



2007-08

Field Training Report



Report submitted to-
Water Resources Department,
Mantralaya, Mumbai
(24/03/2008-06/04/2008)
Submitted By : Er. Pravin Kolhe,
Assistant Executive Engineer

जलसंपदा विभाग, मंत्रालय, मुंबई. Water Resources Department, Mantralaya, Mumbai

सरळ सेवा भरतीने सहाय्यक कार्यकारी अभियंता या पदावर नियुक्ती दिलेल्या अधिकाऱ्यांसाठी क्षेत्रीय
प्रशिक्षण कार्यक्रम, जलसंपदा विभाग
Field Training for Direct Recruits as Assistant Executive Engineer of Water
Resource Department.

कालावधी: २४ मार्च - ६ एप्रिल २००८
Duration: 24 March-6 April 2008

“क्षेत्रीय प्रशिक्षण अहवाल” “FIELD TRAINING REPORT”

सादरकर्ता-
Submitted by-

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सहाय्यक कार्यकारी अभियंता,
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महाराष्ट्र अभियांत्रिकी प्रशिक्षण प्रबोधिनी, नाशिक.
Maharashtra Engineering Training Academy, Nashik

Executive Summary

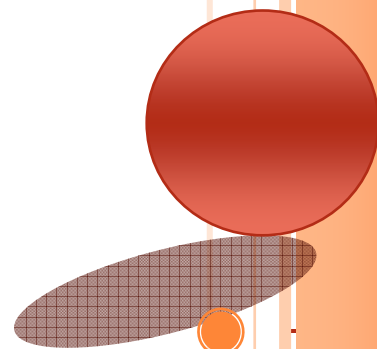
Maharashtra Engineering Training Academy (META), Nashik organized training program for direct recruits - Assistant Executive Engineer and Assistant Engineer (Class I) of Water Resource Department (WRD), in accordance with Maharashtra Engineering Service Examination-2004.

Two week training at Water Resources Department, Mantralaya, Mumbai was scheduled from 24th March 2008 to 06th April 2008. As per directions of META, we joined META, Nashik on 24th March 2008 for class room training up to 1st April 2008, and 4 days training at Mantralaya from 2nd April to 6th April 2008 at Mumbai.

This report includes the brief summary of lectures/film show/discussions organized during above said period, in my own wording and as per my understanding. Two week training session at Maharashtra Engineering Training Academy was started on 24th March 2007 and ended on 1st April 2008. As per direction of META we completed eight days at META Nashik and four days at Water Resources Department, Mantralaya, Government of Maharashtra, Mumbai from 2nd April to 6th April 2008.

This report includes the summary of lectures/film show attended by me and discussion with the officers of Water Resources Department. I learned the administrative work culture and various kinds of works, undertaken at Mantralaya level. I realized that the scope of Water Resources Department is very wide and it is a sort of social service and through our service, we are honored with the opportunity to be part of the department.

I am very happy and satisfied with the content and quality of training courses and subjects taught by the lecturers. Definitely, the knowledge earned during this training session was a life time experience and it will serve as a foundation for my life.



Acknowledgement

I take this opportunity to express my gratitude to those whose active help and support make field training and this report possible in the present form.

First of all, I express my heartfelt gratitude to **Shri. Gaikwad Saheb**, Secretary, (Water Resources), **Shri. E B Patil Saheb**, Secretary, (CAD), **Shri. Ghuge Saheb**, Chief Engineer and Director, META, **Shri. Bairagi Saheb**, Superintending Engineer and Joint Director, META **Shri. Pawar Saheb**, Executive Engineer and Reader, META, **Shri. Kulkarni Saheb**, Executive Engineer, META for providing us an opportunity to meet and interact experts in the field of Maharashtra Civil Services Rules, Transfer rules, Right to Information act, Maharashtra Engineering Examination Recruitment Rules, Seniority rules and Promotion rules, establishment of Class I, Class II, Class III and Class IV officers and employee, Command Area Development, Minor Irrigation, NABARD, Khar Land, Statistics, Irrigation Act, Water Users Associations, MMWRA, MWSIP and so on.

It is the endless guidance and constant encouragement of **Shri. Mrs. Jyoti Potdar madam**, Deputy Secretary (Administration), **Shri. Kulkarni Saheb**, Under Secretary, (Administration), **Shri. Pingat Saheb**, Deputy Secretary, (Establishment), **Sonwarkar Saheb**, Deputy Secretary (Command Area Development), **Shri. Nikumbhe Saheb**, Deputy Secretary, (Minor Irrigation), **Shri. Shinde Saheb**, Deputy Director (Statistics) and **Shri. Tejale Saheb**, Deputy Secretary (Irrigation Management). They shared valuable experiences with us and it was the most enjoyable part of training. I express my heartfelt gratitude for their active help.

I would like to express my gratitude to the staff of Maharashtra Engineering Training Academy, Nashik and Water Resources Department, Mantralaya, Mumbai for providing us necessary assistance during the training. Definitely the knowledge, I received during this training session was a lifetime experience and it will serve as a foundation for my career.

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** BE (Civil), MTech (IITK)
(Assistant Executive Engineer)

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Chapter 1 Introduction

1.1 About META¹

Government of Maharashtra has established Maharashtra Engineering Training Academy (META), formerly known as Engineering Staff College (ESC) at Nashik on May 20, 1964. META conducts specialized training courses related to the field and conducts professional examinations. Only the in-service engineers of Water Resources and Public works Department working in state, Zilla Parishad and Irrigation Development Corporations of the status of Chief Engineer, Superintending Engineer, Executive Engineer, Deputy Engineer and Assistant Engineer Grade-I are eligible for the training courses & professional examination of Deputy Engineer, Assistant Engineer Grade-I, Assistant Engineer Grade-II, Junior Engineer and Muster Assistant.

Maharashtra Engineering Training Academy (META), Nashik organized training program for direct recruits - Assistant Executive Engineer and Assistant Engineer (Class I) of Water Resource Department (WRD), in accordance with Maharashtra Engineering Service Examination-2004.



Maharashtra Engineering Training Academy, Nashik

1.2 Prime Objectives

- **Fundamental training courses:**
The fundamental training courses are conducted for the engineers newly recruited through the Maharashtra Public Service Commission in the Public Works and Water Resources Departments of Government of Maharashtra.
- **Specialized training courses:**
The specialized training courses are conducted for the in-service Engineers of Water Resources and Public Works Department. The *specialized* courses include the courses for Stress management, Personality Development, Information Technology etc.

¹ META=Maharashtra Engineering Training Academy, Nashik

- **Professional Examinations:**

Professional Examinations are conducted for the officers below the rank of Executive Engineer. Passing of the professional examination is compulsory for the in-service engineers of Water Resources and Public Works Department.

1.3 Our Training Schedule

As per direction of META, I successfully completed training session as shown below. It includes the time table of various lectures conducted by eminent personalities working as Deputy Secretary, Upper secretary, Joint Secretary or Dy. Director at various sections of Mantralaya in Water Resources Department. It is my pleasure to had an opportunity to listen their thoughts/concepts in accordance with the working of the Water Resources Department. I also tried to clear doubts through interaction with them and discussion in other training friends.

Name of officer and post	Date	Subject
Mrs. Jyoti Potdar Madam, Dy. Secretary, Administration. Water Resources Department, Mantralaya, Mumbai Mr. Kulkarni Saheb, Under Secretary, Administration. Water Resources Department, Mantralaya, Mumbai	24.03.2008	<ul style="list-style-type: none"> • Maharashtra Civil Services Rules¹ • Definitions regarding MCSR • Rules regarding Transfer of officer/employee of Government of Maharashtra. • Right To Information² Act • Recruitment and Classification Rules-1929 • Post vacancy determination • Seniority Rules • Promotion Rules • Departmental Promotion Committee
Shri. Pingat Saheb Dy. Secretary, (Establishment), Water Resources Department, Mantralaya, Mumbai	25/03/2008	<ul style="list-style-type: none"> • Appointment of Class III and Class IV employee. • Divisional Inquiry of Class I and Class II officers. • Types of posts in Water Resources Department.
Film Show	26/03/2008	<ul style="list-style-type: none"> • Koyna dam
Shri. Sonwarkar saheb, Dy. Secretary, (CAD), Water Resources Department, Mantralaya, Mumbai	27/03/2008 (Morning session)	<ul style="list-style-type: none"> • Command Area Development³ Programme-1974-75. • Command Area Development and Water Management⁴ Programme • Maharashtra Composite Irrigation Project- I, II, III⁵ • Maharashtra Water Utilization Project⁶ • United States Agency for International Development⁷ • United Nations Development Programme¹

¹ MCSR= Maharashtra Civil Services Rules

² RTI= Right To Information

³ CAD=Command Area Development

⁴ CADWM= Command Area Development and Water Management

⁵ MCIP= Maharashtra Composite Irrigation Project

⁶ MWUP= Maharashtra Water Utilization Project

⁷ UNAID= United States Agency for International Development

Shri. Nikumbhe Saheb, Dy. Secretary, Water Resources Department, Mantralaya, Mumbai	27/03/2008 (Afternoon session)	<ul style="list-style-type: none"> • Minor Irrigation² • Organization at Mantralaya. • Administrative Approval for MI projects. • Financial Limits and policy matters for MI projects. • Common Schedule of Rates³ • National Bank for Agricultural Development⁴ • Khar Land
Shri. Shinde Saheb, Dy. Director (Statistics), Water Resources Department, Mantralaya, Mumbai	28/03/2008	<ul style="list-style-type: none"> • Collection of statistical information corresponding to Irrigation Management. • Types of information • Irrigation Status Report.
Shri. Tejale Saheb, Dy. Secretary (Irrigation Management) Water Resources Department, Mantralaya, Mumbai	29/03/2008	<ul style="list-style-type: none"> • Maharashtra Irrigation Act-1976. • Irrigation Management Policy • Irrigation Management Works • Irrigation Management Revenue • Irrigation Management Statistics. • Water Users Association⁵ • Maharashtra Water Resources Regulatory Authority⁶ • Maharashtra Water Policy- July 2003 • Maharashtra Water Sector Improvement Project⁷
SUNDAY	30/03/2008	<ul style="list-style-type: none"> • Holiday
Film Show	31/03/2008	<ul style="list-style-type: none"> • Ghatghar Hydroelectric Project⁸ • Koyna Hydroelectric Project⁹

¹ UNDP= United Nations Development Programme

² MI= Minor Irrigation

³ CSR= Common Schedule of Rates

⁴ NABARD= National Bank for Agricultural Development

⁵WUA= Water Users Association

⁶ MWRRA= Maharashtra Water Resources Regulatory Authority

⁷ MWSIP= Maharashtra Water Sector Improvement Project

⁸ GHEP= Ghatghar Hydroelectric Project

⁹ KHEP=Koyna Hydroelectric Project

Chapter 2 Details of Lectures

1. Lecture 1: 24/03/2008

Mrs. Jyoti Potdar Madam,
Dy. Secretary, Administration.
Water Resources Department,
Mantralaya, Mumbai

Mr. Kulkarni Saheb,
Under Secretary,
Administration.
Water Resources Department,
Mantralaya, Mumbai

- Maharashtra Civil Services Rules
- Definitions regarding MCSR
- Rules regarding Transfer of officer/employee of Government of Maharashtra.
- Right To Information Act
- Recruitment and Classification Rules-1929
- Post vacancy determination
- Seniority Rules
- Promotion Rules
- Departmental Promotion Committee



Mrs. Jyoti Potdar Madam, Dy. Secretary, (Administration) and Mr. Kulkarni Saheb, Under Secretary (Administration)

1.1 Maharashtra Civil Services Rules

Following are the Maharashtra Civil Services Rules-

1. Maharashtra Civil Services (General Conditions of Service) Rules
2. Maharashtra Civil Services (Pay) Rules
3. Maharashtra Civil Services (Joining Time, Foreign Services and Payment during suspension, Dismissal and Removal) Rules
4. Maharashtra Civil Services (Leave) Rules
5. Maharashtra Civil Services (Pension) Rules
6. Maharashtra Civil Services (Commutation) Rules
7. Maharashtra Civil Services (Honorarium, Fees, Compensatory Local and House Rent Allowance) Rules
8. Maharashtra Civil Services (Travelling Allowance) Rules

For Water Resources Department, Public Works Department, and Maharashtra Jeevan Pradhikaran there are following books which are important from service point of view-

1. Maharashtra Public Works Manual
2. Account Code

1.2 Rules regarding Transfer of officer/employee.

- Minimum Duration = 3 years
- Transfer Period = April/May
- Powers for Class I = Minister
- Maximum Transfers = 30%
- Exceptional Transfer = Chief Minister via WRD Minister.

1.3 Right To Information Act

Right To Information Act comes into force on the 12th October, 2005 (120th day of its enactment on 15th June, 2005). Some provisions have come into force with immediate effect viz. obligations of public authorities [S.4(1)], designation of Public Information Officers and Assistant Public Information Officers[S.5(1) and 5(2)], constitution of Central Information Commission (S.12 and 13), constitution of State Information Commission (S.15 and 16), non-applicability of the Act to Intelligence and Security Organizations (S.24) and power to make rules to carry out the provisions of the Act (S.27 and 28).

What does information mean?

Information means any material in any form including records, documents, memos, e-mails, opinions, advices, press releases, circulars, orders, logbooks, contracts, reports, papers, samples, models, data material held in any electronic form and information relating to any private body which can be accessed by a public authority under any other law for the time being in force but does not include "file noting" [S.2(f)].

What does Right to Information mean?

It includes the right to -

1. inspect works, documents, records.
2. take notes, extracts or certified copies of documents or records.
3. take certified samples of material.
4. obtain information in form of printouts, diskettes, floppies, tapes, video cassettes or in any other electronic mode or through printouts.[S.2(j)]

What are the obligations of public authority?

It shall publish within one hundred and twenty days of the enactment:-

1. the particulars of its organization, functions and duties;
2. the powers and duties of its officers and employees;
3. the procedure followed in its decision making process, including channels of supervision and accountability;
4. the norms set by it for the discharge of its functions;
5. the rules, regulations, instructions, manuals and records used by its employees for discharging its functions;
6. a statement of the categories of the documents held by it or under its control;
7. the particulars of any arrangement that exists for consultation with, or representation by the members of the public, in relation to the formulation of policy or implementation thereof;
8. a statement of the boards, councils, committees and other bodies consisting of two or more persons constituted by it. Additionally, information as to whether the meetings of

- these are open to the public, or the minutes' of such meetings are accessible to the public;
9. a directory of its officers and employees;
 10. the monthly remuneration received by each of its officers and employees, including the system of compensation as provided in its regulations;
 11. the budget allocated to each of its agency, indicating the particulars of all plans, proposed expenditures and reports on disbursements made;
 12. the manner of execution of subsidy programmes, including the amounts allocated and the details and beneficiaries of such programmes;
 13. particulars of recipients of concessions, permits or authorizations granted by it;
 14. details of the information available to, or held by it, reduced in an electronic form;
 15. the particulars of facilities available to citizens for obtaining information, including the working hours of a library or reading room, if maintained for public use;
 16. the names, designations and other particulars of the Public Information Officers.[S.4(1)(b)]

What does a "public authority" mean?

It means any authority or body or institution of self-government established or constituted: [S.2(h)]

- by or under the Constitution;
- by any other law made by Parliament;
- by any other law made by State Legislature;
- by notification issued or order made by the appropriate Government and includes any-
 - body owned, controlled or substantially financed
 - non-Government organization substantially financed directly or indirectly by the appropriate Government.

Who are Public Information Officers (PIOs)?

PIOs are officers designated by the public authorities in all administrative units or offices under it to provide information to the citizens requesting for information under the Act. Any officer, whose assistance has been sought by the PIO for the proper discharge of his or her duties, shall render all assistance and for the purpose of contraventions of the provisions of this Act, such other officer shall be treated as a PIO.

What are the duties of a PIO?

- PIO shall deal with requests from persons seeking information and where the request cannot be made in writing, to render reasonable assistance to the person to reduce the same in writing.
- If the information requested for is held by or its subject matter is closely connected with the function of another public authority, the PIO shall transfer, within 5 days, the request to that other public authority and inform the applicant immediately.
- PIO may seek the assistance of any other officer for the proper discharge of his/her duties.
- PIO, on receipt of a request, shall as expeditiously as possible, and in any case within 30 days of the receipt of the request, either provide the information on payment of such fee as may be prescribed or reject the request for any of the reasons specified in S.8 or S.9.
- Where the information requested for concerns the life or liberty of a person, the same shall be provided within forty-eight hours of the receipt of the request.
- If the PIO fails to give decision on the request within the period specified, he shall be deemed to have refused the request.
- Where a request has been rejected, the PIO shall communicate to the requester - (i) the reasons for such rejection, (ii) the period within which an appeal against such rejection may be preferred, and (iii) the particulars of the Appellate Authority.

- PIO shall provide information in the form in which it is sought unless it would disproportionately divert the resources of the Public Authority or would be detrimental to the safety or preservation of the record in question.
- If allowing partial access, the PIO shall give a notice to the applicant, informing:
 - that only part of the record requested, after severance of the record containing information which is exempt from disclosure, is being provided;
 - the reasons for the decision, including any findings on any material question of fact, referring to the material on which those findings were based;
 - the name and designation of the person giving the decision;
 - the details of the fees calculated by him or her and the amount of fee which the applicant is required to deposit; and
 - his or her rights with respect to review of the decision regarding non-disclosure of part of the information, the amount of fee charged or the form of access provided.
- If information sought has been supplied by third party or is treated as confidential by that third party, the PIO shall give a written notice to the third party within 5 days from the receipt of the request and take its representation into consideration.
- Third party must be given a chance to make a representation before the PIO within 10 days from the date of receipt of such notice.

2. Lecture 2: 25/03/2008

Shri. Pingat Saheb
Dy. Secretary,
(Establishment),
Water Resources Department,
Mantralaya, Mumbai

- Appointment of Class III and Class IV employee.
- Divisional Inquiry of Class I and Class II officers.
- Types of posts in Water Resources Department.



Shri. Pingat Saheb, Dy. Secretary, (Establishment)

Shri. Pingat Saheb, Dy. Secretary (Establishment) explained the procedure of Appointment which starts with the advertisement in newspaper mentioning the type of post, number of vacancy, date of application, method of examination, details of reservation of posts, last date of applications etc. There are several posts in Water Resources Department.

Appointment to the post of Superintending Engineer (Civil in the Maharashtra Service of Engineers, Group A, under the Irrigation Department, shall be made by promotion of a suitable person on the basis of strict selection from amongst the persons, who.—

- a. Possess a degree of a statutory University in Civil Engineering or a qualification which is recognized as equivalent thereto by the Government of Maharashtra;
- b. have been holding the post of Executive Engineer (Civil) under the Irrigation Department for a period of not less than seven years :

Provided that, where sufficient number of persons having held the post of Executive Engineer (Civil) for a period of not less than seven years as aforesaid is not available to fill up the vacancies, then the requirement of such service of seven years may be relaxed, so however that such relaxation shall not be more than 2 years.

Without prejudice to the provisions of above rule, the persons referred to in above rule shall have, while in the Maharashtra Service Engineer, Group A and Group B under any of the Department of the Government of Maharashtra, gained an experience of not less than 3 years in any one or more of the branches from each of the following two groups, namely.—

- a. Research
- b. designs,
- c. project preparation,
- d. investigation or
- e. training work.
- f. Construction, or
- g. Management.

2.1 Additional Increments:

If 5 consecutive Confidential Reports¹⁸ of an employee are as follows, he is eligible for 2 additional increments.

Four CR as A+	At least One CR as B+	2 additional increments
Three CR as A+	At least Two CR as B+	1 additional increments

¹⁸ CR= Confidential Reports

3. Lecture 3: 27/03/2008

Shri. Sonwarkar saheb,
Dy. Secretary, (CAD),
Water Resources Department,
Mantralaya, Mumbai

- Command Area Development Programme-1974-75.
- Command Area Development and Water Management Programme
- Maharashtra Composite Irrigation Project- I, II, III
- Maharashtra Water Utilization Project
- United States Agency for International Development
- United Nations Development Programme

3.1 Command Area Development (CAD) Programme

The Centrally sponsored Command Area Development (CAD) Programme was launched in 1974-75 with the objective of bridging the gap between irrigation potential created and that utilized through efficient utilization of created irrigation potential and optimizing agricultural production from irrigated lands on a sustainable basis. The programme envisages integration of all activities relating to irrigated agriculture in a coordinated manner with multidisciplinary team under an Area Development Authority.



Shri. Sonwarkar saheb, Dy. Secretary, (CAD)

3.2 Command Area Development and Water Management Programme

In view of the recommendations of the Working Groups of the Planning Commission for X Plan, the CAD Programme was restructured during the year 2003-04. The restructured Programme, known as Command Area Development & Water Management (CADWM) Programme, became effective from 1.4.2004. The components of the CADWM Programme are as follows:

- a. Survey, planning and designing of On- Farm Developments works;
- b. Construction of field channels with a minimum 10% beneficiary contribution;
- c. Full package OFD works including construction of field channels, realignment of field boundaries, land leveling and shaping also with a minimum 10% beneficiary contribution;

- d. Warabandi
- e. Construction of field drains, intermediate and link drains for letting out surplus water;
- f. Reclamation of waterlogged areas now with a minimum 10% beneficiary contribution;
- g. Trainings/ adaptive trials/ demonstrations through Water and Land Management Institutes (WALMI) and other institutions and monitoring & evaluation of the programme with 75% funding from Government of India;
- h. Institutional support to Water Users' Associations;
- i. Establishment cost – 20 % of OFD works
- j. R & D Activities.
- k. Correction of system deficiencies above the outlet up to distributaries of 150 Cusec capacity;
- l. Renovation and desilting of existing irrigation tanks including the irrigation system and control structures within the designated irrigation commands with a minimum 10% beneficiary contribution as maintenance fund, the interest from which has to be used for maintenance in future and
- m. Use of location specific bio-drainage techniques to supplement conventional techniques for reclamation of waterlogged area as a part of item (f) above.

3.3 Participatory Irrigation Management (PIM)

Under the restructured Programme there is thrust on Participatory Irrigation Management (PIM) and, therefore, following features have been made mandatory for Programme implementation:

1. Central assistance to States has been linked to enactment of PIM legislation. Till this is done, alternative arrangements have to be in place for formation and empowerment of Water Users' Associations (WUAs);
2. WUAs have to be in position before Project Components are taken up so that beneficiaries are involved in the implementing of Programme activities, since inception;
3. A minimum 10% beneficiary contribution has been made mandatory in the construction of field channels, reclamation of waterlogged areas and renovation of Minor Irrigation Tanks to ensure increased beneficiary participation and thereby improve the quality of works;

3.4 Financial Pattern

The funding pattern for all the Programme components is 50:50 on sharing basis between Centre and State/farmers for all the components except for State sponsored software components such as trainings of farmers and field functionaries , adaptive trials & demonstrations, action research for Participatory Irrigation Management, seminars/ conferences/ workshops, monitoring & evaluation of the programme etc. for which the funding pattern is 75:25 basis between the Centre and States. The funding pattern for national level training courses for Senior level officers and Monitoring & Evaluation of the Programme sponsored by Central Government is 100%.

4. Lecture 4: 27/03/2008

Shri. Nikumbhe Saheb,
Dy. Secretary, (Minor
Irrigation)
Water Resources Department,
Mantralaya, Mumbai

- Minor Irrigation
- Organization at Mantralaya.
- Administrative Approval for MI projects.
- Financial Limits and policy matters for MI projects.
- Common Schedule of Rates
- National Bank for Agricultural Development
- Khar Land



Shri. Nikumbhe Saheb, Dy. Secretary, (Minor Irrigation)

4.1 Administrative Approval

Administrative Approval is necessary to obtain by every department for every work (excluding repairs)¹⁹ 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.*'

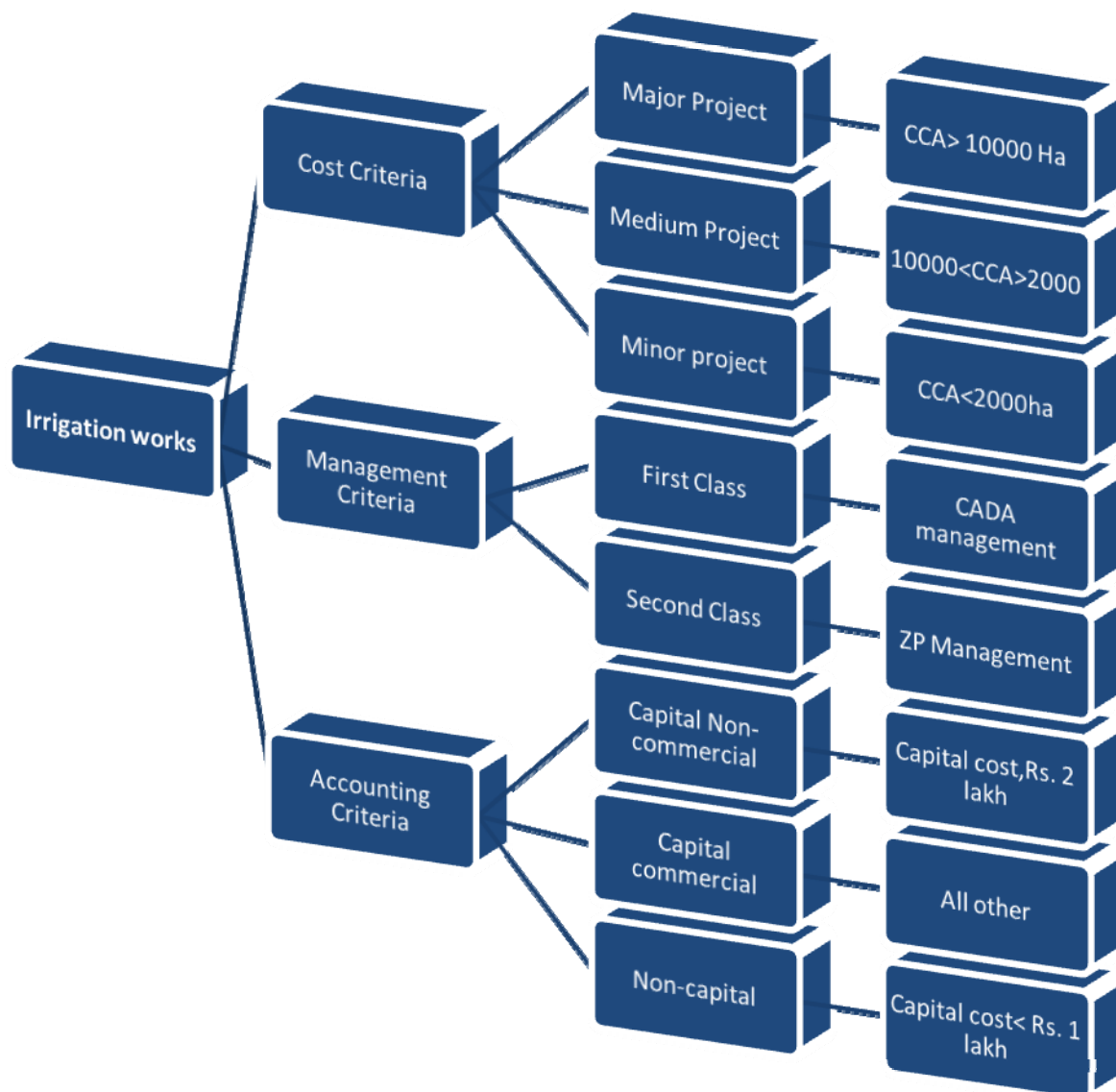
An application for administrative approval should be submitted to competent authority with-preliminary report, an approximate estimate and plans. If the work is not likely to cost more than Rs. 10,000, detailed plans and estimates may be prepared straightway and submitted to the competent authority for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

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

¹⁹ 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.

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

4.2 Classification of irrigation Projects



For convenience irrigation projects are classified according to CCA 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. |

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

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.

4.3 Organizational Setup of Water Resources Department

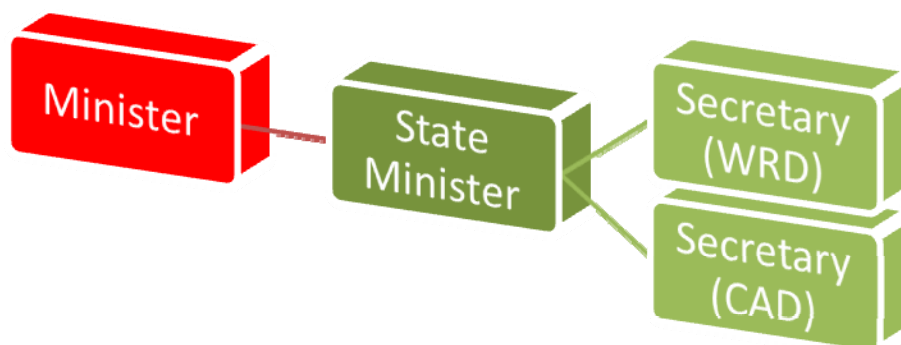


Fig. Organization Setup of Water Resource Department.

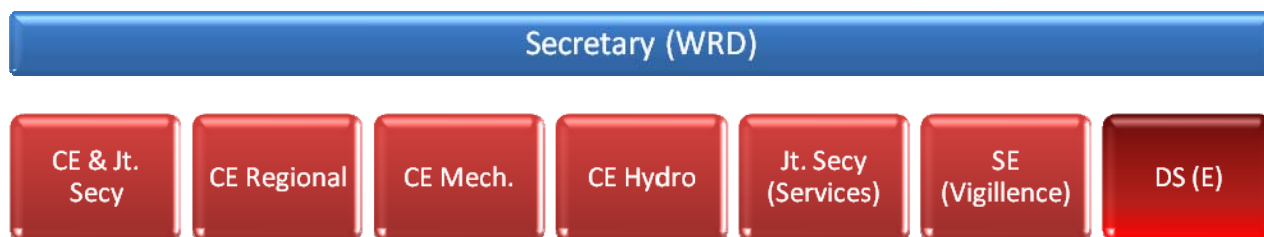


Fig. Organization Setup of Water Resource Department.

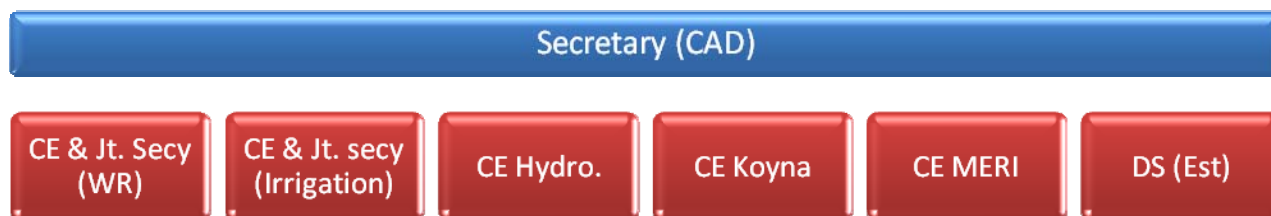


Fig. Organization Setup of Water Resource Department.

- A. Quality Control Organization
- 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

4.5 Maintenance and Repair of Major and Medium Irrigation Projects, Dams and Canals

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 DSO²⁰ 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.

²⁰ Dam Safety Organization, Nashik
Report Submitted by- Er. Pravin Kolhe, AEE.

Delegations of powers:-

Designation	Administrative level	Technical sanction	
		Budget allocation provision	
		General M&R ²¹	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

4.6 Common Schedule of Rates

As per MPW Manual²² 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.

5. Lecture 5: 28/03/2008

Shri. Shinde Saheb,
Dy. Director (Statistics),
Water Resources Department,
Mantralaya, Mumbai

- Collection of statistical information corresponding to Irrigation Management.
- Types of information
- Irrigation Status Report.

5.1 Overview of Irrigation Sector

Maharashtra State (the State) is situated in the south- west of India. The geographical area of the State is 30.8 Million hectares (Mha.), with cultivable area of about 22.5 Mha. It is the third largest State in India as per 2001 census. Its population has touched the figure of 100 Million.

Agriculture sector plays an important role in the State economy. According to the population census 2001, the total number of workers in the State was 42.10 Million, of which cultivator and agricultural labourers together were 55.41 per cent. It shows that majority of the population has been dependent on agriculture and allied activities. It is therefore, agriculture and allied activities plays an important role in the State economy. However, the share of Agriculture and Animal Husbandry in the Gross State Domestic Product has remained comparatively low, around 13 per cent. It is therefore necessary to increase the agriculture production and productivity of the crops, which forms the major basis of the rural development. Adequate, timely and guaranteed irrigation is of para-mount importance in agriculture production. Irrigation facility is regarded as a key element of agriculture sector. Dams and canal systems are the main components of irrigation

²¹ Maintenance and Repair

²² Chapter 3, Works, H – Schedule of rates, *The Maharashtra Public Works Manual-1984*, paragraph: 187, page – 69.

system. The irrigation facility enables the farmers to grow at least two seasonal crops on a piece of land.



Shri. Shinde Saheb, Dy. Director (Statistics), and **Pawar Saheb**, Executive Engineer, META

5.2 Agro Climatic Zones and Rainfall

The Agriculture Department has divided the State into 9 different agro- climatic zones depending upon the climate, foliage, topography, soil and cropping pattern. The annual average rainfall in these zones ranges from 500 mm to 6000 mm. These nine agro-climatic zones are important for providing irrigation facilities, water use and cropping pattern. The State receives rains from South-West and North-East monsoon. The average rainfall of the State is around 1300 mm. of which 88% is received during June to September and remaining between October to December

5.3 Surface Water Sources

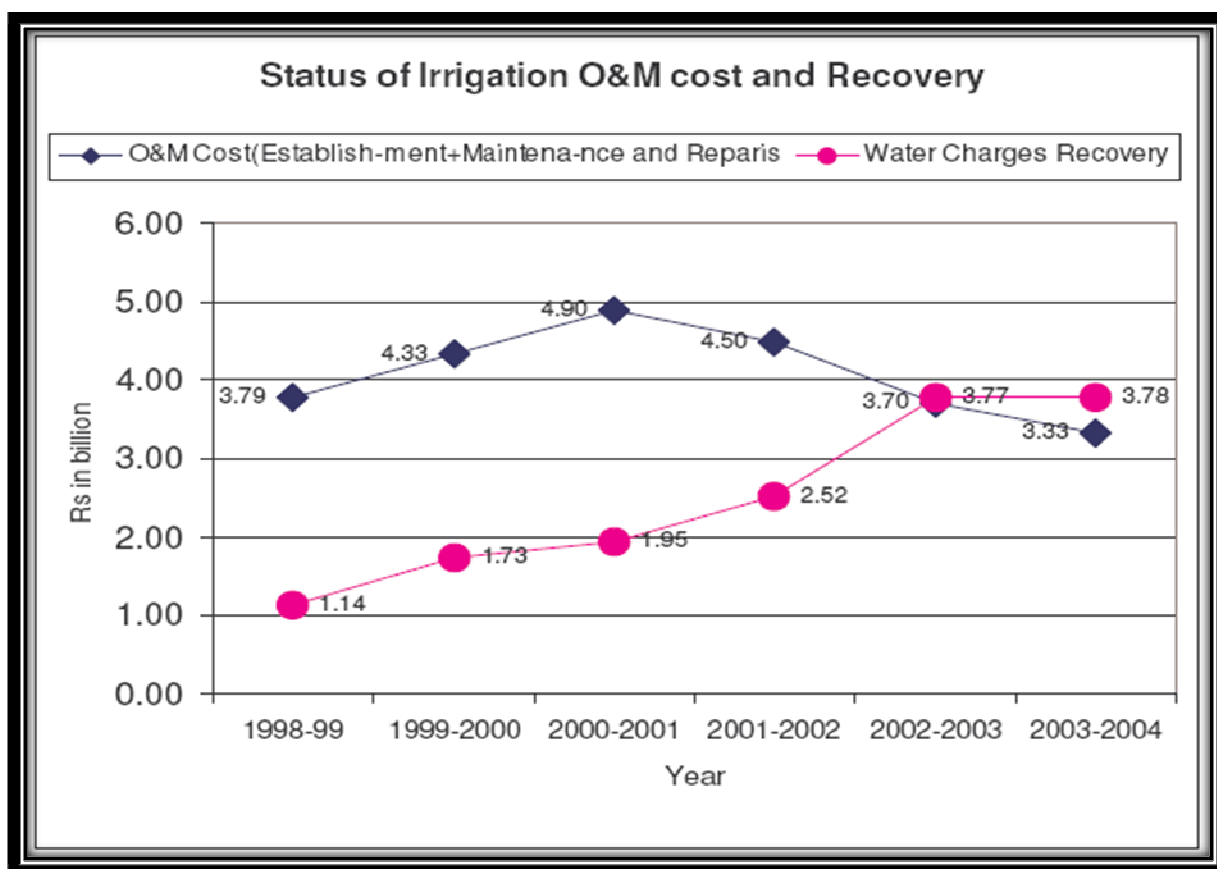
There are around 400 rivers in Maharashtra. Their total length is around 20000 km. The Geographical area of the State is divided into 5 river basins viz. Krishna, Godavari, Tapi, Narmada and narrow basin of West flowing rivers of Konkan. Storing water whenever heavy rainfall occurs and keeping at hand a system entailing its use, is the only reliable way for bringing "prosperity" from available water resources. Presently the storage capacity and the benefited area is decided on 75% dependability basis. For the better planning, these five basins are further divided into 25 sub-basins. The basin-wise average annual water availability is given in the table below.

5.5 Status of Irrigation Facility in State

After formation of the State, the first irrigation commission was constituted in 1962 for assessing water resources and suggesting long term policy for optimum utilization of available resources. Subsequently, Government of Maharashtra constituted " Maharashtra Water and Irrigation Commission. " in 1995 (the Commission), to study the problems related to irrigation and

development of water resources. The Commission submitted its report in 1999. While assessing basin-wise irrigation potential in the State, the Commission defined the area under irrigation as the area where at-least two seasonal crops (Kharif and Rabi) can be grown with the available irrigation facility. According to the Commission the irrigation potential of the State can be increased up to 12.6 Mha., considering water availability in river basins, cultivable land, augmentation of ground water, ground water recharge facilitated through watershed area development, modern irrigation techniques and improvement in water application system on farms together. It has also been anticipated by Commission that through surface irrigation 8.5 mha. area can be irrigated.

5.4 Water Charges Recovery and O&M²³ Cost



The expenditure on irrigation management for the year 2002-03 and 2003-04 was Rs. 3700 million and Rs. 3330 million respectively. Whereas the total recovery of the water charges pertains to irrigation and non-irrigation water use was Rs. 3775 million and Rs. 3776 million respectively. These figures show that since last two years the expenditure on irrigation management is 100% met through recovery of water charges (Ref. Table No.24.Pg.84 of the Irrigation Status Report 2003-04-Marathi).

5.6 Assessment of Irrigation Potential of State

After formation of the State, the first irrigation commission was constituted in 1962 for assessing water resources and suggesting long term policy for optimum utilization of available resources. Subsequently, Government of Maharashtra constituted " Maharashtra Water and Irrigation

²³ Operation and Maintenance

Commission. " in 1995 (the Commission), to study the problems related to irrigation and development of water resources. The Commission submitted its report in 1999. While assessing basin-wise irrigation potential in the State, the Commission defined the area under irrigation as the area where at-least two seasonal crops (Kharif and Rabi) can be grown with the available irrigation facility. According to the Commission the irrigation potential of the State can be increased up to 12.6 Mha., considering water availability in river basins, cultivable land, augmentation of ground water, ground water recharge facilitated through watershed area development, modern irrigation techniques and improvement in water application system on farms together. It has also been anticipated by Commission that through surface irrigation 8.5 mha. area can be irrigated.

6. Lecture 6: 29/03/2008

Shri. Tejale Saheb,
Dy. Secretary (Irrigation
Management)
Water Resources Department,
Mantralaya, Mumbai

- Maharashtra Irrigation Act-1976.
- Irrigation Management Policy
- Irrigation Management Works
- Irrigation Management Revenue
- Irrigation Management Statistics.
- Water Users Association
- Maharashtra Water Resources Regulatory Authority
- Maharashtra Water Policy- July 2003
- Maharashtra Water Sector Improvement Project



Shri. Tejale Saheb, Dy. Secretary (Irrigation Management)

6.1 Objectives and Scope of MWSIP

Objective:

1. Strengthen the state's capacity for multi-sectoral planning, development, and sustainable management of the water resources; and

2. Improve irrigation service delivery on sustainable basis, to increase productivity of irrigated agriculture and contribute to rural poverty reduction.

Scope:

The MWSIP envisages the rehabilitation and monetization of the existing irrigation systems. No new projects are proposed to be covered by this project

6.2 Maharashtra Irrigation Act

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.

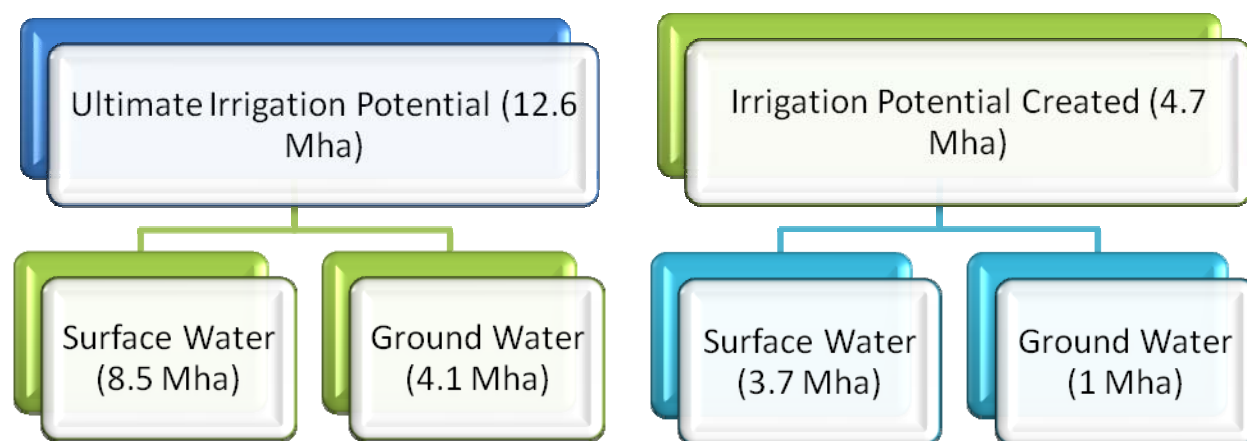
The existing Maharashtra Irrigation Act- 1976 has 14 parts as follows-

- | | |
|------------|---|
| 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 |

6.3 Maharashtra Management of Irrigation Systems by Farmers Act- 2003

National Water Policy 2002 and Maharashtra State Water Policy advocate participatory irrigation management. In view of these, water users associations were setup in command areas of various projects in different parts of the State. By the end of 2004-05 in all 774 WUAs were in full operation with operational area of 2.51 lakh ha. Besides this the number of WUAs which have been registered and entered into agreement during 2004-05 was 956 covering an area of about 4.33 lakh ha. Looking at the slow pace of PIM in last decade and to bridge the gap between irrigation potential created and its actual utilization and to optimize the benefits by ensuring proper use of surface & ground water by increased efficiency in distribution, delivery, application and drainage of irrigation systems and for achieving this objective, to give statutory recognition to the constitution & operation of WUAs, an act has been passed by the State legislature. The act is known as "Maharashtra Management of Irrigation Systems by Farmers Act, 2005". As per this act, all the beneficiaries in the command of a distributaries / minor will become the members of WUA, once the area is notified under the act.

6.4 Irrigation Potential of Maharashtra



6.5 Components of MWSIP

1. Institutional Restructuring & Capacity Building
2. Increase Irrigation Water Service Delivery & management
3. Improving Knowledge Base of Water Sector
4. Project Management & Monitoring

Participatory Irrigation Management

1. Traditionally the responsibilities for canal O&M was with WRD
2. But the system has suffered from –
3. Inadequacy of funds for O&M,
4. Non-recovery of irrigation cess from the beneficiaries
5. Since needs of the users in the command areas are different, it lead to unequal water distribution and hence, caused social conflict.
6. This could be addressed by greater involvement of the beneficiaries in the distribution of water supplies and canal O&M.
7. The Participatory Irrigation Management (PIM) system is an arrangement for the involvement of stakeholders in the O&M of the irrigation system.
8. WRD would act as technical consultant and facilitator to the WUAs and Project Committees
9. The PIM system is an extension of the Panchayat Raj system, which empowers the users to manage their own affairs according to their requirements.
10. The schemes rehabilitated under the MWSIP would, therefore, be operated under the PIM model.

6.6 State Water Policy

As per the recommendation laid down in the National Water Policy and Maharashtra Water and Irrigation Commission Report, the State water policy has been framed by Maharashtra State in July 2003. The objective of the Maharashtra State water policy is to ensure the sustainable development and optimal use and management of the State's water resources to provide the greatest economic and social benefit for the people of the State of Maharashtra in such manner that maintains important ecological values within the rivers and adjoining lands. The policy has innovative features such as water audit; benchmarking of water resources projects, water entitlement etc.

6.7 Water Auditing

Water auditing is a systematic & scientific examination of water accounts of the projects. It is an intelligent & critical examination by independent organization. It is a critical review of system of accounting. Water auditing is checking sector wise water use against planning, water use efficiency in irrigation and losses. As far as irrigation sector is concerned, water audit should give comparison of planned water use efficiency (i.e. ha /Mcum) versus actual water use efficiency (i.e. ha/ Mcum). This will provide information about loss of water in the system. Efforts should be made to identify the causes for it and initiate action to minimize the losses to improve the water use efficiency.

Broadly water auditing involves checking the following parameters.

1. Actual water use in various sectors against planning,
2. Whether water use for irrigation in every season is as per planning & checking the water use efficiency (ha/Mcum)
3. Checking whether the prescribed procedure for irrigation management is followed or not.
4. Whether records as per requirements are maintained or not.

6.8 About MWRRA

The Maharashtra Water Resources Regulatory Authority (MWRRA), set up under an Act in August 2005, is the first of its kind in the country. One of the important functions of the Authority is to determine the distribution of Entitlements for various categories of use and ensure through regulation enforcement of the determined Entitlements. Six projects in the Krishna Basin viz. Kukadi & Ghod (major), Mangi (medium) and Wafgaon, Diwale & Benikre (minor) have been selected initially for fixing and enforcing Entitlements on a pilot basis starting rabi/hot weather season of 2006-07.

Conclusion

Two week training session at Maharashtra Engineering Training Academy was started on 24th March 2007 and ended on 1st April 2008. As per direction of META we completed eight days at META Nashik and four days at Water Resources Department, Mantralaya, Government of Maharashtra, Mumbai from 2nd April to 6th April 2008.

This report includes the summary of lectures/film show attended by me and discussion with the officers of Water Resources Department. I learned the administrative work culture and various kinds of works, undertaken at Mantralaya level. I realized that the scope of Water Resources Department is very wide and it is a sort of social service and through our service, we are honored with the opportunity to be part of the department.

I express my heartfelt gratitude to **Shri. Gaikwad Saheb**, Secretary, (Water Resources), **Shri. E B Patil Saheb**, Secretary, (CAD), **Shri. Ghuge Saheb**, Chief Engineer and Director, META, **Shri. Bairagi Saheb**, Superintending Engineer and Joint Director, META **Shri. Pawar Saheb**, Executive Engineer and Reader, META, **Shri. Kulkarni Saheb**, Executive Engineer, META for providing us an opportunity to meet and interact experts in the field of Maharashtra Civil Services Rules, Transfer rules, Right to Information act, Maharashtra Engineering Examination Recruitment Rules, Seniority rules and Promotion rules, establishment of Class I, Class II, Class III and Class IV officers and employee, Command Area Development, Minor Irrigation, NABARD, Khar Land, Statistics, Irrigation Act, Water Users Associations, MMWRA, MWSIP and so on.

I am very happy and satisfied with the content and quality of training courses and subjects taught by the lecturers. Definitely, the knowledge earned during this training session was a life time experience and it will serve as a foundation for my life.

PRAVIN SHIVAJI KOLHE
Assistant Executive Engineer,
Water Resources Department,
Government of Maharashtra.