following provisions are made:

PLAN PROVISIONS

(Rs. in crores)

Sl. No.		8TH PLAN			ANNUAL PLAN		
		Centre	State	Total	(93-94)	Centre	State Total
1.	Major & Medium irrigation	95	22320	22415	36	3805	3841
2.	Minor Irrgn.	293	5684	5977	48	1168	1216
3.	Command Area Development	830	1680	2510	115	342	457
4.	Flood Control	282	1341	1623	76	264	340
	Total	1500	31025	32525	275	5579	5854

5.2 Position of centrally sponsored schemes is as follows:—

Sl. No.	Scheme	Outlay	
		8th Plan	Annual Plan (93-94)
I	Command Area Development	830	115
II	Minor Irrigation		
(a)	Surface Water		
	(i) Rationalisation of Irrigation Statistics	18	4.3
	(ii) Evaluation of Minor Irrigation Programme	1.7	0.7
(b)	Groundwater Assisting States for artificial re-charge	40	1.5
	TOTAL	889.7	121.5

5.3 Strengthening of Irrigation sector has been termed as one of the priority sector during the 8th Plan. Accordingly, the Ministry of Water Resources had formulated the 8th Plan (1992-97) proposals for Rs. 5886 crores keeping in view (i) the objectives and strategy as laid down in the 8th Plan document of the Planning Commission, (ii) to overcome the anomalies which have already crept up in the sector and (iii) to ensure the optimal development of this sector during the 8th Plan period and had incorporated many new programmes to achieve these objectives.

5.4 However, against the targetted requirement of Rs. 5886 crores, the Water Resources sector was allocated only Rs. 1500 crores which is 4.6% of the total outlay of Rs. 32525.29 crores in this sector.

5.5 The Ministry is of the considered opinion that atleast 20% of the total plan outlay should be allocated to the irrigation sector as a whole and at least 10% of it should be allocated to the Central sector schemes for optimal development and removing the anomalies that have already crept up in the sector.

5.6 In view of the meagre allocation of Rs. 1500 crores, the Ministry has not been able to undertake those programmes as had been envisaged. Therefore, the new responsibilities proposed to be undertaken by this Ministry during the 8th Plan required to be provided for through separate additional provisions. Some of the important new items which the Ministry would like to undertake during the 8th Plan, if the funds become available, are as under:

S. No.	Name of the Programme	Additional resources required during the next three years of the Eighth Plan
1	2	3
1.	Providing Central assistance to projects of national importance	Rs. 450 crores
2.	Construction of Tipaimukh and Pagladiya projects for development of North-Eastern States	320 "
3.	Setting up of Tank Irrigation Management Board for improving performance of Tank irrigation	30 "
4.	Integrated development scheme for irrigation facilities in blocks with predominant SC/ST population-preparation of master plans in 250 blocks and its implementation in 100 blocks	90 "
5.	Drainage scheme in Bihar and Brahmaputra Valley	70 "
6.	Setting up of National Irrigation Management Institute for introducing better water management practices in the country.	15 "

1	2	3
7.	National Hydrology projects for better monitoring of water resources	75 "
8.	Expansion of Command Area Development programme	750 "
Total Rs.		1800 "

Thus, the minimum additional resources required during the next three years works out to about Rs. 1800 crores. This should be allocated.

5.7 Plan outlay for 1993-94 is more than the outlay for 1992-93 by Rs. 49.00 crores (16.95%). This increase is mainly due to—

- (i) more outlay for Command Area Development Programme;
- (ii) more outlay for Flood Control Works in Brahmaputra Valley; and
- (iii) Budgetary support to National Projects Construction Corporation Ltd. (NPCC).

5.8 Keeping in view the major thrust areas as identified by this Ministry, Planning Commission was requested to provide an outlay of Rs. 288.28 crores. Finally, an amount of Rs. 275.00 crores has been provided in the Budget Estimates for 1993-94 for Irrigation and Flood Control Sector. In addition, Rs. 14.00 crores were also provided under Transport Sector. Thus, the Plan funds would be enough to carry out the on-going activities.

5.9 Budget for 1993-94 (Plan and Non-Plan taken together) can be broadly classified as under:—

	(1993-94)	(Rs. in crores) %age
(i) Direct Expenditure	166.66	43.08
(ii) Releases to autonomous bodies and Research Institutes	28.13	7.27
(iii) Releases to States as 'Grant' and 'Loan'	182.15	47.07
(iv) Budgetary support to PSUs	10.00	2.58
TOTAL	386.94	100.00

Thus, about 57% of the funds are meant for transfer to States, autonomous bodies and budgetary support to PSUs. Only 43% of the funds are meant for the Organisations of this Ministry and their activities/programmes.

6. IRRIGATION POTENTIAL CREATED & UTILISED

6.1 The ultimate irrigation potential is estimated to 113.5 Mha. comprising 58.5 Mha. through major & medium and 55 Mha. under minor

irrigation (40 Mha from ground water and 15 Mha. from surface water). In addition inter-basin transfers can enable irrigation in about 35 Mha. Thus, against this ultimate irrigation 83.5 Mha. (comprising 31.4 Mha. through medium & major and 52.14 Mha. through minor irrigation schemes) irrigation potential has been created. Out of this, about 75.1 Mha. is utilised leaving a gap of 8.4 Mha.

6.2 For the optimal utilisation of irrigation potential created, the Ministry has been making efforts through a centrally sponsored Command Area Development Programme which was launched in 1974-75. The programme has been given a major thrust during the VIII Plan. The thrust and importance accorded to this programme can be noticed from the fact that 55.33 per cent of the total plan allocation under VIII Plan has been allocated to this programme. All the remaining potential has to be developed soonest possible, say by the end of 10th Plan.

6.3 Despite measures taken by the Ministry, the lag between the creation of potential and its utilisation is burgeoning at an alarming rate. There is a wide discrepancy i.e. 20-25 per cent between the potential created and utilised. At the end of 6th Plan reported potential was 67 Mha. and utilisation was 60 Mha. as reported by the Ministry of Water Resources but it was 54Mha according to the record of Ministry of Agriculture. The Ministry of Water Resources has accepted the above truth in a note submitted to the Committee. However, the Ministry enumerated a number of reasons for the same and accepted that even allowing for these reasons, the pace of utilisation has been far below.

7. COMMAND AREA DEVELOPMENT PROGRAMME

7.1 To bridge the widening gap between the irrigation potential created and utilised CAD Programme has been prioritized and allocated a sum of Rs. 830 crores (which is 55.33 per cent of the total VIII Plan outlay) during the VIII Plan peiroad. This programme was launched in 1974-75 as a Centrally Sponsored Scheme with the sole objective of achieving maximum utilisation of irrigation potential created. At the inception of this programme in 1974-75, there were 60 irrigation projects with 38 Command Area Development Authorities spread over 13 States with Culturable Command Area (CCA) of about 150 Lakh hactares. At present, there are 164 projects under this programme with a CCA of 209.4 lakh ha.

7.2 The financing of this programme is done through the following sources:

- (i) Central assistance to the States on matching basis for certain selected activities of the programmes;
- (ii) States' own resources; and
- (iii) Institutional Finance

7.3 During the Seventh Plan, outlay under this programmes was Rs. 500 crores and expenditure Rs. 496.87 crores was incurred. VI Plan emphasised the physical infrastructure required for effective Water distribution at micro level for the execution of this programme. During VII Plan, the emphasis shifted towards software activities, such as introduction of warabandi, carrying out of adaptive trials, demonstrations, training of farmers and field functionaries on efficient management, installation of communication net work and organisation of farmers associations. Development of Plans for conductive use of surface and ground water would be another area of intensive consideration during VIII Plan. Concurrent monitoring evaluation is being considered by requesting the States to create a monitoring cell at project and State level.

7.4 During the ensuing year i.e. 1993-94 a provision of Rs. 115 crores has been made under this programme. Out of it Rs. 1.5 crores have been kept to facilitate R&D programme in the Ministry.

7.5 On the whole, the scope of CAD programmes has turned out to be considerably narrower than originally envisaged. The progress in terms of land improvement and development of drainage facilities has been meagre and so has the effort and research in involving and propagating cropping patterns and agricultural practices for optimum use of water under the conditions prevailing in each irrigation command.

8. PROCEDURE FOR CLEARANCE OF MAJOR AND MEDIUM PROJECTS

8.1 In a note furnished to the Committee regarding procedure for clearance for major and medium projects, the Committee were informed that the irrigation projects require their techno-economic feasibility be the established in the Central Water Commission before they are placed before the Advisory Committee of the Ministry of Water Resources for Irrigation, Flood Control and Multipurpose Projects for acceptance and recommendation to the Planning Commission for according investment clearance. For major and multipurpose projects State Governments are required to submit detailed project reports which are examined from the technical angle in the various specialist Directorates of CWC, in the Deptt. of Agriculture, Central Ground Water Board and the Budget Section of MOWR. Besides, the State Governments have to obtain statutory clearances from the environment angle and forest angle, if forest land is involved. Clearance of the Ministry of Welfare for the rehabilitation and resettlement (R&R) plans is also required if displaced population involves tribals. For medium projects, the State Govts. are required to submit only a proforma report and examination of this in the CWC is confined to be Project Appraisal Organisation only. While environmental clearance is not required for medium projects, forest clearance and clearance for R&R plans is required

from concerned Ministries if forest land is involved and if tribals are displaced. Besides technical scrutiny of projects in the CWC, the funding aspects are looked into by the CWC, Advisory Committee and the Planning Commission.

8.2 It has generally been observed that the CWC guidelines are not adopted by the State Govts. while preparing detailed project reports. Compliance to the observations of the CWC on the technical aspects conveyed after examination is also inordinately delayed in many cases. As a measure to abridge the scope and extent of scrutiny of examination at the Centre, guidelines were issued in February, 1990 advising the State Governments to set up State level Appraisal Committees and to process the projects through this Committee after scrutiny in State CDO before submission to the CWC. However, the suggested revised procedure has not been adopted so far by any State necessitating continued detailed scrutiny in the CWC to ensure techno-economic soundness of the proposals.

8.3 The Advisory Committee of the MOWR is chaired by Secretary (WR) and has as its members the Secretaries in the Ministry of Finance, Environment, Power, Agriculture, Welfare, Chairman of CWC, CEA, CGWB, Director General, ICAR, Advisers—I&CAD and Energy of Planning Commission and Financial Adviser of MOWR. While it would no doubt be ideal if the Committee could act as a single window for clearance of projects, this has not been possible in practice since for the statutory clearances required from environment and forest angles, the Ministry of Environment have constituted two Committees viz., the Environmental Appraisal Committee and Forest Advisory Committee. State Govts. are required to submit detailed action plans to these committees covering catchment treatment, command area, R&R and compensatory afforestation. Similarly R&R plans are to be submitted to the Ministry of Welfare, if tribal population is involved, in prescribed format for examination in that Ministry. Thus, while the Advisory Committee does act as a single-window in respect of clearance concerning CWC, CEA, Deptt. of Agriculture and CGWB, in so far as environment and forest clearances are concerned, the representative of the Ministry of Environment in the Advisory Committee is not vested with any power to convey clearance till the proposals are considered and cleared internally in the two committees of the Ministry of Environment.

8.4 Another reason why processing of new projects gets delayed is that after allocation of funds to on-going projects, State Govts. are left with limited funds for new projects. This calls for a selective inclusion of new projects after a prioritisation exercise to avoid thin spreading of resources leading to time and cost overruns if too many new projects are taken up at a time. This also has a bearing on clearance of new projects.

9. WATER LOGGING, SALINITY AND ALKALINITY

9.1 According to the report of Working Group appointed by the Ministry of Water Resources in 1986, an area of 2.46 million hectares affected by Water logging, 3.06 million hectares by salinity and 0.24 million hectares by alkalinity in the irrigated commands. However, the Ministry of Water Resources has not carried out any survey to assess the extent, nature, and location of water logged, salined and alkalined lands.

9.2 The strategy during the VIII Plan inter alia envisages (i) Systematic survey to assess the extent to, nature and location of water logged and saline and alkaline lands in existing projects commands, (ii) taking up of phased programme to reclaim such lands and restore them to their potential in a cost effective manner, (iii) improvement in the planning of water use and management and (iv) planning of cropping pattern with due regard to soil and drainage conditions.

10. FLOOD CONTROL AND MANAGEMENT

10.1 An area of 40 M ha, i.e., nearly 1/8 of the country's geographical area is flood prone. The total area affected annually on an average is about 7.7 M ha. The cropped area affected annually is about 3.5 M ha and was as high as 10 M ha in the worst year. Since independence nearly Rs. 3000 crores have been incurred in the flood control works consisting primarily of construction of new embankments, drainage channels, afforestation to save more than 400 towns and raising more than 4700 village above flood level. An estimated 135 M ha have been protected by these measures.

10.2 On the whole, there has not been any integrated approach towards the development and harnessing of available water resources in the country. Flood management schemes need to be planned within the framework of an integrated long term plan and in conjunction, where appropriate, with plans for other water resource development such as irrigation, power and domestic water supply. This will help increase effectiveness of flood control measures and may also improve their economic viability.

11. MAINTENANCE OF IRRIGATION PROJECTS

11.1 Proper maintenance of irrigation network including field channels, is essential to have the optimum utilisation of created irrigation potential. Presently maintenance of main irrigation system from headworks to Government outlet is the responsibility of States for which funds are provided under non-plan heads. Since in many of the older projects, the maintenance had been deferred for long due to inadequate funding, the amount of funds needed to bring in the system to proper shape for correction of system deficiency, is quite high. This situation brought about the problem of unreliability in water availability at farm level. To remove this deficiency and to help the States with necessary funds, the Ministry

has launched National Water Management Project (NWMP) with the assistance of World Bank in 1987. At present 84 project covering a CCA of 3.18 M ha with an estimated cost of Rs. 513 crores have been taken up under this programme. It is proposed to cover other projects also gradually under this programme. The basic objective of this programme is to make water available in equitable and predetermined reliable manner at all government outlets.

11.2 Maintenance of Water Courses/Field channels below the Government outlets is also absolutely necessary for proper delivery of water at farm gate. An attempt is being made under the CAD Programme to organise farmers into associations who would take up maintenance job also besides distribution of water among themselves. For this purpose, under the existing financing pattern, Rs. 100/- per hectare is admissible to the associations for the first 2 years and Rs. 75/- per hectare for the 3rd year as management subsidy for taking up water management alongwith maintenance of the micro distribution system. Further liberalisation of the scheme is under consideration.

12. RESEARCH AND DEVELOPMENT

12.1 For giving proper thrust to the Research and Development in the Water Resources Sector, it has been decided to co-ordinate the Research Schemes at the National Level through the various National Level Committees, namely Indian National Committee for Hydraulic Research (INCH), Indian National Committee on Hydrology (INCOH), Indian National Committee on Rock Mechanics and Tunnelling Technology (NICRMIT), etc. The Research Schemes recommended by these committees would be considered for funding by the Ministry of Water Resources. Besides, it is also proposed to launched a mass awareness programme. For this purpose, an outlay of Rs. 7.58 crores has been provided during 1993-94.

13. MONITORING PROCEDURE

13.1 The monitoring of utilisation of funds at the Central level is presently done by obtaining quarterly physical and financial progress reports from the States/UTs. The release of funds to the States are also done after analysing the progress of works and the itemwise expenditure being incurred by the States. Monitoring is also done through periodic visits of officers to the projects and through review meetings with project/State officials.

To improve the monitoring mechanism, the following steps are proposed during the VIII Plan:

- (i) Creation of specific monitoring cells at the State/Project levels;
- (ii) Strengthening of Command Area Development Wing at Central level;
- (iii) Periodic evaluation of Projects;

- (iv) Use of remote sensing techniques to monitor crop coverages and use of computers for actual monitoring of flows in the distribution system.

Recommendations & Observations

1. The Central Ministry of Water Resources lays down policy guidelines and programmes for the development and regulation of country's Water resources. The Ministry's working encompasses sectoral planning, coordination, policy guidelines, technical examination of major and medium projects, technical assistance, monitoring of selected projects, facilitation of external assistance and resolution of inter-state water disputes.

Provision under the Constitution of India on Water at Entry 17 in the State List, namely, "Water that is to say, water supplies, irrigation and canals drainage and embankments, water storage and water power" is subject to the provision of Entry 56 of the Union List. The latter provides for the "regulation and development of inter-state rivers and river valleys" by the Central Government to the extent to which such regulations and development under the control of Union as declared by Parliament by law to be expedient in the public interest.

The Committee are of the opinion that in view of the long standing unresolved inter-state water disputes and for better utilisation of common water resources, the need to bring water resources in the Concurrent List must be re-examined positively at various levels. The Union Government should also take initiatives in consultation with State Governments in starting negotiations with States. There is also a need to hold a national debate on this subject.

2. A total of 352 major and 1057 medium irrigation projects have been taken up so far out of which 185 major and 798 medium projects have been completed besides tens of thousands of minor irrigation projects.

Under the strategy of the VIII Plan, it has been emphasized that for completion of on-going projects (major & medium), states would be asked to allocate maximum resources to the Water Resources Sector to complete their ongoing major and medium projects as earliest as possible. The Ministry has also stated that no new projects will be cleared for the present.

The Committee are perturbed over the fact that State Governments continue to add more and more projects without making adequate financial resources for their completion. The Committee, therefore, recommend that there should be a close association with the Planning Commission to ensure timely and adequate availability of funds by the concerned States for a time bound completion of these ongoing (major & medium) irrigation projects. The Committee have also come across instances of imbalances of both in time & cost overruns. They are of the firm opinion that it should be made mandatory on the part of State

Governments to complete the ongoing projects within a specified time frame.

3. Consequent upon the adoption of the National Water Policy in 1987, the need for an effective irrigation management policy has been keenly felt and a draft National Irrigation Management Policy has been framed by the National Water Board. This draft policy was deliberated upon in the Conference of the Water Resources & Irrigation Ministers of States/Union Territories held on 21.9.1992. This Conference broadly agreed with the thrust of the policy on proper management of irrigation systems for the optimal use of water and recommended that the policy be finalized early.

The Committee concur with the view that management of an irrigation system is not only essential for the proper and maximum utilisation of water available for irrigation but it is also urgently required to enhance the rate of productivity of water, which is very low at present. They strongly urge that the Draft Irrigation Management Policy should be finalized within three months and the Committee be informed of the same.

4. It has been decided under the VIII Plan to strengthen the Irrigation Sector and accordingly the Ministry of Water Resources formulated the Plan proposals for Rs. 5886 crores keeping in view (i) the objectives and strategy as laid down in the Plan document of the Planning Commission, (ii) to overcome the anomalies already existing in the sector, and (iii) to ensure the optimal development and regulation of this sector during the Plan period. Accordingly, the Ministry approached the Planning Commission with the targeted requirement of Rs. 5886 crores. However, the Committee were informed that the Planning Commission allocated only Rs.1500 crores which is 4.6% of the total outlay of Rs.32525.29 crores in I&CAD sector. The overall allocation for I&CAD sector shows a declining trend, i.e. 22.75 per cent in First Plan to 7.5 per cent in the Eighth Plan. Moreover the 8th Plan provision of Rs.1500 crores is about 0.6 per cent of Central Sector Plan.

The Committee have been informed by the Ministry that at least 20% of the total plan outlay should be allocated to the I&CAD sector as a whole and at least 10% of it should be allocated to the Central Sector Schemes for optimal development and removing the anomalies that have already been in the sector. Moreover, in view of the meagre allocation of Rs.1500 crores, the Ministry has not been able to undertake those programmes as had been envisaged in the 8th Plan document.

The Committee observe that the present allocation i.e. Rs. 1500 crores to the Central sector under 8th Plan will not serve the desired objectives envisaged in the 8th Plan document. The Ministry has also submitted that the minimum additional resources required during the next three years works out to about Rs. 1800 crores. In case of non-availability of the additional funds to the extent required, the programmes envisaged in the 8th Plan may have to be scaled down considerably or shifted to the

Ninth Plan. In view of this, the Committee strongly recommend that additional resources as demanded by the Ministry of Water Resources for completion of projects/programmes which are of prime national importance, should be provided to the Ministry immediately. The Committee also recommend that at least 15 per cent of the total Plan outlay should be provided under the I&CAD sector.

5. As per the existing procedure for major and multi-purpose irrigation projects, State Governments are required to prepare the detailed project report and to submit the same to the Central Ministry of Water Resources for examination from the techno-economic feasibility by various specialist Directorates of CWC, the Department of Agriculture, Central Ground Water Board and the Budget Section of the Ministry of Water Resources. Besides this, the State Governments have to obtain statutory clearance from the environment angle and forest angle from the Central Ministry of Environment & Forest, if the forest land is involved. Clearance of the Ministry of Welfare for rehabilitation and resettlement plans is also required, if displaced population involves tribals. For medium projects, the State Govts. are required to submit only a proforma report and examination of this in CWC is confined to the Project Appraisal Organization only. Besides technical scrutiny of projects in the CWC, the funding aspects are looked into by the CWC, Advisory Committee of the Ministry of Water Resources and Advisors of the Planning Commission.

The Committee have been informed that it would undoubtedly expeditiously if the Advisory Committee of the MOWR could act as a single window for clearance of projects. As of now this has not been possible since the statutory clearances required from environment and forest angles. The Ministry of Environment has constituted two Committees viz. the Environmental Appraisal Committee and Forest Advisory Committee for statutory clearance.

The Committee, after having analyzed the entire procedure of clearing major and multi-purpose irrigation projects, conclude that representatives of the Ministry of Environment, Power, Agriculture etc. in the Advisory Committee must be vested with power to validate clearance of major and multi-purpose projects.

6. It has been observed that over the years more and more new projects are being taken up by the State Governments without paying adequate attention towards the maintenance and modernization of the already existing irrigation projects. For the last 20-25 years nothing substantial has been invested for this purpose.

The Committee are of the view that Ministry should provide adequate financial support towards maintenance and modernization of existing irrigation projects.

7. The Committee have been informed that the maximum irrigation potential is estimated to be 113.5 M ha comprising 58.5 M ha through

major & medium and 55 M ha under minor irrigation (40 M ha from ground water and 15 M ha from surface water). In addition interbasin transfer can enable irrigation in about 35 M ha. Against this ultimate potential, created potential by the end of 1992-93 is 83.5 M ha comprising 31.4 M ha through medium & major and 52.14 M ha through minor irrigation schemes. Out of this about 75.1 M ha is utilised leaving a gap of 8.4 M ha. But the actual utilisation as per revenue record of the Ministry of Agriculture is less compared to that of the Ministry of Water Resources. There is 20-25 per cent gap between the potential created and utilized.

The Committee, in this context, are of the opinion that optimal utilization of the potential created is more important than creating additional potential. There is also a need to survey whether this present potential figures are authentic. In the Committee's opinion the present figures as given are unrealistic and doubtful. The Committee, therefore recommend that maximum attention must be given to reduce the existing wide gap existing between the potential created and utilized. The Committee, further, fail to understand how there can be a difference in utilization statistics as given by Ministry of Water Resources & Ministry of Agriculture. There is a need to reduce the existing discrepancy and for this, the Committee urge that the Ministry adopt a viable method for verification of the figures. They also urge that the final figures as arrived at should be the official figure. They, therefore, urge that reasons for this discrepancy be analyzed at the earliest and the Committee informed of the same.

8. SYL project which is reimbursed by the Central Government is still far from its completion. This project was started in April, 1982 and came to a halt in July 1990. Against the latest approved cost of the Project i.e. Rs. 500 crores, Ministry of Water Resources has released Rs. 496 crores so far. Only about 3 per cent of earth work, 5 per cent of lining and 14 per cent of the structures are remaining to be completed.

The Committee desire that the Ministry of Water Resources must ensure the early completion of this project so that unnecessary non-plan expenditure can be saved.

9. An average area annually affected by floods in the country is estimated about 7.7 M. ha and total area prone to floods is to the tune of 40 M.ha in the country. Astronomical and tremendous losses of human and animal life, house, crops and top soils are caused by flash floods every year. Huge emergent funds are provided for relief measure, which usually go down the drain. Substantial portion of these funds are also misappropriated. The Committee observed that during 46 years of independence, Rs.3000 crores have been spent for flood management. This amount is very meagre as compared to the devastating loss during the years. The Committee recommend that flood management must be accorded top priority and this should be commensurate with this realistic fund allocation. On the whole, there has not been a clear-cut and integrated policy of the

State and Central Governments to deal with the management and regulation of Water resources in the country. The Committee is of the view that without proper flood management, no fruitful purpose can be served while developing and regulating the available water resources in the country.

Hence, the Committee recommend that flood management schemes need to be planned within the framework of an integrated long term plan and in conjunction, where appropriate, with plans for other water resource development such as irrigation, power and domestic water supply. This will help increase effectiveness of flood control measures and may also improve their economic viability. The Committee also urge the Ministry of Water Resources to speed up negotiations with Nepal for reaching early solutions of flood problems being created every year by the rivers which have their origin in Nepal but flowing towards Indian territories.

10. The Committee have noted that one of the main priorities of the VIIIth Plan is the installation of sprinkler and drip irrigation system in water scarce and drought prone areas. The Committee note the importance and indispensability of micro irrigation systems and recommend that utmost priority must be given by Ministry of Water Resources to drip and sprinkler systems of irrigation in the rainfed, water scarce and drought prone areas. They urge that Ministry should cover more areas and evolve more programmes to propagate encourage the use of these water techniques. Availability of cheap materials specially pipe used in these systems is of paramount importance, The Government should see that the prices of these materials brought down drastically. All kinds of taxes including customs, excise and sale tax must be abrogated. The Committee feel that there is no point in indulging on a double futile exercise in imposing taxes on one hand and giving subsidies on the other. The Committee observed that a lot of funds are filtered away in both these processes, through avoidable public expenditure and misappropriation. They also urge that Ministry should fix targets so that this programme could in the future become a farmers' movement.

The Committee have been informed by the Ministry that the use of this system increases the yield upto 230%. They would like to be apprised of the basis of the statistics so recorded.

11. The Committee have been informed according to the report of Working Group appointed by the Ministry of Water Resources in 1986 that an area of 2.46 M.ha is affected by water logging, 3.06 M.ha by salinity and 0.24 M.ha by alkalinity in the irrigated commands. The Ministry of Water Resources have also not carried out any survey to assess that extent, nature and location of water logged, salined and alkalined lands. The Committee note with concern that no concerted efforts have been made by the Ministry in this direction. In the Committee's view the main cause of inundation of such area is due to seepage from unlined canals and

channels which account for about 25% wastage of water. The Committee recommend that the scheme to stop this leakage by lining the canals and auxiliary channels be embarked upon immediately. The Committee have been informed that efforts are being made in the VIIIth Plan. The Committee would like to be apprised of the various schemes which have been proposed by the Central Govt. They strongly urge that the Ministry must ensure proper water management. They also suggest that the Ministry should enter into international agreements on construction of dams to control floods.

There is an imperative need for an integrated approach on development and harnessing of available water resources in the country.

12. It has been observed by the Committee that many inter-State major multi-purpose projects could not be completed due to non-availability of required resources or disputes among the member-states on the various issues like sharing water, electricity, etc. The Committee, in this regard, are of the firm view that at least those inter-state major projects whose early completion serve the national interest must be declared as National Projects and consequent upon this their implementation and financial management should be taken over by the Centre.