



2007-08

## Induction Training Report-I



Report submitted to-

**Chief Engineer,**

Maharashtra Engineering Training Academy,  
Nashik

(10/09/2007-06/10/2007)

महाराष्ट्र अभियांत्रिकी प्रशिक्षण प्रबोधिनी नाशिक – ४२२००४

**Maharashtra Engineering Research Institute,**

**Nashik- 422004**

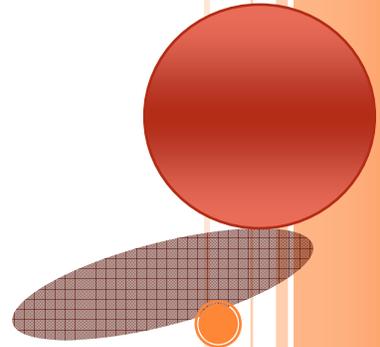
सरळ सेवा भरतीने नियुक्ती दिलेल्या सहाय्यक कार्यकारी अभियंता/सहाय्यक अभियंता श्रेणी-१  
अधिकाऱ्यांसाठी प्रतिष्ठापन प्रशिक्षण कार्यक्रम, (भाग १), जलसंपदा विभाग  
Induction Training (Part I) for Direct Recruits (Assistant Executive Engineer and  
Assistant Engineer (Grade 1)) of Water Resource Department.

कालावधी: ४ आठवडे (१० सप्टेंबर-०६ ऑक्टोबर २००७)  
Duration: 4 weeks ( 10 September-06 October 2007)

# “प्रतिष्ठापन प्रशिक्षण (भाग १) अहवाल” “INDUCTION TRAINING (PART I) REPORT”

सादरकर्ता-  
Submitted by-

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**Pravin Kolhe**  
(Assistant Executive Engineer)



## Executive Summary

**M**aharashtra Engineering Training Academy (META), Nashik organized induction training program for direct recruits - Assistant Executive Engineer and Assistant Engineer (Grade 1) of Water Resource Department (WRD), in accordance with Maharashtra Engineering Service Examination-2004. Expert lectures, seminars and group discussions were organized by eminent personalities and specialist from various sectors and departments. The training was inaugurated on 10<sup>th</sup> September 2007, in the presence of Chief Guest- Shri. Vyankatrao Gaikwad, Secretary (WRD), Shri. Narayanrao Ghuge, CE and Director of META, and other hon'ble dignitaries. It was our honor since chief guest of inauguration function Shri. Vyankatrao Gaikwad as well as president of function-Shri. Narayanrao Ghuge welcomed all the officers for joining WRD and they expressed their views and expectations from this batch. Mr. Pravin Kolhe expressed views on behalf of all the officers, and he promised to work for department under the guidance of seniors and with the supports of subordinates.

The induction training program was scheduled for four weeks, total lectures were conducted and they are summarized in this report under the heading as Chapter 1, Chapter 2, Chapter 3 and Chapter 4 according to weeks. Training program was concluded on 6<sup>th</sup> October 2007 and this report includes the abstract of all the lectures and presentations.

### **First Week:**

On 11<sup>th</sup> September 2007, at 10:00 Shri. R.B. Shukla, CE, Maharashtra Water Resource Development Centre, Aurangabad introduced about organization setup and functions of Water Resource Department. Dr. D.M. More, Rtd. DG, MERI, inspired the newly joined officers to contribute for country. In series of four lectures he introduced about orientation setup of Irrigation Development Corporations. A brief introduction about financial responsibilities of CE, SE and EE presented in second lecture; while third lecture was about commencement of work, supplementary estimates and revised estimates. Apart from administrative and technical information, the most valuable part was the special tips given by him, which will serve as a foundation for our career in WRD.

On Wednesday, 12<sup>th</sup> September 2007, Shri. C.D. Naik, EE, META explained about various types of establishment and professional examinations conducted by META, which are mandatory for every officer [1]. Shri. N.L. Gawale, CE, North Maharashtra Region, Nasik explained definition of major, medium and minor irrigation projects, need of maintenance of dams and canals and the steps taken by Government of Maharashtra, to improve the irrigation potential as well as efficiency of irrigation. On Thursday, 13 September 2007, Shri. S.S. Gholap, Account Officer, Dairy Development Nashik explained the details of contracts, its types and necessary formalities [2]. Shri. P.N. Pate, Training Consultant, Aurangabad expressed expert comments on very complicated and critical issue of land acquisition. With the help of

Land Acquisition Law - 1894 [3]. In second lecture, he explained the transfer of government land and immovable property and schedule of rates [4 - 8].

On Friday, September 14, 2007 Shri. P.B. Sonawane, SE, CDO (Gates) explained administrative duties of - CE, SE, EE, AE/DE/SDE/SDO and Divisional Accountant [9]. Shri. B.A. Puri SE, CDO (Powerhouse) explained technical part for preparation of project report. He concluded his lecture with optimistic views and valuable message – '*Pessimist sees difficulty in every opportunity and optimist finds opportunity in every difficulty.*'

**Comment on First week: We learned the organizational setup administrative and technical role of officer; accounting and legal aspects and opportunities & future scope in the Water Resource Department, Government of Maharashtra.**

### Second Week

First lecture of second week was conducted by Shri. M.V. Patil, CE, WRD, Amaravati on Monday, 17<sup>th</sup> September 2007. He explained the Prime Ministers Relief Package to execute and accelerate the progress of irrigation projects in Vidarbha region. Mr. Kishor Patil, EE, PWD, Nashik explained the various aspects of public buildings, which as classified as Residential and non-residential. The presentation on '*Green Building*' of Income tax department, Nashik, GoM was effective in terms of utilization of natural resources to improve the serviceability and functionability of building.

Shri. S.S. Gholap explained about store and store accounts, cash and cash accounts, transfer entries, revenue receipts and accounting procedure of WRD as well as irrigation development corporations on Tuesday, 18<sup>th</sup> September 2007. Account Officer (Rtd.), Nashik, Shri. H.W. Bhatkhande explained the general outline of system of accounts in relation with AG appropriation. Shri. Jha, Divisional Accountant, MERI, Nashik explained register of expenditure and liabilities, suspense accounts and deposits.

On Wednesday, 19<sup>th</sup> September 2007, the CE of hydrology project- Shri. H.T. Mendhegiri held a discussion session on codes of ethics for engineer in relation to public, colleague, sub-ordinates and engineering profession.

On 21<sup>st</sup> September 2007, second week session ended with group discussion.

**Comment on Second week: We came across the most issue regarding finance- i.e. accounts and accounting procedures. Code of ethics for engineer is a valuable document for us and we will try to inculcate these principles, throughout our life.**

### Third week

The session started on Monday, 24<sup>th</sup> September 2007 by Shri. Y.S. Khatal, Executive Engineer, Kadwa canal Division, Nashik on 'Irrigation and Irrigation act'. He explained Maharashtra Irrigation act-1976 in details. The second lecture was conducted by Shri. S.S. Gholap, on Suspension and deemed suspension. He explained the circumstances in which suspension may be ordered and the authorities to order and revoke suspension.

On 26<sup>th</sup> September 2007, Shri. Y.S. Khatal, explained Forest and Environment clearance act, which is the basic and important step during the process of obtaining clearance for the irrigation project. The Maharashtra Civil Services rules were explained by Shri. D.K. Kulkarni, joint Secretary (Rtd.) on 27<sup>th</sup> September 2007, with the help of a case study.

A discussion talk was held on 28<sup>th</sup> Sept 2007 by Shri. A.N.Pawar, who received 'Best Engineer' award from hon'ble Governor of Maharashtra. The subject was related to

completion report and completion statement. The exciting talk was presented by Shri. B.B. Patil, Chief Engineer, Konkan Prasedh. He shared his experiences with us. Shri. Narayanrao Ghuge, Chief Engineer and Director, META explained Himalayan Rivers Development and Peninsular Rivers Development phases of River linking project. The session ended with the group discussion on 29<sup>th</sup> September 2007 preceded by lecture on regularization of period of suspension after reinstatement common proceeding. He also explained the action against person on deputation, and against pensioners.

**Comment on Third week: The third week consists of Maharashtra Civil Services Rules and suspension and deemed suspension. All the faculties motivated us to follow the right path, by remaining in right track of rules and acts.**

#### **Fourth Week**

Fourth and last week session started on 1<sup>st</sup> October 2007, by Shri. K.A. Grampurohit, Rtd. Superintending Engineer, Nashik on Indian Contract Act. He explained various conditions and clauses of Indian Contract Act. In his second lecture on 3<sup>rd</sup> October 2007, he explained Arbitration Act. Shri. S.S. Gholap explained Maharashtra Civil Services (Occupation of Government Resident) Rules and Corruption Prevention Act-1988. Shri. M.S. Mundhe, DG, MERI, Nashik introduced Challenges and Opportunities in Water Resource Department. Shri. S.R. Borase, Executive Engineer, CDO, Nashik explained Special rules for irrigation, navigation, embankment and drainage works. The Specific Relief act-1994 was explained by Adv. Pallavi Supekar. Shri. J.C. Ganorkar, Rtd. Accounts Officer explained us the MCSR, Workman Compensation act, Industrial Dispute act, and most important-Precautions to be taken during execution of works to avoid irregularities, on Thursday, 4<sup>th</sup> October 2007. Some MCS Rules, and Right to Information act was explained by Shri. D.K. Kulkarni, on 5<sup>th</sup> October 2007. The Payment of Wages act-1936 and Minimum wages act-1948 was covered by Shri. S.S. Gholap on Saturday 06<sup>th</sup> October 2007, followed by Group Discussion.

**Comment on Fourth week: The last week session was oriented on legal aspects and we came in touch with main acts and MCSR rules. The knowledge we earned in this session is valuable. On 6<sup>th</sup> October 2007, we completed Part I of Induction program.**

## कार्य सारांश

**म**हाराष्ट्र लोकसेवा आयोगामार्फत घेण्यात आलेल्या 'महाराष्ट्र अभियांत्रिकी सेवा परिक्षा-२००४' च्या निकालाच्या अनुसंधाने 'सहाय्यक कार्यकारी अभियंता' आणि 'सहाय्यक अभियंता श्रेणी-१' या पदावर नियुक्ती दिलेल्या अधिकाऱ्यांसाठी 'महाराष्ट्र अभियांत्रिकी प्रशिक्षण प्रबोधिनी', नाशिक या संस्थेद्वारे एका वर्षाच्या प्रशिक्षण कार्यक्रमाचे आयोजन करण्यात आले.

१० ऑक्टोबर २००७ रोजी, श्री. व्यंकटराव गायकवाड, सचिव (जलसंपदा), श्री. नारायणराव घुगे, मुख्य अभियंता आणि संचालक (मेटा) आणि इतर मान्यवरांच्या उपस्थितीत या प्रशिक्षण कार्यक्रमाचा शुभारंभ झाला. कार्यक्रमाचे प्रमुख पाहुणे- श्री. व्यंकटराव गायकवाड यांनी सर्व अधिकाऱ्यांचे जलसंपदा विभागात नियुक्तीबद्दल अभिनंदन केले व भावी वाटचालीस शुभेच्छा दिल्या. तसेच श्री. नारायणराव घुगे यांनीही आपल्या अध्यक्षीय भाषणात उपस्थित अधिकाऱ्यांचे अभिनंदन करून शुभेच्छा दिल्या. अधिकाऱ्यांच्या वतीने श्री. प्रविण कोल्हे यांनी व्यक्त केलेल्या मनोगतात जलसंपदा विभागातील वरिष्ठ अधिकाऱ्यांच्या मार्गदर्शनाखाली विभागाच्या व त्याद्वारे महाराष्ट्र राज्याच्या विकासाच्या कामात सक्रियपणे सहभागी होण्याची ग्वाही दिली.

विविध क्षेत्रातील तज्ञ मंडळी आणि मान्यवर यांची व्याख्याने आणि चर्चासत्र या प्रतिष्ठापन प्रशिक्षण (भाग १) च्या कार्यक्रमांतर्गत 'महाराष्ट्र अभियांत्रिकी प्रशिक्षणाचा प्रबोधिनी' मार्फत आयोजित करण्यात आली. चार आठवडे कालावधी असलेल्या या प्रतिष्ठापन प्रशिक्षण (भाग १) चा शेवट ६ ऑक्टोबर २००७ रोजी झाला, व प्रस्तुत अहवालामध्ये सर्व व्याख्यानांचा व चर्चासत्रांचा आढावा घेतला आहे. या कालावधीमध्ये एकूण व्याख्याने आयोजित करण्यात आली आणि त्याचा सविस्तर वृत्तांत प्रकरण १, २, ३, व ४ मध्ये आठवड्यांप्रमाणे दिला आहे.

## Acknowledgement

This report will be incomplete without a proper acknowledgment of the debt to many persons, who made it possible. It is my great pleasure to acknowledge those whose active help and support make this report possible in the present form. First of all I express my sincere gratitude to Shri. Vyankatrao Gaikwad, Secretary (WRD), Government of Maharashtra who introduced us to the fascinating field of Water Resource Department, during the inauguration of training program. I would also like to express my gratitude to Shri. Eknathrao Patil, Secretary (CAD), Government of Maharashtra.

It is the endless guidance and constant encouragement of Shri. Narayanrao Ghuge, CE and Director, META, and all the Chief Engineer's, Superintending Engineer's, Executive Engineer's, of MERI, META, CDO, DSO, Hydrology project and I would like to express my heartfelt gratitude to them.

I am deeply indebted to all visiting faculties for insisting in me the drive to work hard and for inculcating in me the discipline to think clearly. Definitely the knowledge, I received during this training session was a lifetime experience and it will serve as a foundation for my career. I am thankful to my colleagues who make the stay enjoyable. I am thankful to all technical and non-technical staff of the META who helped me directly or indirectly during this training program.

Last, but not least, I wish to express my gratitude towards my parents- Shivaji and Rohini, my grandparents- Rangnath and Sitabai, my uncle Raosaheb and aunty Radhika who sacrificed a lot to give me a good education.

**-Pravin Kolhe**

Assistant Executive Engineer,  
Water Resource Department  
Government of Maharashtra.

## List of symbols and abbreviations

AE	:	Assistant Engineer
AEE	:	Assistant Executive Engineer
Avg.	:	Average
CCA	:	Culturable Command Area
CDO	:	Central Design Organization, Nashik
CE	:	Chief Engineer
CWC	:	Central Water Commission
DE	:	Deputy Engineer
DSO	:	Dam Safety Organization, Nashik
EE	:	Executive Engineer
GoI	:	Government of India
GoM	:	Government of Maharashtra
GMIDC	:	Godawari Marathwada Irrigation Development Corporation
Ha	:	Hectare
ID	:	Irrigation Department
KIDC	:	Konkan Irrigation Development Corporation
KVDC	:	Krishna Valley Development Corporation
MERI	:	Maharashtra Engineering Research Institute, Nashik
META	:	Maharashtra Engineering Training Academy, Nashik
MoE&F	:	Ministry of Environment and Forest
MWRDC	:	Maharashtra Water Resource Development Centre, Aurangabad
PWD	:	Public Works Department
SDE	:	Sub-Divisional Engineer
SDO	:	Sub-Divisional Officer
SE	:	Superintending Engineer
TIDC	:	Tapi Irrigation Development Corporation
VIDC	:	Vidarbha Irrigation Development Corporation
WRD	:	Water Resource Department

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4.6	Specific Relief Act-1994	
4.7	i) MCS (Pay) Rules & MCS (Pension) Rules ii) MCS (Honoraria Fees, Compensation) Rules iii) Local and HR allowance MCS (TA) Rules iv) Right to Information Act-2005	
4.8	i) Workman Compensation Act-1928 ii) Industrial Dispute Act-1947 iii) Precautions to be taken during execution of works to avoid irregularities	
4.9	Right to Information Act-2005	
4.10	i) MSC (Joining Time, foreign service, pay during suspension, dismissal and removal) Rules ii) MSC (Leave) Rules	
4.11	i) Payment of Wages Act-1936 ii) Minimum Wages Act-1948	
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# **Chapter 1. First week**

10 September–14 September 2007



## Chapter 1. First week (10 September – 14 September 2007)

### 1.1. Organization Setup and Functions of Water Resource Department -By Shri. R.B. Shukla, Chief Engineer, Maharashtra Water Resource Development Centre, Aurangabad Tuesday, 11 September 2007, 10:00-11:30

*Shri. R.B.Shukla, Chief Engineer, MWRDC<sup>1</sup>* started lecture with the brief introduction about history of Water Resource Department (previously known as Irrigation Department). Bifurcation of PWD causes the existence of Irrigation Department and PWD in 1960. Again Water Conservation Department is separated in 1992-93 and the Irrigation Department is renamed as Water Resource Department in 2004 as per directions of '*Second Water and Irrigation Commission.*'

Water Resource Department deals with-

- (i) Multipurpose Dams
- (ii) Canals and canal structures
- (iii) Hydroelectric projects
- (iv) Lift Irrigation
- (v) Flood protection
- (vi) Khar land Development

For convenience irrigation projects are classified according to CCA<sup>2</sup> as-

- a. Major Projects : CCA > 10,000 Ha.
- b. Medium Projects : 10,000 < CCA < 2,000 Ha
- c. Minor Projects : CCA < 2,000 Ha.
  - i. State Sector MI Projects : CCA > 250 Ha
  - ii. Local Sector MI Projects : CCA < 250 Ha.

The potential created prior to independence was: 0.274 MHa and potential created after independence was 5.3 MHa, but the since we are using irrigation water for non-irrigation works, the actual irrigated area is about 2.2 MHa, therefore there is scope to improve the efficiency of the irrigation.

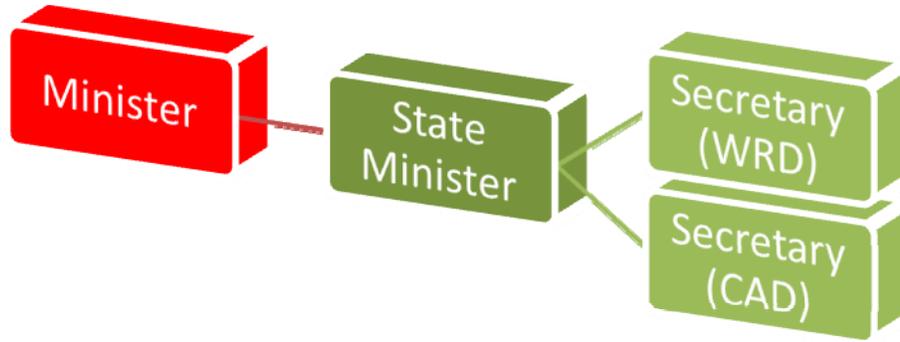
Then after this brief information, he explained the organizational setup of Water Resource Department and presented in following flowcharts. Fig. 1.1.2 and 1.2.3 shows the detail organizational setup under Secretary (WRD) and Secretary (CAD).

Shri. Shukla also explained about following important organizations related to Water Resource Department and their functions-

#### A. Quality Control Organization

<sup>1</sup> Maharashtra Water Resource Development Centre, Aurangabad.

<sup>2</sup> Culturable Command Area.



**Fig. 1.1.1: Organization Setup of Water Resource Department.**



**Fig. 1.1.2: Organization Setup of Water Resource Department.**



**Fig. 1.1.3: Organization Setup of Water Resource Department.**

- B. Maharashtra Engineering Research Institute, (MERI) Nashik
- C. Maharashtra Engineering Training Academy (META) Nashik
- D. Central Design Organization (CDO), Nashik
- E. Dam Safety Organization (DSO), Nashik
- F. Hydrology Projects
- G. Water And Land Management Institute (WALMI), Aurangabad
- H. Directorate of Irrigation and Development
- I. Maharashtra Water Development Centre, Aurangabad
- J. Mechanical Organization

Apart from these administrative details he suggested two inspirational books by Swami Sukhmodanand<sup>3</sup> and Norman Vincent<sup>4</sup>

<sup>3</sup> *Roar Your way To Excellence: Swami Sukhmodanand*

<sup>4</sup> *The Positive way to change your life: Norman Vincent.*

**1.2. Orientation Setup of Irrigation Development Corporation  
-By Dr. D.M. More,  
Rtd. D.G. Maharashtra Engineering Research Institute, Nashik  
Tuesday, 11 September 2007, 11:45-13:15**

Dr. D.M. More is inspiring personality who guided us on the topic of Irrigation development in Maharashtra. Maharashtra occupies main portion of the Indian Sub-continent. The geographical location of Maharashtra is bounded between latitude 16.4o to 22.1o N and longitude 72.6o to 80.9o E and has an area of 307.71 thousand sq km, which is about 9.4 percent of the total geographical area of India. The State has 720 km long coastline along Arabian Sea. The western hill ranges are almost parallel to this coastline. The State is divided into two physiographic regions of Konkan and rest of the State (Deccan Plateau). The Deccan Plateau spread over on the east side of ghat has west-east slope. In general, the altitude of the plateau varies between 300 to 600 m. Maharashtra has Gujarat on north-west, Madhya Pradesh in north, Chhattisgadh on east and Andhra Pradesh, Karnataka and Goa in south.

The Government of Maharashtra has established 5 Irrigation Development Corporations during 1996-98 with a view to complete the irrigation projects in a time bound. These corporations have also been entrusted with the responsibility of giving impetus and commissioning command area development projects, hydroelectric schemes, flood control measures and other associated works. The corporations of the State have been entrusted with the responsibility through five different basin-specific acts.

Following are these corporations:

1. Maharashtra Krishna Valley Development Corporation (MKVDC)
2. Vidarbha Irrigation Development Corporation (VIDC)
3. Konkan Irrigation Development Corporation (KIDC)
4. Tapi Irrigation Development Corporation (TIDC)
5. Godavari Marathwada Irrigation Development Corporation (GMIDC)

The corporations are headed by Executive Director of the rank of Secretary of the Department and are authorized to raise funds from public investment for construction / completion of the projects. In order to meet the O & M<sup>5</sup> expenditure the corporations are delegated with powers of fixing the water rates.

**Present Organizational Setup:**

The organizational set up for irrigation management comprises of section office at the lowest level looking for an area of about 3000 to 4000 ha. The section office is headed by a sectional officer having staff for O & M of the area. The subdivision dealing with four to five sections is headed by sub divisional officer/engineer and works under the control of division. Thus the division is looking after four to five subdivisions with sixteen to twenty five sections and headed by the Executive Engineer in charge of the irrigation projects. The management circle headed by the Superintending Engineer controls three to four divisions. The regional head of the Superintending Engineers (four to five circles) is either Chief Engineer or the Chief Administrator in case of CAD projects.

All the regional Chief Engineers & Chief Administrator are under the control of Irrigation Development Corporations or directly under control of GOM. Though the Irrigation Development corporations are autonomous

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<sup>5</sup> Operation and Maintenance

bodies, they are bound to observe the policy decisions of the Government in public interest. The Superintending Engineers in-charge of irrigation circles are responsible for full utilization of the water stored in reservoir and maintenance of public utilization system, as well as recovery of water charges through their subordinate offices.

**1.3. Financial Responsibilities of CE, SE, and EE.**

**-By Dr. D.M. More,**

**Rtd. D.G. Maharashtra Engineering Research Institute, Nashik**

**Tuesday, 11 September 2007, 14:30-16:00**

**(a) Chief Engineer:**

Chief Engineer exercises a concurrent control with Principal Auditor over the performance of officers in maintaining the accounts. Chief Engineer sees the budget appropriations of the year are fully expended in so far as is consistent with general economy and prevention of large expenditure in closing months of the year for the sole purpose of avoiding lapse. He is responsible for ensuring that money which is not likely to be needed during the year is promptly surrendered so as to allow of its appropriation for the other purpose, by other authority.

**(b) Superintending Engineer**

Superintending Engineer shall see that authorized system of accounts for works, stock and stock manufacture, T&P<sup>6</sup> is maintained throughout his circle and that the Executive Engineer submits their accounts to the Principal Auditor punctually. He shall examine at least once a year the books of Executive Engineer and the subordinates and see that matters related to primary accounts are attended personally by Executive Engineer and SDE/SDO etc. and that the accounts fairly represent the progress of each work. He shall examine the Register of works so as to keep a vigilant watch over the rates of works, watch total expenditure to date under each sub-head of work in contrast with the sanctioned estimate by requiring Executive Engineer to report monthly on work slip, if such expenditure is considered necessary and see that revised estimate for any work, if required are submitted in due time to the sanctioning authority. He shall see that no delay is allowed to occur in the submission of the completion report. Superintending Engineer shall see that the different articles in stock are duly verified according to the rules laid down and that there is no accumulation of stocks in any division beyond requirements. He shall forward the information of Chief Engineer to report of his inspection to Divisional offices.

**(c) Executive Engineer**

Executive Engineer shall not commence the construction of any work or spend public fund without sanction of orders of component authority. He shall close the account immediately when the work is finished and prepare the completion report. He shall take necessary steps to obtain the funds for the

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<sup>6</sup> Tools and Plants

work under his control and keep its accounts and submit them punctually to the Audit Officer. He shall exercise a through and efficient control and check over his Divisional Accountant and carefully examine the books, returns and papers from which the monthly accounts are compiled. He shall be responsible for the correctness in all respect of the original records of cash and store receipts and expenditure and for seeing that complete vouchers are obtained. He shall watch the progress of expenditure under each sub-head of work in contrast with sanctioned estimate and see that a revised estimate is prepared immediately when the necessity arise and submit to the sanctioning authority. Executive Engineer shall examine at least once in 2 year the books of his subordinate.

**1.4. Commencement of Work, Supplementary and Revised Estimates.  
-By Dr. D.M. More,  
Rtd. D.G. Maharashtra Engineering Research Institute, Nashik  
Tuesday, 11 September 2007, 16:15-17:45**

**(a) Supplementary Estimates:**

As per MPW<sup>7</sup> [10], any development of a project though necessary while a work is in progress which is not fairly contingent on the proper execution of the work as per sanctioned, must be covered by supplementary estimate accompanied by full report of the circumstances which render it necessary. The abstract must show the amount of the original estimate and the total of the sanction required including the supplementary amount.

**(b) Revised Estimate:**

A revised estimate must be submitted when a sanctioned estimate is likely to be exceeded by more than 5% either from the rates being found insufficient, or any cause whatever, except as mentioned in forgoing paragraph. It must be accompanied by a comparative statement and the report showing the progress made to date and explaining fully the cause of the revision.

When a submission of a revised estimate under the above paragraph is found necessary, it is essential that the revised estimate should be compared with the latest existing sanction of the competent authority; when by reason of intermediate modifications, such existing sanction differs from consisting of copies of the record plans of more important works and alterations should, if required to evaluate the report or if otherwise so directed by the Superintending Engineer, be prepared in the Executive Engineer's office to accompany the completion report. For the work costing more than the amount up to which of Executive Engineer is empowered to sanction project technically. The record drawings should be submitted to Superintending Engineer for security and return.

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<sup>7</sup> Chapter 3 Works, R. – Supplementary and Revised estimates, *The Maharashtra Public Work Manual-1984*, paragraph 312-315, page 119.

**1.5. Administrative Approval and Technical Sanction**  
**-By Dr. D.M. More,**  
**Rtd. D.G. Maharashtra Engineering Research Institute, Nashik**  
**Wednesday, 12 September 2007, 10:00-13:15**

**(a) Administrative Approval**

Administrative Approval is necessary to obtain by every department for every work (excluding repairs)<sup>8</sup> initiated by, or connected with, the requirements of a department. MPW Manual defines the Administrative Approval as *'a request to the department to execute a certain specified work at a stated sum to meet the administrative needs of the department to execute certain specified work.'*

An application for administrative approval should be submitted to competent authority with- preliminary report, an approximate estimate and plans. If the work is not likely to cost more than Rs. 10,000, detailed plans and estimates may be prepared straightway and submitted to the competent authority for Administrative Approval and being returned thereafter to accord technical sanction.

The above procedure is also applicable for obtaining revised administrative approval in case of-

- i. Modification of the proposal originally approved, if likely to necessitate eventual submission of the revised estimate.
- ii. Deviation from the original proposals, even though the cost of the same many possible covered by saving on other items, and
- iii. Detailed estimates, which exceeds the administratively approved amount by more than 10% or Rs. 1 crore, whichever is less.

**(b) Technical Sanction**

The MPW Manual defines the Technical Sanction as- *'For every work proposed to carried out, except annual repair works costing not more than Rs. 5,000 for which lump-sum provisions have been sanctioned by the Superintending Engineer, a properly detailed estimate must be prepared for sanction of competent authority.'* This sanction is to be accorded on getting administrative approval wherever involved but before the work is commenced.

**1.6. Various Types of Establishments and Professional Examinations.**  
**-By Shri. C.D. Naik,**  
**Executive Engineer, META, Nashik**  
**Wednesday, 12 September 2007, 14:30-16:00**

Assistant Executive Engineer and Assistant Engineers recruited directly to the Maharashtra Service of Engineers, Class I, shall pass the professional examinations

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<sup>8</sup> When a work consists of both original work and repairs, only cost of original work portion is considered to obtain administrative approval. Similarly such a work will not constitute a new service unless the cost of the original work portion exceeds Rs. 50,000.

prescribed as per rules given in MPW Manual<sup>9</sup> within three years from the date from which their service as Assistant Engineer on probation commences.

For Water Resource Department, the thorough knowledge of Irrigation Acts and accounts is tested. The examination is designed so that the candidate should understand and be able to apply rules and regulations concerning, estimates, sanctions, allotments, muster roll, measurement books, bills, register of works, sub-divisional cash book and imprests, cheques, passbooks, cash payments and cash receipts and other matter of similar nature.

Assistant Executive Engineer and Assistant Engineer should qualify the MS-CIT, Marathi, Hindi examinations along with Professional examinations.

**1.7. Maintenance and Repair of Major and Medium Irrigation Projects, Dams and Canals  
Shri. N.L. Gawale,  
Chief Engineer, NMR Nashik  
Wednesday, 12 September 2007, 16:15-17:45**

The purpose of constructing dams and canal is to store water and utilize it safely and efficiently, considering available river discharge and interstate aspects as per government policies and water availability from source. Government policy is to utilize water as per following priority-

- (i) Drinking water for human and live stock
- (ii) Industries
- (iii) Irrigation and Agriculture
- (iv) Navigation

Every Civil Engineering structure has certain age as per various types of construction materials, quality control observed during processing of materials, various construction stages, wear and tear due to weathering and temperature, natural disasters and accidents. So there is need to maintain the structure to resist these external forces and their effects. Maintenance of irrigation projects, dams and canals is also necessary to keep the entire system workable, to avoid loss of water due to seepage and to run canal with adequate efficiency in commensurate with design discharge.

There are three types of repair works-

- I. Periodical maintenance
- II. Special repairs
- III. Extension and improvement

**I. Periodical maintenance**

It includes colouring of gates, greasing of gates, removal of grass, bushes, silt, bank work sectioning, pointing and plastering to structure and small repair works. For dams, there is DSO<sup>10</sup> which monitors the status of dam on the basis of pre-monsoon and post-monsoon inspection reports.

**II. Special repairs**

It includes grouting to masonry, epoxy treatment, strengthening earthen dam section, pitching work, repairs to breaching of canal section, canal structure, road bridge sides, submersible cause way and dam safety work.

<sup>9</sup> *Procedure and Rules Regarding The Professional Examination of Assistant Engineer Recruited Directly to Maharashtra Service of Engineers, Class I or Equivalent Posts, The Maharashtra Public Work Manual, Page 169, Appendix I.*

<sup>10</sup> *Dam Safety Organization, Nashik*

**Delegations of powers:-**

Designation	Administrative level	Technical sanction	
		Budget allocation provision	
		General M&R <sup>11</sup>	Special Repairs
Chief Engineer	25,00,000	Full Power	Full Power
Superintending Engineer	2,50,000	60,00,000	Full Power
Executive Engineer	50,000	25,00,000	5,00,000
Assistant Executive Engineer/Assistant Engineer	--	--	50,000

**1.8. Contracts- General, Registration, Contract Documents, Tenders  
-By Shri. S.S. Gholap,  
Accounts officer,  
Dairy Development, Nashik  
Thursday, 13 September 2007, 10:00-13:15**

**(I) Contracts:** The term contract does not include piece work & rate list nor does it include materials or stores purchased under requisition. All other works done or supply made under agreement, is termed 'contract work'. Such agreements should stipulate the quantity of work to be done a rate at which it is to be paid & the time within which it is to be completed, besides other conditions of penalties & liabilities.

Work can be carried out otherwise than the daily labour are-

- i. Piece work
- ii. Rate list
- iii. Contract work

As per the definitions given by MPW Manual<sup>12</sup>,

- i. Piece work:** For Piece work, only a rate is agreed upon by a piece worker without reference to the quantity of work to be done or the time, within which it is to be completed. Such works are carried on A-1 or A-2 form.
- ii. Rate list:** Petty works can be carried out by a number of piece workers on schedule of costs known as rate lists without reference to quantity and time.
- iii. Contract work:** It is an agreement in writing for all the works done or supply made, and they are carried on B-1, B-2, D and E.

**(II) Registration of contractor<sup>13</sup>:**

Contractors are classed according to their financial status and technical ability as-

<sup>11</sup> Maintenance and Repair

<sup>12</sup> Chapter 3 Works, I – Contracts, *The Maharashtra Public Work Manual-1984*, paragraph 188-234, page 71.

<sup>13</sup> Appendix 11: Rules for Registration of Contractors, *The Maharashtra Public Work Manual-1984*, page 296

Class	Min. Solvency (Rs. In Lakhs)	Capable of executing work upto value (Rs. In Lakhs)	Avg. annual turnover (Rs. In Lakhs)	Estimated cost of work in hand (Rs. In Lakhs)	Registration fess (in Rs.)	Registration sanctioning authority	Registering authority office
<b>A-General Works</b>							
<b>I</b>	30	Without limit	75	150	300	Secy(PWD)	EE, (PWD)
<b>II</b>	15	300	50	100	300	Secy(PWD)	EE, (PWD)
<b>III</b>	5	100	25	50	150	CE (PWD)	EE, (PWD)
<b>IV</b>	2.5	50	15	30	150	CE (PWD)	EE, (PWD)
<b>V</b>	0.75	15	5	10	100	SE (PWD)	EE, (PWD)
<b>VI</b>	0.5	5	2	4	100	SE (PWD)	EE, (PWD)
<b>VI I</b>	0.2	2	0.5	1	50	EE, (PWD)	EE, (PWD)
<b>B-Electrical Works</b>							
<b>A</b>	3	Without limit	7.5	15	150	CE-E(PWD)	EE-E (PWD)
<b>B</b>	1.5	7.5	4	8	100	CE-E(PWD)	EE-E (PWD)
<b>C</b>	1	4	1.5	3	40	SE-E(PWD)	EE-E (PWD)
<b>D</b>	0.5	2	0.75	1.5	30	SE-E(PWD)	EE-E (PWD)
<b>E</b>	0.1	0.5	0.25	0.5	20	EE-E(PWD)	EE-E (PWD)

**(III) Contract documents:** Before a work is given out on contract, the Executive Engineer must prepare, 'draft tender papers' to include-

- i. A complete set of drawings
- ii. Brief tender notice
- iii. Detailed notice to contractor
- iv. Additional instructions to tenderers
- v. General description
- vi. Statement of designated details
- vii. Printed form of agreement
- viii. Additional general conditions of contract
- ix. General specifications
- x. Detailed specifications for all items
- xi. Special specifications for concrete work
- xii. Statement of machineries available with government

**(IV) Tenders**

- (i) Publicity: Sealed tenders must be invited by advertisement in local newspaper and notice in English and regional newspaper or pasted in public places.
- (ii) Earnest money
- (iii) Security Deposit: The amount of earnest money to be deposited with the tender should be sufficiently large to be a security against loss, in case of contractor failing to complete the contract documents and furnish the required security within the appointed time after the acceptance of his tender.
- (iv) Acceptance of tender: Lowest tender must be accepted among the all the tenderers who fulfills the criteria, given in MPW Manual.
- (v) Enforcement of terms of contract:
- (vi) Extra items:

**1.9. Land Acquisition Detailed Procedure**  
**-By Shri. P.N. Pate,**  
**Training Consultant, Aurangabad**  
**Thursday, 13 September 2007, 14:30-17:45**

Land acquisition can be done by-



Following are the stages of land acquisition as per law<sup>14</sup>

- i. Submission of initial proposal by acquiring body to collector with required papers, schedule of land, purpose (**Form A**), land maps, sanctioned by Executive Engineer. Then collector will send the proposal to land acquisition officer for formalities of issuing the section 4 notice.
- ii. Land acquisition officer will go for preliminary investigations such as- forest land, transfer of government land and obtaining NOC from other departments.
- iii. **Section 4** notice is issued indicating to government and public to acquire land.
- iv. Publication of notice in government gazette. The rates are considered for compensation, based on this date.
- v. Inquiry under **section 5(A)** to know the objections of the citizens.
- vi. **Section 6** notification: As per old law the section 6 notice should be published before 3 years after section 4 notice and this duration is revised as 1 year.
- vii. Notification **under section 9** to listen the objections
- viii. Notification of **section 10**: To listen the objection of people, other than section 6.
- ix. **Section 11**: valuation of land, wells, trees etc. and to prepare the project report containing following points-
  - a. Introduction
  - b. Notification and dates of section 4 and section 6
  - c. Details of land
  - d. Reasons for award
  - e. Ownership
  - f. Claims, evidence
  - g. Valuation, evidence to support valuation
  - h. Reasoning award
  - i. Final valuation
- x. **Section 12, 13, 14**: Procedures
- xi. **Section 16**: handing over land
- xii. **Section 17**: Urgency call

The land acquisition procedure involves the interaction of various agents as shown in following figure 1.9.1.

<sup>14</sup> Land Acquisition Act-1894

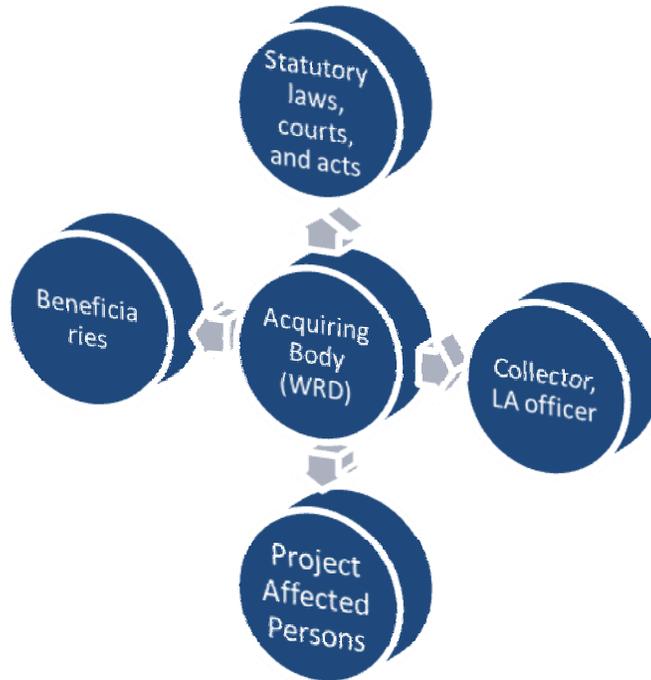


Fig. 1.9.1

**1.10. Duties of Officers in Water Resource Department**  
**-By Shri. P.B. Sonawane,**  
**Superintending Engineer, CDO (Gates), Nashik**  
**Friday, 14 September 2007, 10:00-11:30**

As per MPW manual<sup>15</sup> the duties of officers in Water Resource Department are presented in following paragraph-

- Government
- Chief Engineer: Professional head
- Superintending Engineer: Administrative head of circle
- Executive Engineer: Head of division
- Divisional Accountant: Financial matters
- AE/DE/SDE/SDO: Head of sub-division

**a. Chief Engineer**

The Chief Engineer is professional head of department and is responsible to government for efficient working. He is the responsible professional advisor to government in all matters relating to public works. The transfer and postings

<sup>15</sup> Chapter 2, Establish and Miscellaneous, F-Duties of Officers, *The Maharashtra Public Work Manual-1984*, paragraph 23-47, page 8.

should be discussed in the conference of Chief Engineer by government. He shall provide prompt technical guidance and tighter and closer inspection and supervision ensuring both quality and progress of work.

**b. Superintending Engineer**

Superintending Engineer is a chief administrative head of the circle and will be responsible to Chief Engineer as the case may be for administration and general professional control of public work-in-charge of the officers of the department within his circle. He shall inspect the state of various works within his circle and satisfy himself that the system of management prevailing is efficient and economical.

**c. Executive Engineer**

The Executive Engineer is responsible to Superintending Engineer for execution and management of all works within his division. He can receive positive orders only from his department seniors, the head of the administration, or other civil officers duly authorized. He is responsible that proper measures are taken to preserve all the buildings and works in his division and to prevent encroachment on government land in his charge.

**d. AE/DE/SDE/SDO<sup>16</sup>**

A division is divided in to sub-divisions in charge of an AE/DE/SDE/SDO. These officers are responsible to Executive Engineer in-charge of the division fro the management and execution of works within their sub-division.

**e. Divisional Accountant**

The primary duty of Divisional accountant is maintenance and up-keep of proper account in the divisional office. No orders will be passed by the Executive Engineer on any case regarding financial matters unless it is cleared by Divisional Accountant.

**1.11. Preparation of Projects**

**-By Shri. B.A. Puri,**

**Superintending Engineer, CDO(Power House), Nashik**

**Friday, 14 September 2007, 11:45-13:15**

As per guidelines of MPW manual<sup>17</sup> following stages are involved in the preparation of projects-

Stage I: Reconnaissance survey

Stage II: Selection of site

Stage III: Preliminary design and estimate

Stage IV: Final design and specifications

Following points should be considered while preparing the project report-

1. Geological investigation
2. Climatical investigation
3. Silt investigation
4. Surveys
5. Foundation exploration

<sup>16</sup> DE: Deputy Engineer, SDE: Sub-Divisional Engineer, SDO: Sub-Divisional Officer

<sup>17</sup> Chapter 3, Works, F- Preparation of Projects, *The Maharashtra Public Works Manual-1984*, paragraph: 141-153, page – 55-66

6. Construction machinery investigation
7. Environmental impact
8. Special field tests
  - i. Dewatering
  - ii. Economical front slope of embankment
  - iii. Turfing experiments
  - iv. Foundation consolidation test
9. Communication investigations
10. Construction planning
11. Hydraulic planning study
12. Feasibility criteria.

**1.12. Sale of Government Land and Immovable Property and Schedule of Rates and Estimates  
-By Shri. P.N. Pate,  
Training Consultant, Aurangabad.  
Friday, 14 September 2007, 14:30-17:45**

Eventhough the name of topic is 'sale' of government land, in-fact nobody can sale the government land. In case, we don't need that land, then there is procedure to transfer this land to the collector or we can give that land on lease. Preference should be given to the original landholder. As per Water Resource Department rules land can be given on lease for 30 years.

As per MPW Manual<sup>18</sup> every Executive Engineer has to approve Schedule of rates, known as Divisional Schedule of Rates (DSR). It includes the rates of all the items of work and accordingly estimate is prepared.

DSR includes three components-

1. *Labour component*: Labours are divided as- skilled, unskilled and semi-skilled. As per minimum wages act the labour rates are considered and average task work is specified in the DSR, accordingly we can obtain the expenditure on labours for a particular work.
2. *Material component*: It includes the rates at store room or rates at mines and transportation cost is added to it.
3. *Machinery component*: The cost of machinery can be obtained from machinery used rates.

3% is added for tools used in the work, 10% is added for site overheads on labour, material and machineries and 10-15% contractors profit is considered in rate analysis.

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<sup>18</sup> Chapter 3, Works, H – Schedule of rates, *The Maharashtra Public Works Manual-1984*, paragraph: 187, page – 69.



## **Chapter 2. Second week**

17 September–21 September 2007



## Chapter 2. Second week (17 September–21 September 2007)

### 2.1. Execution of Irrigation Projects in Vidarbha Region With Special Emphasis to Prime Minister's Relief Package -By Shri. M.V. Patil, Chief Engineer WRD Amarawati Monday, 17 September 2007, 10:00-13:15

Following table shows the water audit of major basins of rivers in Maharashtra-

Sr. No.	River basin	Water available	Water used	Balanced water
1	Godavari	1207	747	460
2	Tapi	191	158	33
3	Narmada	11	03	08
4	Krishna	599	389	110
5	West flowing rivers	2444	389	2055
	Total	4452	1786	2666

(in TMC)

Increasing incidence of farmer's suicide was an issue of great concern to State Government. Addressing the issue was not possible without knowing the reasons behind the same. The State Government therefore decided to ask reputed institutions to study the problem, the underlying reasons and interventions required to counter them. Study Reports made use of Tata Institute of Social science (TISS), Indira Gandhi Institute of Development, Research (IGIDR), Yashawantrao Chavan Academy of Development Administration (YASHADA), and Recommendations of Dr M. S. Swaminathan.

It was observed that Vidarbha region was lacking in progress and hence government decided to accelerate the irrigation projects in that region. Prime Minister of India, announced special package for Vidarbha of 3753 Crore having following measures-

Exgratia assistance from PMRNF	3.00 crore
Interest waiver up to June 2006	712.00 crore
Assured irrigation facilities	2177.00 crore
Assistance for seed replacement	180.00 crore
Watershed Development	240.00 crore
Horticulture development (NHM)	225.00 crore
Drip-sprinkler irrigation	78 .00 crore
Subsidiary occupation	135.00 crore
Agriculture Extension	3.00 crore
<b>Total</b>	<b>3753.00 crore</b>

From above description, it can be seen that the PM package contains Rs. 2177 Crore for Irrigation facilities and irrigation development single most important component under PM's package having following silent features-

- GOI has agreed to fund tribal area and drought prone areas irrigation projects on 72:8:22 basis rather than 26:54:20 under AIBP.
- GoM requested all projects in these six districts to be funded on 72:8:22 basis as a special case

- Maharashtra Govt. has provided 712 crore under removal of backlog to speed up completion of irrigation projects in this region.
- Six projects to be taken under the package have been submitted to GOI for sanction under AIBP.
- Expeditious clearance to these projects from various GOI ministries is requested
- 500 check dams have been planned in each district this year.
- Watershed development projects in all six districts to be taken under RIDF from NABARD.
- Saturating this region with watershed projects will be immensely useful in bringing stability in rain fed agriculture

Hon'ble PM package for six distressed districts of Vidarbha is as follows-

Total Package: 4,000 crore

Irrigation package: 2177 crore (projects to be completed before 2009) Total 574 projects were included to create 1, 59,275 Ha of additional irrigation potential.

	Number	Cost (crore)	Irrigation potential (ha)
A) Water Resource Department			
Major	8	1260	80,270
Medium	9	468	39,660
Minor	65	357	24,815
Total	82	2085	1,44,745
B) Water Conservation Dept.			
Minor (Local)	492	92	14,530
<b>Total (A+B)</b>	574	2177	1,59,275

## 2.2. Store and Store Accounts.

-By Shri. S.S. Gholap

Accounts Officer, Dairy Development, Nashik

Monday, 17 September 2007, 14:30-17:45

The general administration of all the stores of a division is vested in the divisional officer, on whom primarily devolves the duty of arranging in accordance with such rules and instructions as may have been issued by Government for-

- The acquisition of stores
- Their custody and distribution according to the requirements of the works
- Their disposal

All transactions of receipts and issues should be recorded strictly in accordance with the prescribed rules or procedures, in the order of occurrence and as soon as they take place. Fictitious stock adjustment are strictly prohibited, such as for example-

- The debiting to a work of the cost of materials not required, or in excess of actual requirements
- The debiting to a particular work for which funds are available of the value of materials intended to be utilized on another work for which no allotment has been sanctioned.
- The writing back of the value of materials used on a work to avoid excess outlay over appropriation etc.

Any breach of this rule constitutes a serious irregularity, which will be brought prominently to the notice of appropriate authority concerned by the AG.

The accounts of stores are based on the fundamental principal that the cost of their acquisition should be debited to the final head of account concerned or the particular work for which they are required, if either of these can be determined at once; otherwise it should be kept in a suspense account pending clearance, as the materials are actually issued, by debits to specific heads of accounts of works.

**2.3. Public Building**  
**-By Shri. Kishor Patil**  
**Executive Engineer, PWD, Nashik**  
**Tuesday, 18 September 2007, 10:00-13:15**

Public building are designed for the people, and they are classified as-

**a. Residential building**

Residential buildings include the special structures, which are designed and constructed for the purpose of residence. For eg: Quarters, rest house etc.

**b. Non-residential building**

The non-residential building includes the buildings which are constructed for providing some facilities to the people. For eg: offices, hospitals, educational buildings and store.

The construction of building involves various stages like, planning, estimating, etc. While planning, the natural resources must be considered and should be used, whenever possible. The natural sunlight, wind etc, must be properly studied and accordingly, orientation of the building is decided.

Shri. Kishor Patil explained the recent trends in the building construction and one of the important aspects of such trend- Green Buildings. He showed slide show of the Income-Tax office building constructed by Public Works Department, Nashik. In that building care is taken to utilize the natural light and wind to save electricity.

**2.4. Cash and Cash Accounts, Transfer Entries and Revenue Receipts**  
**-By Shri. S.S. Gholap**  
**Accounts Officer, Dairy Development, Nashik**  
**Tuesday, 18 September 2007, 14:30-17:45**

**a. Cash:**

Cash includes legal tender coin, notes, cheques, deposit-at-call receipts of scheduled banks and drafts payable on demand. Cash is obtained by disbursing officers of the department in two ways, viz., directly by the bills drawn on the treasury and by means of cheques.

**b. Cash accounts**

An account of their cash transaction should be maintained in the cash book form 10 (P.W. 488) by all Government officers authorized, as a regular arrangement, to receive money on behalf of government, as well as by those entrusted with disbursements out of cash received by them in transfer from the divisional cash chest or obtained by cheques drawn on the treasury.

**c. Transfer Entries**

Transfer entries is intended to transfer an item of receipt or charge from the account of work in progress or of a regular head of account to the account of a work in progress or of a regular head of account to the account of another work or head, are necessary in order to-

1. Correct an error of classification in the original accounts.

2. Adjust, by debit or credit to the proper head of account or work, an item outstanding in a suspense account or under a debt or deposit head,
3. Bring to account certain classes of transaction which do not pass through the cash or stock account.

**d. Revenue Receipts**

When revenue from irrigation, navigation, embankment and drainage works under the administration of this department is realized through district and revenue authorities, the procedure described below should be observed-

- i. The collections made by such authorities are paid direct in to treasuries.
- ii. The divisional officer receives from the collector a monthly statement of the amount realized to enable him to watch the progress of recovery against demand or assessment.
- iii. The divisional officer should submit to the AG<sup>19</sup> a half yearly statement showing separately for each civil district the monthly realizations, as compared with the assessment, in respect of each canal or other work.
- iv. The AG will maintain a register showing, separately for each canal or other work, the monthly realizations pertaining to the different divisions.
- v. The AG will bring to the notice of the appropriate authority of this department any marked short coming of revenue realizations, as compared with the budget estimate and the assessment of the year but this will not relieve the authorities of this department of their responsibilities.

**2.5. Code of Ethics for Engineer  
-By Shri. H.T. Mendhegiri,  
Chief Engineer, Hydrology Project, Nashik  
Wednesday, 19 September 2007, 10:00-13:15**

Ethics deals with moral duty and obligation and give rise to a set of values which in turn are used to judge the appropriateness of a particular conduct or behavior. There are the basic principles by which the members of professional body are to be guided in their professional work and decision making. The 'code of ethics' is based on broad principles of truth, honesty, justice, trust-worthiness, respect and safeguard for human life and welfare, competence and accountability, which constitute the values every engineer must recognize and uphold. There is no definitely laid down code for the engineering department apart from the general Government Servant's Conduct Rules<sup>20</sup>. The code of ethics is intended to guide the engineers in all their actions as servant of the state. The code of ethics contains following parts-

- i. The code, in relation to the public
- ii. The code, as a member of engineering profession
- iii. The code, in relation to colleague
- iv. The code, in relation to sub-ordinates
- v. General

The lecture ended with 'Oath of an engineer', which is as follows-

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<sup>19</sup> Accountant General

<sup>20</sup> Maharashtra Civil Services (Conduct Rules)-1979

Maharashtra Civil Services (General Conditions of Service) Rules

Maharashtra Civil Services (Discipline and appeal) Rules-1979

*"As a professional engineer, I dedicate my professional knowledge and skill to the advancement and betterment of human life. I pledge to give the upmost of performance, to participate in none but honest enterprise, to live and work according to the laws of man and the highest standards of professional conduct, to place service before profit, honor and understanding to the profession before personal advantage, and the public welfare above all other considerations. In humanity and with need for guidance, I make this pledge. "*

**2.6. Accounting Procedures for WRD, GoM,  
-By Shri. S.S. Gholap  
Accounts Officer, Dairy Development, Nashik  
Wednesday, 19 September 2007, 14:30-17:45**

**a. Cash payments:**

As per directions of MPW account code<sup>21</sup> Cash charges on works consist of payments (1) to labours and members of the work charge establishments, of their wages and (2) to contractors and others for work done or service rendered. The cost of materials procured specially for works is charged to the accounts of work by transfer credit to the purchase account, but payments to suppliers are governed by the same rules as payments to contractor for work done.

**b. Payments to suppliers and contractor**

- i. Records of measurements: Rules for taking measurements and keeping measurement books, Form 45 (P.W. 9) and those in connection with the review thereof will be found in appendices 21 and 22, respectively, to the Maharashtra Public Works Manual.
- ii. Bills and vouchers: The authorized forms of bills and vouchers are the following
  - a. First and final bill, Form 46 (P.W. 412)
  - b. Running account bill, Form 47 (P.W. 410)
  - c. Hand receipt, Form 48 (P.W. 409)
- iii. Aid to contractor: It is necessary sometimes, in the interest of work, to engage laborers or contractor or to incur other liabilities on behalf of the contractor concerned, with a view to complete the work which he has neglected or failed to complete. In such case, it is permissible to spend Government funds on behalf of the contractor in accordance with the terms of his agreement. Otherwise no advance or recoverable payments should be made to or on behalf of a contractor nor should financial aid be given to him in any form except in accordance with paragraph 10.2.21 and 10.2.22 of MPW account code.

**c. Work abstracts**

An account of all the transactions relating to a work during a month whether in respect of cash, stock or other charges, should be prepared by the SDO in one of the work abstract form. In the case of major estimates, a separate account should be maintained for each sub head estimated to cost not less

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<sup>21</sup> Chapter 10: Works Accounts, Section:10.2-Cash Payments, *The Maharashtra Public Works Account Code-1984*, p-72.

than Rs. 7,500 and the remaining sub heads should be lumped together, but see note below-

Note: In the case of major works executed through contractor, with whom agreements for completed items of work have been entered in to, all necessary details.

## 2.7. Definition and General Outline of System Accounts

-By Shri. H.W.Bhatkhande,

Accounts Officer (Rtd.), Nashik

Thursday, 20 September 2007, 10:00-13:15

There are two types of departments, based on the accounting policy-

- a. Revenue earning Departments (Sale Tax, Income tax)
- b. Expenditure Departments (Water Resource Department and Public Works Department)

The transactions of public works officers may be grouped under the heads indicated below [11]

- I. **Expenditure heads:** For charges adjustable finally in the accounts of divisional officers.
- II. **Revenue heads:** For revenue receipts creditable finally to Government in the accounts of divisional officers
- III. **Remittance heads:** Receipts as well as payments; for cash, stores or other values received from, or paid to or on behalf of, other department or Government.
- IV. **Debt and deposit heads.:** For certain receipts and payments held in suspense pending clearance by payment or recovery, as the case may be, in cash or otherwise. The suspense accounts for transactions of this group are treated either as heads subordinate to the expenditure heads or as independent heads of accounts, or as sub-heads in the accounts of woks.

For all sanctioned expenditure following relationship exists while treating the accounts-

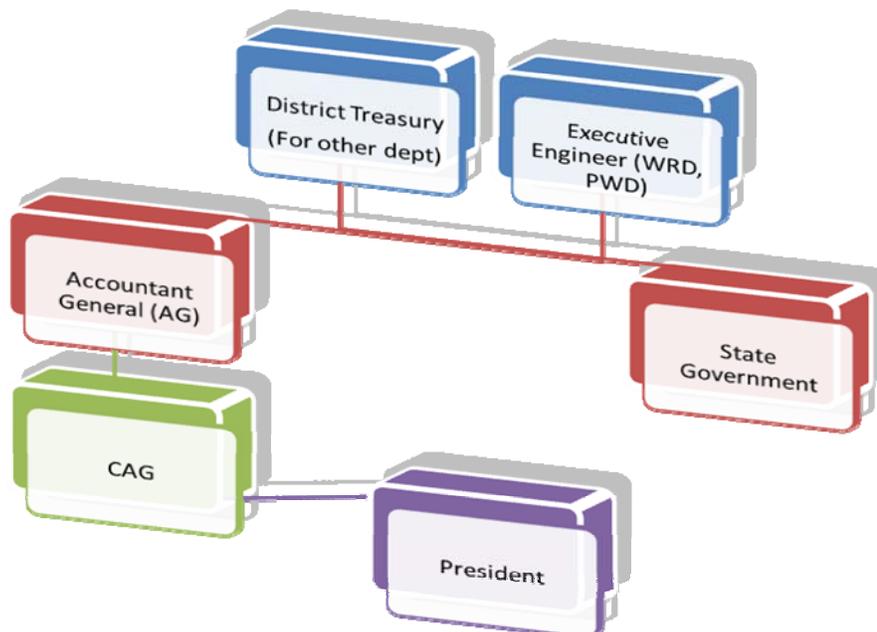


Fig. 2.7.1

**2.8. Accounting Procedures of WRD, GoM.  
Shri. Jha.  
Divisional Accountant, MERI, Nashik  
Thursday, 20 September 2007, 14:30-17:45**

**a. Register of expenditure and liabilities:**

A collective record of the expenditure and liabilities incurred in a sub-division during a year on each work should be kept by the sub-divisional office in Form 58 (P.W. 650) and Form 59 (P.W. 651) in order to enable the SDO to exercise proper financial control over the expenditure. The register should be posted simultaneously with the works abstract.

**b. Suspense account**

In addition to the head 'Final Charges' or the final sub-heads in the case of a major estimate a few suspense accounts are opened in works abstract to record transactions of the temporary character which are either not adjustable as final outlay in the accounts of the works concerned or the correct classification of which cannot be determined immediately. These accounts are-

1. 'Materials': For the records of the cost of materials issued direct to work
2. 'Contractors advance payments': For the record of advance payments and of their recoveries.
3. 'Contractors secured advances': For the record of secured advances and of their recoveries.
4. 'Contractors other transactions': For the record of all other debits or credits to contractors awaiting settlement and
5. 'Labourers': For the record of unpaid wages of labourers and of their subsequent payments.

**c. Deposits**

Deposit transactions of the department are of the two kinds-

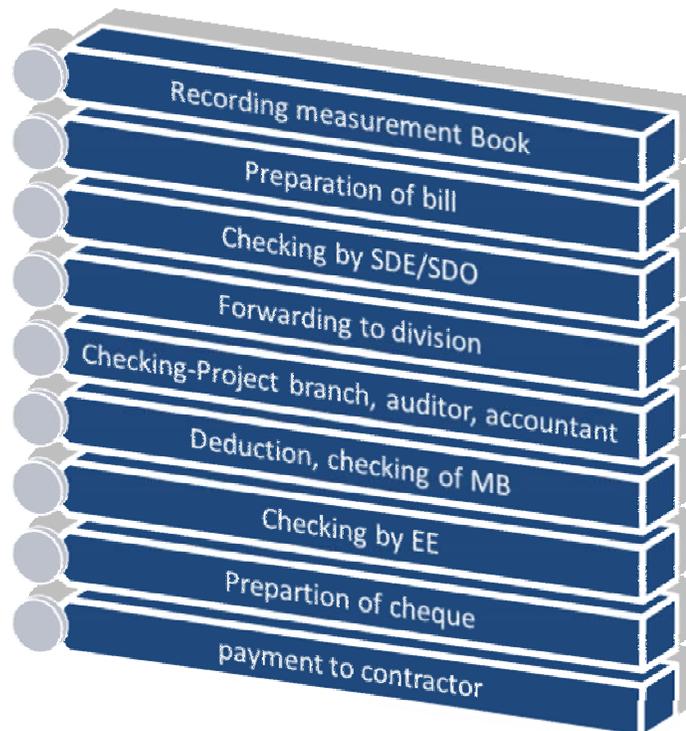
1. Public works deposits, which pass through regular accounts of the division
2. Interest-bearing securities

Deposits of the first kind comprise transactions of the following classes, which are passed through the head 'public work deposits'-

- a. Cash deposits of subordinates as security
- b. Cash deposits of contractor as security
- c. Deposits for works, other than takavi works, to be done,
- d. Sums due to contractors on closed accounts
- e. Miscellaneous deposits

**2.9. Accounting Procedures of Irrigation Development Corporations  
-By Shri. S.S. Gholap  
Accounts Officer, Dairy Development, Nashik  
Friday, 21 September 2007, 10:00-13:15**

- a. Types of Measurement book (M.B.)<sup>22</sup>: -
    - i. Medium measurement book
    - ii. Large measurement book
    - iii. Small measurement book
  - b. Deductions in contractor gross payments-
    - i. Mobile advance
    - ii. Machinery advance
    - iii. Security advance
    - iv. 2% income tax
    - v. 2% work control tax
    - vi. Royalty
    - vii. Insurance
    - viii. 10 % VAT
- Net Bill amount = Total gross bill – Total deduction
- c. Sequence of various activities before payment:



**Fig 2.9**

<sup>22</sup> M.B. is a printed book in which work done measurements are recorded systematically and abstract sheets are prepared for bills.

d. Work abstracts

Divisional officer has to maintain register book within which works executed under his division are mentioned according to work wise that is called as work of abstract register. Every subdivision should also keep this book.

**2.10. Group Discussion and Conclusion**  
**Friday, 21 September 2007, 14:30-17:45**

The second week session ended with group discussion and conclusion by most of the participants of the induction training, in the presence of Shri. Narayanrao Ghuge, CE and Director, META, and Shri. Ganeshdas Bairagi, SE and Dy. Director, META. We expressed our views on the topics, which were discussed during this week, and concluded that this training session is life time experience for all of u sand it will serve as a platform for rest of our professional and personal life.

Since accounting is not the part of engineering syllabus, but it is very impartment part of the profession, the lectures given by Shri. S.S. Gholap and Shri. H.W. Bhatkhande was very useful. Now we are conversant with the MPW account code<sup>23</sup>

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<sup>23</sup> The Maharashtra Public Work Account Code-



# **chapter 3. Third week**

24 September–29 September 2007



**Chapter 3. Third week (24 September – 29 September 2007)**

**3.1. Irrigation and Irrigation Act**  
**-By Shri. Y.S. Khatal,**  
**Executive Engineer, Kadwa Canal, Nashik**  
**Monday, 24 September 2007, 10:00-13:05.**

Maharashtra Irrigation Act- 1976 was formed by combination and modification of following acts-

1. Bombay Irrigation Act- 1879
2. Hyderabad Irrigation Act- 1952
3. Central Provinces Irrigation Act- 1931.

Before Maharashtra Irrigation Act- 1976, rules were framed in 1934 and still we are using same rules. The GoM decided to review Maharashtra Irrigation Act- 1976 and accordingly revised draft is send to GoM for approval in 2003 and soon it will be modified. There are some shortcomings and limitations in Maharashtra Irrigation Act - 1976 such as, the act is applicable only for irrigation water and today the water is demanded for non-irrigation needs and there is a room for modification.

The existing Maharashtra Irrigation Act- 1976 has 14 parts as follows-

- Part I. Preliminary
- Part II. Canal Officer: Charges and powers
- Part III. Construction and maintenance of canal
- Part IV. Field channels
- Part V. Acquisition of land and field channel
- Part VI. Supply of water
- Part VII. Award of compensation
- Part VIII. Recovery of water rates
- Part IX. Obtaining labours for canals on emergency
- Part X. Penalties
- Part XI. Appeals and revisions
- Part XII. Miscellaneous
- Part XIII.
- Part IVX. Reappealing

**3.2. Suspension and Deemed Suspension**  
**-By Shri. S.S. Gholap**  
**Accounts Officer, Dairy Development, Nashik**  
**Monday, 24 September 2007, 14:30-17:45.**

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**3.3. Forest and Environmental Clearance of Irrigation Projects  
-By Shri. Y.S. Khatal,  
Executive Engineer, Kadwa Canal, Nashik  
Wednesday, 26 September 2007, 10:00-13:05**

**a. Forest clearance:**

No project can be started before forest clearance obtained according to Forest Conservation Act-1980 (FCA-1980), which was amended in 1988 and rules were prepared in 1992. The FCA-1980 came in to force on 25<sup>th</sup> October 1980 and it became mandatory to obtain Principal Approval (PA) for all the projects.

The proposals of acquisition of forest land, less than 20 Ha are send to the Regional Forest Conservator, Nagpur and above 20 Ha are submitted to CWC, and recently the limit of 20 Ha is reduced to 2 Ha.

Following particulars are required with the DPR-

- (i) Map of the project showing all the details
- (ii) Species wise classifications of trees
- (iii) Complete report of project
- (iv) Environmental clearance
- (v) Certificate mentioning that the alternate land is not available
- (vi) The proposal of new land to be transferred
- (vii) Joint inspection report

**b. Environmental clearance:**

Environmental clearance is obtained from MoE&F<sup>24</sup> for the project as a whole. The guidelines given in Environmental Impact Assessment (EIA) notification-27<sup>th</sup> January 1994 should be followed while submitting the proposal costing more than Rs. 50 crore. As per amendment on 4<sup>th</sup> April 2002, this limit is increased to Rs. 100 crore by CWC<sup>25</sup>.

Environmental Impact Assessment:

- (i) Assess past and future projects
- (ii) Done by pre-project, current-project and post-project conditions
- (iii) Also assess future conditions and development of region

EIA report includes: (Approach and Methodology)-

1. Scope of work
2. Land use
3. Geology and hydrology
4. Soil/Water and air quality
5. Noise level survey
6. Ecology and biological environment
7. Social economic study
8. Impact assessment
9. Emergency Action Plan (EIP)
10. Environment Management Plan (EMP)
11. Disaster Management Plan

**c. CWC Clearance:**

After completing Forest and environmental clearance the DPR<sup>26</sup> is send to the CWC for clearance. Following is the checklist for CWC clearance-

<sup>24</sup> Ministry of Environment and Forest.

<sup>25</sup> Central Water Commission

<sup>26</sup> Draft Project Report

- (1) Silent feature
- (2) Estimate
- (3) Note-Basic planning
- (4) Hydrology
- (5) Irrigation planning
- (6) Storage planning
- (7) Spillway capacity
- (8) Rates for BC Ratio
- (9) Abstract of cost estimate
- (10) BCR<sup>27</sup>
- (11) Internal rates of return (IRR)
- (12) Central Design Organization certificate
- (13) Forest and environmental clearance
- (14) Rehabilitation and resettlement

<b>3.4. Maharashtra Civil Services (Conduct Rules)</b> Jt. Secretary, (Rtd.), Mumbai Wednesday, 26 September 2007, 14:30-17:45
<b>3.5. Maharashtra Civil Services (General Conditions of Service Rules)</b> Jt. Secretary, (Rtd.), Mumbai Thursday, 27 September 2007, 10:00-13:05
<b>3.6. Maharashtra Civil Services (Joining Time Forence Service, Payement During Suspension, Dismissal and Removal Rules)</b> Jt. Secretary, (Rtd.), Mumbai Thursday, 27 September 2007, 14:30-17:45*
<b>3.7. Maharashtra Civil Services (Leave Rules)</b> Jt. Secretary, (Rtd.), Mumbai Thursday, 27 September 2007, 14:30-17:45*

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<sup>27</sup> Benefit-Cost Ratio







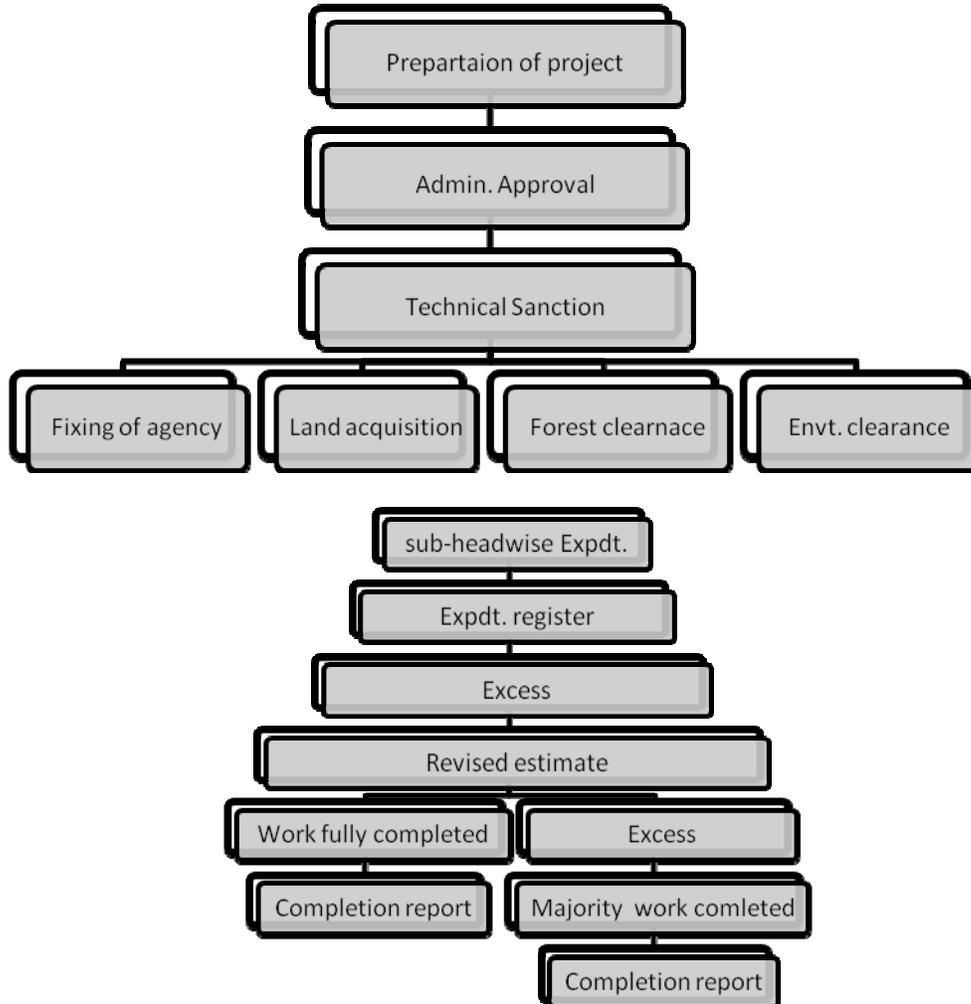








**3.8. Completion Report and Completion Statement**  
**-By Shri. A.N. Pawar,**  
**Executive Engineer, ED Circle, CDO, Nashik**  
**Friday, 28 September 2007, 10:00-13:05**



**Fig. 3.8.1**

As soon as project completed, the Executive Engineer should prepare completion report and the stages in the preparation of completion report is shown in Fig. 3.8.1. Once Executive Engineer prepares completion report, he receives grant for maintenance work.

**3.9. Budgeting and Backlog**  
**-By Shri. B.B. Patil,**  
**Chief Engineer, Konkan Pradesh, Mumbai**  
**Friday, 28 September 2007, 14:30-16:00**

*The budget is financial statement of yearly receipts & expenditure prepared by the Government & submitted to the Legislative Assembly/ Council for approval. It contains receipt/Expenditure figures of all departments, proposed during the year.*

The budget booklet consists of information such as name of work, estimated cost, expenditure till previous year and allocation for the current year for all new & old works.

The most important thing is that expenditure on any work can not be incurred, unless that work appears in the budget. Breach of this rule is considered very grave. In case of emergency, the Govt. can draw contingent fund advance (C.F. Advance) to permit taking up works urgently. Such works are then to be got included in the budget in the immediate next session of the Assembly.

### **Budget preparation**

Hon. Governor's directives for distribution of funds:-

1. District wise budget provision – on basis of Directives
2. Try to distribute AIBP , NABARD & state share district wise to match above allotment
3. No deviation from directives
4. No deviation from potential target
5. Budget Head wise distribution
6. Submit Plan to Planning Department

### **Year 2007 – 2008 plan**

Vidarbha	43.97%	1459.24 crore
Marathwada	21.22	704.12 crore
Rest of Maharashtra	34.81	1155.64 crore

### **Plan:-**

Plan is an estimate of revenue & Expenditure for various sectors of development. India has adopted five yearly planning. State Planning Department is responsible for preparation of plan for the state. Every department prepares its plan- financial & physical for five years of the plan period. Each state should get sanction of Five Year Plan from Planning Commission of Government of India. Based on the sanctioned five year plan yearly plans are reqd. to be prepared every year. Approval of yearly Plan from Planning Commission of Gol is a yearly exercise.

### **Apex Authority for Planning (Government of India-Gol):-**

Gol	Planning Commission
Chairman	Hon Prime Minister
Vice Chairman	Eminent Economist

Subject's specialists are taken as members of the Planning Commission. PC Sanctions the 5 year plans & the yearly plan of each state.

### **Apex authority for state planning:-**

Government of Maharashtra.	Planning Sub Committee
Headed by	Hon'ble CM
Executive Chairman	Well known Economist

Well known experts from all subjects are members.

### **Steps in the budgeting:-**

For Water Resource Department, each Executive Engineer assesses and submits project wise budget requirements & physical targets to Superintending Engineer. Each Superintending Engineer submits requirements to Chief Engineer who finally submit to Government with targets such as Potential Creation, Storage to be created.

Chief Engineer & Joint Secretary prepares the plan for WR (in December – for next years plan). Water Resources Departments plan is ready & waits for guidelines from State Planning Department. (Last years target & achievement, planning year's target)

Planning Dept. prepares State Plan (Rs. 14000 – 16000 crore approx.) and submits to Planning Commission of GoI (Feb – March) CM & FM present the Plan to PC with last years target – achievement , reasons for short fall , current years target etc. CM – FM have to reply satisfactorily to the queries of the members of the PC  
PC approves the plan with comments and allocation of plan with target in each sector (Feb – March). Planning Dept specifies sources of funds and limit of allocation (Rs. 4000 crore.)

Normally sources are

- i. State fund
- ii. AIBP (Accelerated Irrigation Benefit Program)
- iii. NABARD (National Bank for Agriculture & Rural Development )
- iv. Loans - MWSIP (Maharashtra water Sector Improvement Project )
- v. Tribal
- vi. Market Borrowings
- vii. Negotiated loans from Financial Institutions

WR modifies its plan on guidelines given by PC, based on allocation by PD, based on directives by Hon. Governor on Backlog issue and submits to the planning department. Then PD prepare budget plan for state, FM presents budget plan in assembly, Assembly approves plan after debate (March – April) and finally assembly submit plan to Hon. Governor for formal approval.

#### **2007 guide lines for backlog:-**

1. Available budget for Irrigation Sector Improvement shall be distributed circle wise.
2. Budget allocation shall be as per weighted average factors.
3. Hon. Governor has given directives to remove backlog within five years (2001-02 to 2005-06.)
4. In order to remove backlog ending Mar 2002(Rs 5168.72 crore) within in next four years Rs 1292 crore are required.

<b>Year</b>	<b>Backlog</b>	<b>Population</b>	<b>Net Sown Area</b>
2002-03	35	40	25
2003-04	45	30	25
2004-05	55	20	25
2005-06	56	10	25

### **3.10. Interlinking of Rivers**

**-By Shri. Narayanrao Ghuge,  
Chief Engineer and director, META, Nashik  
Friday, 28 September 2007, 16:15-17:45**

#### **The need of interlinking of rivers:-**

Water is the one of the few natural resources without which there is no life; and is distributed throughout the country unevenly in terms of place, season, quality and quantity. That is to say, particular areas of India suffer from drought, while other posses' too large quantities of water, which causes flood. Also, very same region could, in the particular period of the year, be exposed to the drought, while suffering form floods in other period. For this reason, the interlinking of river is necessary.

**Inter basin Water Transfer: Earlier Proposals:-**

Suggestions for a National Water Grid for transferring surplus water available in some regions to water deficit areas have been made from time to time. The two such proposals put forth earlier in the seventies, which attracted considerable attention, were,

**(A) National Water Grid by Dr. K.L. Rao (1972):**

Dr. K.L. Rao's Proposal (1972), which had 2640 km. long Ganga - Cauvery link as its main component involved large scale pumping over a head of 550 m. The power requirement for lifting the water was huge, estimated to be 5000 to 7000 MW, for irrigating an additional area of 4 million hectares only. The scheme was also not having any flood control benefit. Dr. Rao had estimated this proposal to cost about Rs. 12,500 crore, which at 2002 price level comes to about Rs. 1,50,000 crore. The Central Water Commission, which examined the proposal, found it to be grossly under estimated and economically prohibitive.

**(B) Garland Canal by Capt. Dastur (1977)**

Capt. Dastur Proposal (1977) envisaged construction of two canals – the first 4200 km. Himalayan Canal at the foot of Himalayan slopes running from the Ravi in the West to the Brahmaputra and beyond in the east; and the second 9300 km Garland Canal covering the central and southern parts, with both the canals integrated with numerous lakes and interconnected with pipelines at two points, Delhi and Patna. The cost estimated by Capt. Dastur was Rs. 24,095 crore. The proposal was examined by two committees of experts comprising Senior Engineers from CWC, State Governments, Professors from the IIT, Delhi and Roorkee University and Scientists from Geological Survey of India and Indian Meteorological Department who opined that the proposal was technically infeasible. The cost estimated by the experts in 1979 was about Rs. 12 million crore. The realistic cost at 2002 price level comes to about Rs. 70 million crore.

**National Perspective Plan (NPP):-**

At the time of independence the country had a population of about 400 million and faced severe food crisis. At that time the irrigation potential of the country was only about 20 Mha. After independence massive programme of irrigation was launched for development and utilization of both surface and ground water resources. This resulted in green revolution, which helped to transform the country from the state of food scarcity to food self-sufficiency. Due to these massive efforts, by the year 1979 the irrigation potential of the country could increase to 57 Mha with the use of high yielding varieties possible under irrigation and with increased use of fertilizers. The food production of the country could be increased to about 125 to 130 million tones by the same time. However, rate of increase in food production could just manage to equal the rate of population growth.

The water is main input to the agriculture and also an important element for the life of human kind, its optimal utilization is necessary. With a view to harness the water resources of the country optimally, Dr. K.L. Rao, the then irrigation Minister, in the year 1972 had mooted the idea of interlinking of rivers by connecting the Ganga with the Cauvery river. Subsequently, in 1977 Capt. Dastur initiated the concept of a "Garland Canal" around the Himalayan, Central and Peninsular India. The proposals although received very good response from all sectors of communities, but not found techno-economical feasible for implementation.

The continued interest shown by many people engaged in Water Resources Development gave further impetus to study inter basin water transfer proposals in







## **Chapter 4. Fourth week**

01 October - 06 October 2007



**Chapter 4. Fourth week (01 October - 06 October 2007)**

4.

4.1. O

4.2. O

4.3. F

4.4. C

4.5. A

4.6. V

4.7. M

4.8. C

4.9. L

4.10. D

4.11. P

4.12. S

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