CHAPTER - 3

IMTI – Organisational Profile

- Introduction
- Establishment of IMTI
- Governing Body
- Infrastructure facilities
- Details of Training conducted
INTRODUCTION

As the water resources of the Tamil Nadu state has been fully exploited, adequate training is a must to all those involved in the management of irrigation systems right from the designer, the engineer, the agronomist and the operational staff including the farmers to expose them to modern techniques in irrigation management to obtain better productivity with optimum water utilization.

Establishment of an institution with all the facilities including resource persons is an essential and foremost one for imparting training. In theory the contribution of the training institution to the training process is threefold; the first contribution is to the participants. Staffed by competent, flexible trainers and administrators under a responsive principal, the institution provides participants with a programme and an environment, which consistently promotes learning relevant to more effective behavior at work.

Secondly for the trainers, the institution is to provide steady support on day-to-day basis in terms of the collaboration of colleagues, easy access to supporting services, and a climate that is both stimulating and satisfying. For the longer term the institution should provide trainers with opportunities for further professional growth through a satisfying range and variation of roles in which they can gain experience through contact with colleagues in other institutions and through special faculty development programmes.
Thirdly, for the society in which it works it is an agent for development. It permeates the social fabric with its own qualities of inquiry, active response and evaluation of effectiveness. Above all with its enthusiastic and skilful engagement in society and its tasks.

In India, with financial assistance from United States Agency for International Development (USAID) under water resources management and training project, eleven institutions have been set up in the following states; Rajasthan, Gujarat, Maharashtra, Madyapradesh, Tamil Nadu, Bihar, Karnataka, Kerala, Orissa, Andhra Pradesh and Assam.

**ESTABLISHMENT OF IMTI**

The Government of Tamil Nadu vide G.o Ms.no.2456 dated 29.10.1983 has established Irrigation Management Training Institute (IMTI) in Tamil Nadu with Madras as its temporary headquarters in 1984, to impart training in irrigation water management to in-service officers of Public Works Department, Agriculture and other allied departments and also for conducting field action research and training to extension staff, operating personnel, field level workers by utilizing the expertise available in the three educational

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2 Capital city of Tamil Nadu now called Chennai

3. Tiruchirappalli is a district headquarters town in Tamil Nadu state located in the central part of Tamil Nadu.
institutions viz., Anna university, Tamil Nadu Agricultural University and Indian Institute of Management, Bangalore. Later, its headquarters was shifted to Tiruchirappalli in the year 1988 and is now functioning from its own premises called ‘Cauvery valagam’. The present location is very close to the Cauvery delta, the rice bowl of the state. The institute is registered as a society under the Tamil Nadu Society’s Registration Act 1975.

A Governing council under the chairmanship of the Secretary to Government, Public Works department of Tamil Nadu state administers the society. The director who is in the cadre of Chief Engineer is drawn from Public Works Department of Tamil Nadu state to administrate the day to day functioning of the institution. In other words, he is the Chief executive officer of the institution. The director is assisted by an inter disciplinary team of faculty members drawn from various departments viz, Agriculture, Public Works, Agricultural Engineering, and Tamil Nadu Agricultural university.

The IMTI is located at a distance of 20km, from Tiruchirappalli junction on Tiruchirappalli – Thanjavur main road. Tiruchirappalli, the district capital is at the centre of the map of Tamil Nadu State in India (see Fig - 2). It is well connected by road, rail and air with the rest of the country. One Action research Programme unit of the institute is also functioning since 1985 at Tiruvarur, a close place which lies in Cauvery delta.
Fig - 2

Map of Tamil Nadu state indicating location of IMTI

Districts of Tamil Nadu

Map not to Scale

- State Capital
- State Boundary
- District Boundary

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The Objectives of the Institute

The main objective of this project is to increase agricultural productivity and rural income. Specifically the project seeks to increase irrigated agricultural production through improved efficiency of irrigation system but also development of the human resources and their efficiency in managing the system with the participation of the beneficiaries namely the farmers. The specific objectives are:

- To increase agricultural production through improved efficiency of irrigation systems and improved productivity of water delivered for irrigation

- To strengthen the institutional capabilities to operate, manage and maintain efficient and productive systems, more oriented to satisfy the needs of the client farmers; and

- To offer training to all those involved in irrigated agriculture right from the planner, the manager, the designer, the engineer, the agronomist and others in the field including the farmers and expose them to modern techniques in irrigation management through optimization of water use for ensuring better productivity.

This institute acted as a nodal agency for imparting training to the officials who were working in major and medium irrigation projects in Tamil Nadu.
under various projects like National Water Management Project (NWMP), National Hydrology project (NHP) and Water Resources Consolidation Project (WRCP).

**Governing Body**

The Institute is administered by a Governing council under the Chairmanship of Secretary Public Works Department, Government of TamilNadu. The governing council of IMTI is having eleven members as shown in Table - 3.1

**Table - 3.1**

**Members of the Governing Council**

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Designation</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Secretary to Government Public Works Department, Chennai - 9.</td>
<td>Chairman</td>
</tr>
<tr>
<td>2</td>
<td>The Engineer-in –Chief, WRO &amp; Chief Engineer (General), Public Works Department, Chennai – 5.</td>
<td>Vice-Chairman</td>
</tr>
<tr>
<td>3</td>
<td>The Chief Engineer, PWD &amp; Director, Irrigation Management Training Institute, Tiruchirappalli</td>
<td>Member Secretary</td>
</tr>
<tr>
<td>4</td>
<td>Chief Engineer, (POMIO), Central Water Commission, New Delhi</td>
<td>Member</td>
</tr>
<tr>
<td>Sl.No.</td>
<td>Designation</td>
<td>Position</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>5</td>
<td>The Secretary to Government, Government of Tamil Nadu, Chennai</td>
<td>Member</td>
</tr>
<tr>
<td>6</td>
<td>The Secretary to Government, Secretary to Government, Government of Tamil Nadu, Chennai.</td>
<td>Member</td>
</tr>
<tr>
<td>7</td>
<td>The Secretary to Government, Co-operation, Food and Consumer Protection Department, Government of Tamil Nadu, Chennai.</td>
<td>Member</td>
</tr>
<tr>
<td>8</td>
<td>The Director, Water Technology Centre, Tamil Nadu Agricultural University, Coimbatore.</td>
<td>Member</td>
</tr>
<tr>
<td>9</td>
<td>The Director, Tiruchirappalli.</td>
<td>Member</td>
</tr>
<tr>
<td>10</td>
<td>The Director, Centre for Water Resources, Anna University, Chennai</td>
<td>Member</td>
</tr>
<tr>
<td>11</td>
<td>Chief Engineer, PWD &amp; Director, Institute of Water Studies, Chennai.</td>
<td>Member</td>
</tr>
</tbody>
</table>
Organizational chart of IMTI

Chairman

Vice chairman

Training Unit Tiruchirappalli

Joint Director (Training)

Administrative Staff

Joint Director (ARP) since redeployed as JCE (ISW) *Chennai

Action Research Unit Thiruvarur

Professors

Associate Professors

Assistant Professors

Research Associates

Professors

Associate Professors

Assistant Professors

Research Associates

JCE(ISW) – Joint Chief Engineer (Inter State Water)
INFRASTRUCTURE FACILITIES

Campus

The Institute's campus is located in thirty acres of land adjacent to National Institute of Technology (formerly Regional Engineering College), Tiruchirappalli which is 18 km away from Tiruchirappalli and easily approachable by train and buses from any part of Tamil Nadu. The buildings in this campus include classrooms, library, administrative buildings, and hostels for the participants of training programmes, residential quarters for the staff and faculty. One Action Research programme, Unit of the institute is also functioning since 1985 at Thiruvarur, which is about 100 kms from IMTI, Tiruchirappalli. The campus was developed in an area of 30 acres with the following buildings.

- Administrative office building with board room
- Classroom building with mini auditorium
- Library with air-conditioned conference hall
- Laboratory with exhibition hall
- Audio-visual production unit
- Hostel block
- Quarters for all categories staff
- Garage
- Guest house
- Auditorium with conference hall
- Shopping complex.
Training centre

There are eight classrooms, two seminar halls and one audiovisual projection hall in the training centre. Audiovisual equipments like slide projectors, overhead projectors and video facilities are available to enhance the quality of training. IMTI is capable of organizing four trainings programmes at a time simultaneously.

Computer Centre

IMTI is having well equipped with sophisticated computer center, Geographical information Systems (GIS), management information system (MIS) CADD centre, Project centre and Internet centre. Computer centers are well equipped with hardware and software required for imparting training to all officials on computer related subjects.

Library

The library is located in a very spacious building consisting of a reading hall, air-conditioned stock room, issues counter and data centre. An air-conditioned conference hall is also available in the library building. It has about 18,000 scientific and technical books on subjects related to irrigation, water resources, management, agriculture and computers and subjects of general importance. Besides these, the reports of World bank, training modules, hand books are also being received and recorded for reference purpose. Library is subscribing to around 60 periodicals and journals. A video library is also attached to the library.
The library is being used by the participants of various training programmes and research scholars of adjoining universities. The farmers who frequently visit the institute are showing interest in using the library. The VIPs visiting the institute are used to spare more time in the library and they appreciate the collection of the library. The documentation of the library books and journals is being done by AUTOLIB multi-user software which has been specially developed for library use. Barcoding system is also installed for ready reference.

Soil Laboratory

To cater to the needs of trainees, a well established soil laboratory has been established for conducting soil and water management studies with special reference to physical and chemical properties of soil, assessing soil moisture for scheduling of irrigation and estimation of quality of irrigation water required.

Field Hydraulic laboratory

The institute is having a field hydraulic laboratory in its campus for the purpose of giving training to the participants in the measurement of water. The field hydraulic laboratory has model sections of channels with different types of lining materials; earthen channel, lined channel, Precast slab lined channel and cement concrete lined channel. The field hydraulic laboratory is installed with the following devices; parshall flume, cut throat flume, rectangular notch, trapezoidal notch, V Notch and reploge weir. As a part of the training programme the
participants are taken to the field for giving hands-on training on flow measurement and seepage losses.

**Quality control Laboratory**

Under water resources consolidation project implemented, implemented by water resources organization in TamilNadu, regional quality control laboratory was established at IMTI for the benefit of irrigation department officials for conducting material testing for irrigation and building activities. Apart from this, the laboratory is used for the trainees for hands-on experience on conducting training programme on construction materials testing. The laboratory is specially equipped with latest equipments like: Non destructive equipments, destructive equipments, soil testing equipments, fine & coarse aggregate testing equipments.

**Publication**

IMTI publication wing is brings out publications, leaflets, phamplets and other printed materials for the use of trainees and farmers. So far forty two publications were brought out by the IMTI some of which were published in Tamil for the benefit of the farmers. Fifteen pamphlets in Tamil on Irrigated agriculture were published by this institute.
Technology Transfer Unit

The Institute is striving hard to improve the efficiency in irrigated agriculture through technology transfer to target groups of beneficiaries. The main objective of this unit is to establish and support a set of communication channels for dissemination about water resources, irrigation management and agriculture. IMTI produces video films for the benefit of farmers and engineers on irrigation management.

Field Hydraulic laboratory

IMTI is having a field hydraulic laboratory in the campus for the purpose of giving training to the participants in the measurement of water. The field hydraulic laboratory is having model sections of channels with different types of lining materials.

Demonstration Farm

The demonstration farm has a gross area of about 20 acres where operation related to drip irrigation and sprinkler irrigation demonstrated on model farms to the trainees. One windmill, a solar pump, sprinkler and drip irrigation systems have been installed in the demonstration farm.

Agro Meteorological Station

A full-fledged agro meteorological station as per the Indian Meteorological department's standards has been established. Daily observations
are taken on different weather parameters like rainfall, wind speed and direction, total sunshine hours, relative humidity, evaporation, maximum and minimum day temperature etc. The station comprises of the following instruments: sunshine recorder, cup Anemometer, Wind vane, Simon's rain gauge, self recording rain gauge, and Stevenson’s screen.

DETAILS OF TRAINING CONDUCTED

As far as the state of Tamil Nadu is concerned, almost all the available surface water resources have already been harnessed for raising irrigated agricultural crops. That being the state affairs, the strengthening of the institutional capabilities with a focus on effective operation, management and maintenance of various irrigation systems to enable optimal water use. Hence the officials of different levels and field staff engaged in the process of development of irrigated agricultural production in the state are to be provided with enough opportunities to get their capabilities strengthened more towards operation, management and maintenance of irrigation systems.

IMTI is the Nodal agency for conducting training programmes under Water Resources Consolidation Project (WRCP) in TamilNadu for strengthening and rehabilitating the existing irrigation systems. It has also been conducting refresher courses under European Economic Community Project and National Hydrology Project. The different categories of officers trained has been grouped as below.
Senior level Officers

Comprises Superintending Engineers, Executive Engineers, Joint Directors, and Deputy Directors of Agriculture, Joint Directors of cooperative societies and deputy Registrars of co-operative societies. Since the heads of department namely, Chief Engineer, Directors, etc. are very few in number, it is not proposed to have any special programmes for those officials except for some seminars and workshops at frequent intervals.

Middle level officers

Comprises Assistant Executive Engineers and Assistant Directors of agriculture and equivalents who are trained by this institute.

Junior Level Officers

These are the officers who are on work in the field and they comprise Junior Engineers, Assistant Engineers, Agricultural officers and equivalent in respective Government departments of Public Works department, Agriculture, Agricultural Engineering and co-operatives. Details of number of participants trained from 2000-01 to 2003-04 are given below.

Farmers

IMTI is imparting training on water management, water user associations and awareness on Tamilnadu Farmers Management of Irrigation System Act (TNFMIS ACT) to the farmers. The research findings on water
management are disseminated to village level farmers through transfer of technology. Details of number of participants trained from 1998-1999 to 2002-2003 are given in Table – 3.2

The institute has undertaken the responsibility of organizing training programmes from the very first year of its inception and so far covered substantial number of officers and staff participants to develop their skills and attitudes during the course of these short training programmes.

<table>
<thead>
<tr>
<th>Year</th>
<th>No.of Courses/workshop</th>
<th>Officers</th>
<th>Farmers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-99</td>
<td>103</td>
<td>2149</td>
<td>1459</td>
<td>3608</td>
</tr>
<tr>
<td>1999-2000</td>
<td>141</td>
<td>1794</td>
<td>2881</td>
<td>4675</td>
</tr>
<tr>
<td>2000-01</td>
<td>174</td>
<td>3072</td>
<td>2194</td>
<td>5266</td>
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<td>2001-02</td>
<td>196</td>
<td>2861</td>
<td>3390</td>
<td>6251</td>
</tr>
<tr>
<td>2002-03</td>
<td>233</td>
<td>4382</td>
<td>3849</td>
<td>8231</td>
</tr>
</tbody>
</table>

Considering the training needs of different levels of officers and staff to be trained, the duration of the training programmes have been fixed up in
accordance with the needs of the target groups of trainees based on detailed discussions with all the heads of department and senior officials concerned.

<table>
<thead>
<tr>
<th>Level of Officer</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior level officers</td>
<td>3 to 6 days</td>
</tr>
<tr>
<td>Middle level officers</td>
<td>2 weeks</td>
</tr>
<tr>
<td>Junior level officers</td>
<td>2 - 3 weeks</td>
</tr>
<tr>
<td>Field staff</td>
<td>5 to 6 days</td>
</tr>
<tr>
<td>Farmers</td>
<td>2 to 3 days</td>
</tr>
</tbody>
</table>

Considering the difficulty in getting participants for training programmes scheduled for longer duration, programmes intended for middle and junior level officers has been brought down from 2-3 weeks to 1 week. Over the years IMTI has been successfully organizing the following modules to the participants drawn from various segments such as staff of the irrigation department, agricultural extension officers and farmers.

**Diagnostic Analysis of Irrigation System**

This training module focuses on the following specific skills:

* Concepts of Diagnostic Analysis
* Components of Irrigation system
* Flow measurements
* Losses and loss measurement
• Critical stages of crops and water requirement

• Drainage problems

• Identification of problem soils and nutrient deficiencies

• Farmers participation

**Operation & Maintenance of Irrigation system**

The focus of this training program is on the irrigation engineers. In this module, the participants are trained to develop skills in preparing an operation plan, suggest various strategies to suitably modify the operation plan and to identify the maintenance problems. The course contents are

• Hydro meteorological analysis

• Components of Irrigation systems-functions

• Irrigation system operations

• Flow measurements

• Assessment of demand

• Matching demand and supply

• Floods and flood routings

• Principles of operation plan

• Irrigation system efficiency and estimation of water losses
*computer usage in reservoir operation

* Reservoir sedimentation

* Role of farmers in operation and maintenance

**Monitoring and Evaluation of Irrigation System**

This module intends to equip the participants with the necessary skills to identify the various parameters for monitoring the irrigation systems. Following are the important aspects of this training module.

* Concept of Monitoring Irrigation systems

* Evaluation – concepts, process, and procedures

* Monitoring and evaluation of operational performance

* Monitoring & evaluation of physical systems

* Monitoring and evaluation of land development, cropping and financial achievements.

* Evaluation of social and economical impacts.

**Participatory irrigation Management (PIM)**

This module aims at inculcating the spirit of participants by involving and motivating farmers to form water users associations. It thus covers the following aspects;
Modern Irrigation methods

The training imparted under this module enables the trainees (both officials and farmers) to understand, appreciate and adopt modern water saving irrigation methods. It also focuses on the development of skills in drawing the layout and the design of sprinkler systems.

The course contents are:

* Concepts of irrigation water management

* Soil-water -plant relationship

* Crop water requirement

* Methods of irrigation

* The principles of drip Irrigation & sprinkler irrigation
Command Area Development

Long-term sustenance of any irrigation system depends on drainage facilities in the command area. Therefore, adequate emphasis is laid in this module to promote overall development of the command area both in respect of usage and disposal of drainage.

* Concepts of irrigation management
* Crop - water requirement
* Concepts on farm development works
* Irrigation methods
* Land shaping for efficient Irrigation
* Rotational water supply
* Cropping system for waterlogged area
* Land drainage practices.

Farmers Training

As the name suggests, farmers constitute the target group of this training program. These are exposed to better water management practices and to form water users associations. The module covers

* Concept of farmers organization
* On-farm development works
* Water quality and management

* Critical stages of crop growth and management during scarcity

*Drip and sprinkler irrigation systems

**Problem soils and Quality of irrigation water**

The staff of the agricultural department are trained in this program.

The objectives of this program are:

* Introduction to problem soils and irrigation quality

* Crop water requirement and irrigation Practices for Problem soils

* Drainage and its importance in problem soils

* Ground water management in problem soils

**Water Saving Techniques**

This program is an all inclusive one where all the stakeholders such as engineers, agricultural officers and farmers are involved. This is intended to help the participants understand the various methods of conservation of water and to learn about the water saving techniques in storage, conveyance and field application.
* Crop water requirement

* Evaporation loss – control by conventional methods

* Agronomic methods in minimizing water loss in the field

* Estimation of water losses and system efficiency

* Role of pressure irrigation system in saving water.

* Recycling of waste water for irrigation

**Team Building**

As modern day activities in many spheres are performed by people working in groups, this program is designed to inculcate the team spirit among the officials and engineers who manage the irrigation systems. Therefore, the following inputs form part of this program;

* Group tasks

* Levels of group functioning

* Learning process

* Planning

* Lateral thinking

* Team building methods.
REFERENCES


2. Capital city of Tamil Nadu now called Chennai

3. Tiruchirappalli is a district headquarters town in Tamil Nadu state is the central part of Tamil Nadu.

4. Irrigation Management Training Institute, Annual Reports for 5 year period from 1999-2000

5. Irrigation Management Training Institute, Training calendar for 5 year period from 1999-2000

6. Training Modules for various courses conducted during 1999-2000 to 2003-004

7. Irrigation Management Training Institute, Minutes of 1 to 38th Governing Council meetings of IMTI.

8. Leaflet published by IMTI

9. Brochure of IMTI


11. Government orders issued related with formation and functioning of IMTI.