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TRAINING NEEDS ASSESSMENT

A MODEL AND ITS APPLICABILITY FOR THE GUJARAT WATER SUPPLY & SEWERAGE BOARD OF INDIA

Master of Science Thesis by
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Abstract

The importance of Water Sector Capacity Building is realised globally. Training is one of the capacity building instruments. Normally, training efforts start with a Training Needs Assessment (TNA), followed by the Design of a Training Programme and its Implementation. Evaluation is done to continuously improve and update the training programme and the courses. Author's experience as a training officer in India and earlier studies by other leading water sector professionals have showed that the limited relevance of training curricula to real job needs is one of the problems that appears difficult to overcome. As the curricula are generally based on a training needs assessment, it is likely that the root of the problem lies in an inappropriate approach to TNA. This study is therefore focused on Training Needs Assessment (TNA).

The study consists of literature review and fieldwork. The literature review was done with objective to study different approaches of TNA, to review the approaches used by some Indian Water Sector Organisations and to develop a modified and more appropriate approach of TNA for the Gujarat Water Supply & Sewerage Board (GWSSB) of India. The field work was done with the objective to review in detail the training function and TNA approach of the GWSSB and to study the applicability of a modified TNA approach.

From literature review, it appears that there are four major approaches to TNA. Although no commonly accepted classification exists, Rummler identifies the following approaches, each one centred around a key question:

- | | |
|--------------------------|---|
| 1. Training Needs Survey | :What knowledge and skill is required ? |
| 2. Competence Study | :What competencies are required ? |
| 3. Task Analysis | :What tasks are required? |
| 4. Performance Analysis | :What job performance is required ? |

TNA reports of three Indian organisations show that the approach adopted by them is resembling to the third of the above; the approach is job-specific and all the tasks of all job-holders are considered equally important, requiring training. Thus, very elaborate training programmes are designed. The author rather feels a need for an approach that identifies performance problems and links these to a training programme that provides a critical input of knowledge, skills and attitude to specific job-holders. With these insights the author has developed an adapted approach from all the above four approaches and named it as 'Model DELFT'. According to the 'Model DELFT', the needs assessment process links the organisational performance problems to the individual performer or group of performers and executes a systematic and detailed analysis to identify the critical input of knowledge, skill, attitude and other enabling factors that are required to solve them. The TNA process results not only in identified training needs but also in recommendations for non-training actions.

The fieldwork proved that the present TNA approach of GWSSB needs improvement. The approach followed thusfar by GWSSB is job-specific and therefore training is given on how to perform a job, assuming that all the tasks are equally important; non-training issues are excluded from the assessment. This approach increases the general level of knowledge of all trainees but does not focus on solving the performance problems. As GWSSB is facing several performance problems and 'Model DELFT' is basically targeted to identify the solution of problem, it is found applicable in the views of the professionals of GWSSB. Consultation with experts and authorities of Water Sector in India as well as in The Netherlands showed that it is also applicable for other water sector organisations of India.

In conclusion, it is important to note that training in isolation has very limited contribution to improvement of organisational performance. Therefore, it is recommended to view the 'training' always in the context of overall objectives of organisation. Proper importance and attention should be given to it while taking strategic decisions. Further study on how to design and evaluate the training programme and on how to assure supportive actions for training is recommended.



ABBREVIATIONS AND KEY WORDS

AE	:	Assistant Engineer
Analysis	:	Break down of something in to its component elements to understand it better and in details.
Assessment	:	Process of measuring or estimating the magnitude, quality or value of something.
CE	:	Chief Engineer
DE	:	Deputy Executive Engineer
DRD	:	Department of Rural Development
EE	:	Executive Engineer
ESAs	:	External Support Agencies
Evaluation	:	It is the process to appraise the overall effects, both deliberate and unintentional, and their wider impact so as to determine whether the project objectives are being, or will be achieved. It involves comparisons requiring information from outside the project in time or geographic space.
GJTI	:	Gujarat Jalseva Training Institute
GOI	:	Government of India
GWSSB	:	Gujarat Water supply & Sewerage Board.
HRD	:	Human Resources Development. It is the organised learning over a given period of time, to provide the possibility of improving performance or general growth of the individual. Training, Education and Development are the three major instruments for HRD.
Instruction	:	A goal -directed teaching process which is more or less pre-planned
Interview	:	It is a means of using a resource person who does not make a prepared speech. The resource person is asked questions which can be spontaneous or developed in advance.
IRC	:	International Water & Sanitation Centre.
Job	:	A job is made up of a quantity of certain actions to be taken, also grouped in interrelated tasks.
Job analysis	:	Analyzing a job into tasks.

Job description	:	A document explaining in a concise and clear way the chief characteristics of a given job.
Knowledge	:	Information stored in a person (little from the whole extent of information)
KWA	:	Kerala Water Authority of Government of Kerala State, India.
Lecture	:	A prepared, oral presentation delivered by a resource person to a group. It may be enhanced with visual aids.
M.I.S.	:	Management Information System. It is a comprehensive, interrelated set of methods and techniques that have been specifically designed to provide a level of control over a pool of resources (people, equipment and materials), to enable the achievement of the wider objectives of an organisation.
Monitoring	:	The continuous and systematic collection of information for management to assess implementation progress and take timely decisions to ensure that progress is maintained according to schedule. It assesses whether inputs (personnel, materials, equipments) are delivered, are converted into outputs (such as a water supply scheme) as intended and are having the initial effects as planned (such as improved levels of beneficiary health and sanitation)
MRD	:	Ministry of Rural Development
MS	:	Member Secretary
NGO	:	Non-Governmental Organisation
O & M	:	Operation and Maintenance
Performance	:	Set of certain act which may result in a product or service.
Performance Problem	:	Hurdles in a way of desired performance.
PRED	:	Panchayati Raj Engineering Department of Government of Andhra Pradesh state, India.
RSM	:	Review Support Mission
R & D	:	Research & Development
SEU	:	Socio-Economic Unit

Solution mix	:	Set of several actions to solve a complex problem
SE	:	Superintending Engineer
System	:	Many aspects of world can be seen as system which converts inputs into outputs by specific process. Organisation can be seen as system.
Trainee	:	Person who has come to get training. In true sense, he/she is the person who needs particular training to improve his/her performance. Training is to be targeted for such persons.
Training	:	Learning to prepare the individual to improve performance on the present job. It is a HRD instrument to develop the human resource in order to achieve desired performance of individual and ultimately of an organisation.
Training Needs	:	It is the gap between desired status and current status of Trainee, which results in poor performance of individual.
TNA	:	Training Needs Assessment It is the process of Assessment of training needs in order to design training programme.
Training Programme	:	A overall programme consists of several Training courses.
Training course	:	A typical training , for specific purpose and for specified duration of time.
UNDP	:	United Nation's Development Programme.
WASH	:	Water & Sanitation for Health.
WHO	:	World Health Organisation
WS & S	:	Water Supply & Sanitation

CHAPTER 1

INTRODUCTION

Structure of the chapter:

- 1.1 Importance of Study
- 1.2 Background
- 1.3 Hypothesis
- 1.4 Methodology
- 1.5 Objectives, Scope and Limitations of study
- 1.6 Structure of the thesis

Objective of the chapter:

To understand the importance and basic details of study and the report.

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1.0 INTRODUCTION

1.1 Importance of study

Institutional and Human resources Development was a major discussion point at the UN Water Conference in Argentina which led to Mar Del Plata Action Plan (1977). The same issues were brought up in the reports of the UN Secretary-General to the General Assembly on the International Water Supply and Sanitation Decade (1981-1990).

More stress was given to HRD during the International Consultation on Safe Water and Sanitation for the 1990s, hosted by Govt. of India (1990) and most recently, during UNDP Symposium on A Strategy for Water Resources Capacity Building hosted by IHE-Delft (1991).

In this line, several recommendations were made which are showing clearly the importance of study on HRD issues and hence have drawn lot of attention in the Water Sector. These recommendations are mentioned in Annexure-1.

HRD is thus realised globally as an element to build up capacity in Water Sector. Out of major HRD instruments, Training is being considered as "*Capacity Building Instrument par excellence*" by Water Sector authorities. Therefore it is necessary to have a fresh look at Training function specifically of water sector organisations.

The Title of this thesis is Training Needs Assessment. To understand the position and importance of Training Needs Assessment in the whole training function, we can look to the following major training efforts which are to be performed continuously and in a cyclic way.

1. Assessment of Training Needs
2. Design of Training programme
3. Implementation
4. Evaluation of Training

This suggests that the cycle starts with the Training Needs Assessment (TNA). It is the first and therefore more critical step in the whole training function and it is thus implied that it should be done very carefully and scientifically.

Author's experience as a Training Officer in India and earlier studies by other leading Water Sector Professionals have showed that *Problems that appear difficult to overcome include irrelevance of training curricula to real job needs and weak infrastructure for training.* (Prof. Alaerts, 1991. IHE report Series 24). As the curricula are generally based on a Training Needs Assessment (TNA), it is likely that the root of the problem lies in an inappropriate approach of TNA. This study is therefore focused on TNA.

1.2 Background

As mentioned above, author of this thesis, works as a training officer in Gujarat Jalseva Training Institute (GJTI), a training department of Gujarat Water Supply & Sewerage Board (GWSSB), India.

GWSSB is a Statutory Board of Gujarat, one of the western states of India. It is working since 1978 and taking care of Water Supply & Sanitation programmes of the State. GWSSB has established GJTI with the financial aid of Worldbank with the objective to achieve the goals of IDWSS Decade, by giving required training to professionals of drinking water supply and sanitation sub-sector of State.

A study was carried out by an external consultants which has resulted in a Report titled as "Training needs and formulations of manpower development programme for water supply & sanitation sector in Gujarat state". GJTI started its operation from August '88, based on this report which was prepared in February '85.

It appears that a very limited linkage exist between offered training programme and performance problems of organisation. Training Courses which are running regularly and very efficiently are not tuned properly to solve certain performance problems. They are enjoyed but not appreciated fully by the trainees and personnel of organisation. The major reason for such lack of tuning appears as the improper approach of TNA. Some observations at GJTI, as mentioned in Annexure-2, has lead the author for following hypothesis statement.

1.3 Hypothesis

Approach of Training Needs Assessment (TNA) of GWSSB needs improvement in order to tune the training towards solving the performance problems.

Detailed breakdown of this Hypothesis statement and Research questions based on it are mentioned in Annexure-3.

1.4 Methodology

Problem involved, as mentioned in para 1.2 is not only at GWSSB, but it is also related to similar water sector organisations of India. Therefore in order to make this study useful for other organisations of India, the total process of research was divided in to Literature Review and Fieldwork.

Literature Review:

It was done with the following objectives.

1. To study different Approaches of TNA
(by referring leading literature on Training and HRD).
2. To review the approaches used by some Indian Water Sector Organisations
(by referring reports of TNA)
3. To develop a modified and more appropriate approach of TNA for Indian Water Sector Organisations in general and for GWSSB in particular.
(by using insights gained due to above 1 & 2 and experience)

Fieldwork:

It was done with following objectives.

1. To review in detail the Training function & TNA approach of GWSSB.
(by taking interviews of persons involved, referring relevant documents and doing observations, in Gujarat, India)
2. To study the applicability of modified approach.
(by taking interviews of experts in India & The Netherlands)

1.5 Objective, Scope and Limitations of study

Objective:

To contribute in the process of solving the performance problems of water sector organisations through reviewing the training function and by developing a modified approach [conceptual model] of Training Needs Assessment.

Scope:

This study has focused on TNA, the most critical step of the Training cycle and it has resulted in development of a modified approach of TNA, which is named as **Model DELFT**. The applicability of this model was checked for GWSSB, but it is also

found applicable to other Water Sector Organisations of India. However, this study has also indicated the importance of other organisational matters, which also should be addressed in a scientific way. According to the Model Delft, the process of TNA not only results in training objectives but also gives the direction towards non-training actions which also should be taken in addition to training. Thus, this study implies that there is a urgent need to change the traditional views towards training and to ensure organisational support and commitment for any training to be effective.

Limitations of study:

This study was carried out during the period of October'92 to May'93. Looking to this short duration of time and limited resources available, this study has some limitations. Literature review was limited up to the study of leading literature available within the grasp of the author and review of TNA reports of 3 Indian organisations which are having The Netherlands assisted water supply programme. Operationalisation of Model Delft is suggested according to the author's experience. Detailed organisation study is required in order to make it more successful. Review of TNA reports of other public utility organisations of India and review of their training function would be more helpful. Applicability of Model Delft is checked only by discussing it at different levels of management. No real assessment is done according to this model. While detailed review of GWSSB, performance issues mainly related to water supply programme were referred.

1.6 Structure of the thesis

As this thesis is the brief report of the study undertaken, chapters are arranged in logical sequence of major works. It consists of 6 main chapters. Next is chapter-2, which is the result of Literature Review. It consists of summary of main TNA approaches found from leading literature on Training & HRD. Model Delft is discussed in brief as a modified approach based on all these approaches. Also the approaches found from TNA Reports of PRED (Andhra Pradesh State), KWA (Kerala State) and GWSSB (Gujarat State) are summarised and compared with Model Delft. Chapter-3 is the result of major fieldwork done in Gujarat, India. It describes, in detail, the organisation GWSSB, its training Function and present approach of TNA. Applicability of Model Delft is also discussed. Chapter-4 is the summing up part of this study and hence discussion on Delft Model and its operationalisation is described. It has the base of expert opinions found during interviews in India as well as in The Netherlands. Finally, Chapter 5 mentions the conclusion of study and the list of the recommendations.



CHAPTER 2

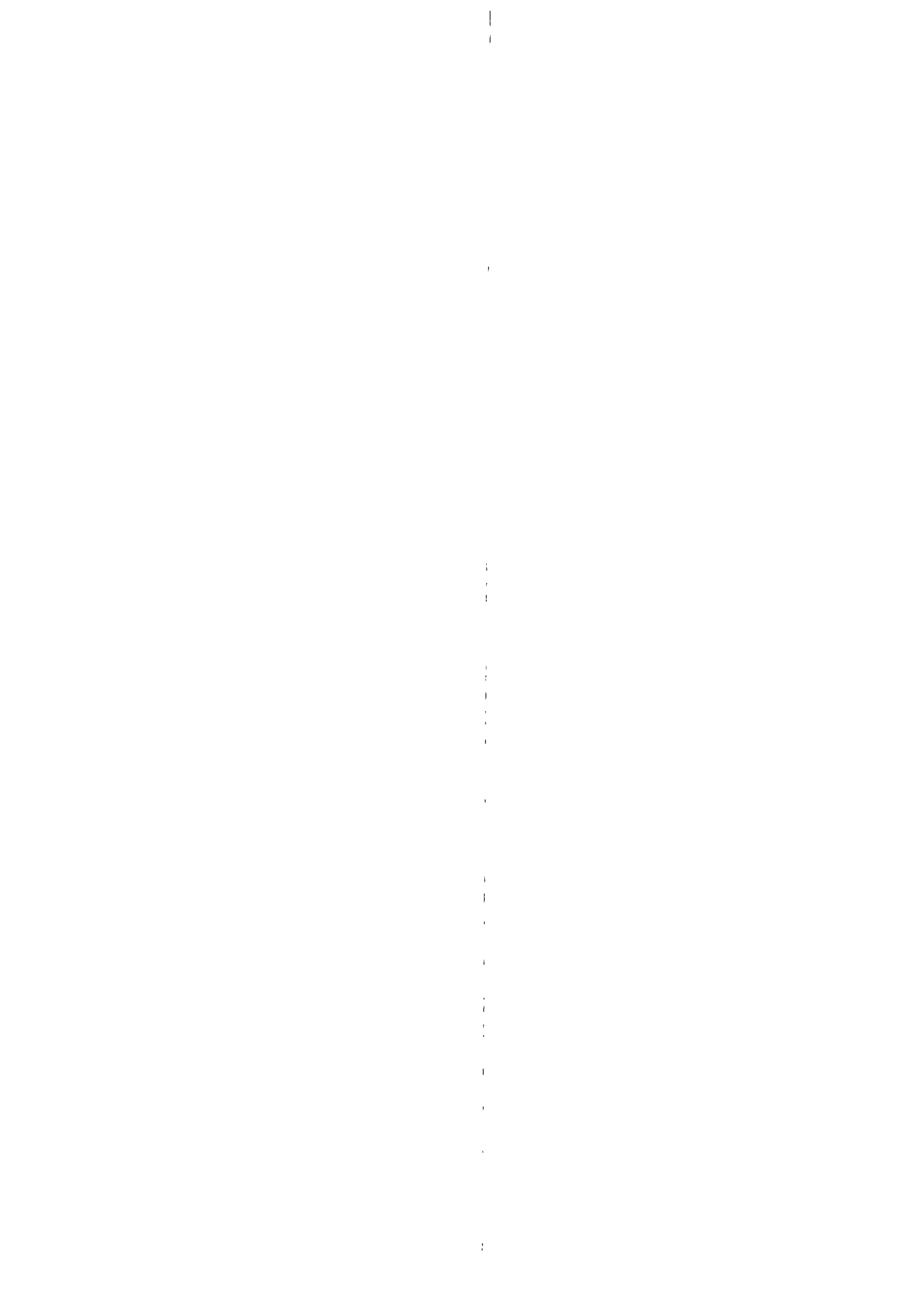
REVIEW ON LITERATURE

Structure of the Chapter:

- 2.1 Introduction
 - 2.1.1 Definition of TNA
 - 2.1.2 TNA approaches in literature
- 2.2 Modified approach of TNA (Model Delft)
 - 2.2.1 Focus
 - 2.2.2 System Concept
 - 2.2.3 Assessment Process
 - 2.2.4 Other approaches of TNA in comparison of Model Delft.
 - 2.2.5 Rationale of Model Delft
- 2.3 Review of TNA Reports of water sector organisations of India
 - 2.3.1 Review on Approach of GWSSB of Gujarat State
 - 2.3.2 Review on Approach of KWA of Kerala State
 - 2.3.3 Review on Approach of PRED of Andhra Pradesh State
- 2.4 Conclusion

Objectives of the Chapter:

- 1. To develop a modified approach of TNA based on understanding of different approaches.
- 2. To understand the approaches used by Indian Water sector Organisations.



2.0 REVIEW ON LITERATURE

2.1 Introduction

2.1.1 Definition of TNA

It would be more convenient first to understand the key word " Training Needs Assessment" and its importance. For that, we shall follow the logical sequence; meaning of the words 'Training', 'Training Needs', 'Assessment' and then 'Training Needs Assessment'.

Training:

As referred earlier, Training is one of the HRD instruments. Therefore it will be more convenient to understand the term HRD. HRD (Human Resources Development) is defined as organised learning over a given period of time, to provide the possibility of improving performance or general growth of the individual. There are three activities of learning ; Training ,Education and Development. Training is the learning related to present job.

Therefore training can be defined as learning to prepare the individual to improve performance on the present job.

Training Need :

Training Need is the Gap between the Desired status and the current status of a Trainee which results in poor performance of individual and ultimately poor performance of related task, job, function and organisation.

Assessment:

It is the process of measuring or estimating the magnitude, quality or value of something.

Training Needs Assessment:

It is the process of Assessing Training Needs, and hence the process of estimating the quantity and quality of the gap between the desired and the current status of performer that causes poor performance. In simple words , it is the process of determining training needs in order to design the training programme.

Note:

Sometime, in literature, the words like identifying and determining are used in place of assessing and reflected the same meaning. However, it is important to note that some authors have used the word 'Analysis ' also. For this study, more accepted term "Assessment" is used. To avoid confusion, meaning of analysis is adopted as breakdown of something into its component elements to understand it better. Analysis is possible only after the Assessment and therefore TN Assessment is required for designing any training programme or course and TN Analysis is done afterwards for designing an instruction session or to prepare a presentation of small element of overall training programme.

Importance of TNA:

Assessment of training needs is the starting point of all training efforts. Therefore it is not just a training process issue but it is also a training management issue. It is reflecting the mission, philosophy, and strategy of the training function because how well this step is done impacts on the following.

- * The trainees (is the training relevant to their jobs and needs ?)
- * The quality of training programme (can we measure the effectiveness of the training course ?)

- * The effectiveness of training function (does training function make a difference ? Have an impact on the organisation ?)
- * The organisation (will this programme result in expected results ?)

Thus, there is no more critical task in the training process than TNA. Therefore TNA process, should always be done in a scientific way with utmost care.

2.1.2 TNA approaches in literature

Different approaches with different names are found in literature. All the approaches are targeted for designing training programmes at the end, but the assessment process starts at different levels in the organisation and is centred around different questions. As the objective of this chapter is to develop a modified approach of TNA, we shall discuss these approaches later on in the light of the modified approach. It will help us in understanding the difference between them as well their use for development of a modified approach.

2.2 Development of a modified approach of TNA (Model Delft)

2.2.1 Focus

According to the definitions given in beginning, training is meant for performance-improvement of an individual, and thus of a group and also ultimately of the organisation. Improvement in performance can be achieved by removing the performance deficiencies or by solving certain performance problems. Therefore training should contribute in solving certain performance problems of an individual and ultimately of an organisation.

This study has focused on following two major objectives of training function:

1. Preparing performers for improvement in present performance. (Remedy)
2. Preparing performers, in advance, for expected future performance to cope up with the developmental changes. (Development)

Therefore, assessment is required for two types of training needs; needs existing at present and needs likely to arise in future. It implies that modified approach of TNA should be focused on both the types and with the ultimate goal of solving the problems.

Thus we are looking forward to a **Model** for Determination of -Existing and Likely to arise in Future- Training Needs.

In short, it can be written as "Model D.E.L.F.T.". But it will be referred hereafter as " **Model Delft** ", as it also reflects the author's affection for the town Delft, where this thesis is conceived.

It is very important at this stage, to make two things very clear about the term 'preparing the performers'.

1. Improved or expected performance can only be achieved, if enabling environment is also provided in addition to training.
2. Training alone always may not be the solution of each performance problem.

Training can solve only those problems which are related to deficiency in human performance and not those which are related to deficiency in execution (enabling factors). Sometimes management become tempted to seek a remedy from a training course, rather than to make a more detailed analysis of causes of the deficiency in performance. An assessment of training needs properly carried out, as suggested in Model Delft hereafter, can often provide evidence that training is not the only step

to be taken to cure an organisation's ills; in fact it may not be necessary at all. And there may be also other steps which should be taken along with training, if training is part of the total solution in order to solve the problems.

Model Delft is described here in two major paragraphs; "System Concept" and "Assessment Process". The former explains the instrument of assessment and later explains the process in detail.

2.2.2 System Concept

System concept is essentially a scientific way of thought or in other words, a tendency to think about problems in system terms. It follows the following cyclic steps.

- [1] Problem definition (in systems terms)
- [2] Analysis (to generate alternatives)
- [3] Selection and synthesis of an optimal solution
- [4] Controlled implementation
- [5] Evaluation and possible revision

This concept can be shown as a flow-chart in figure-1.

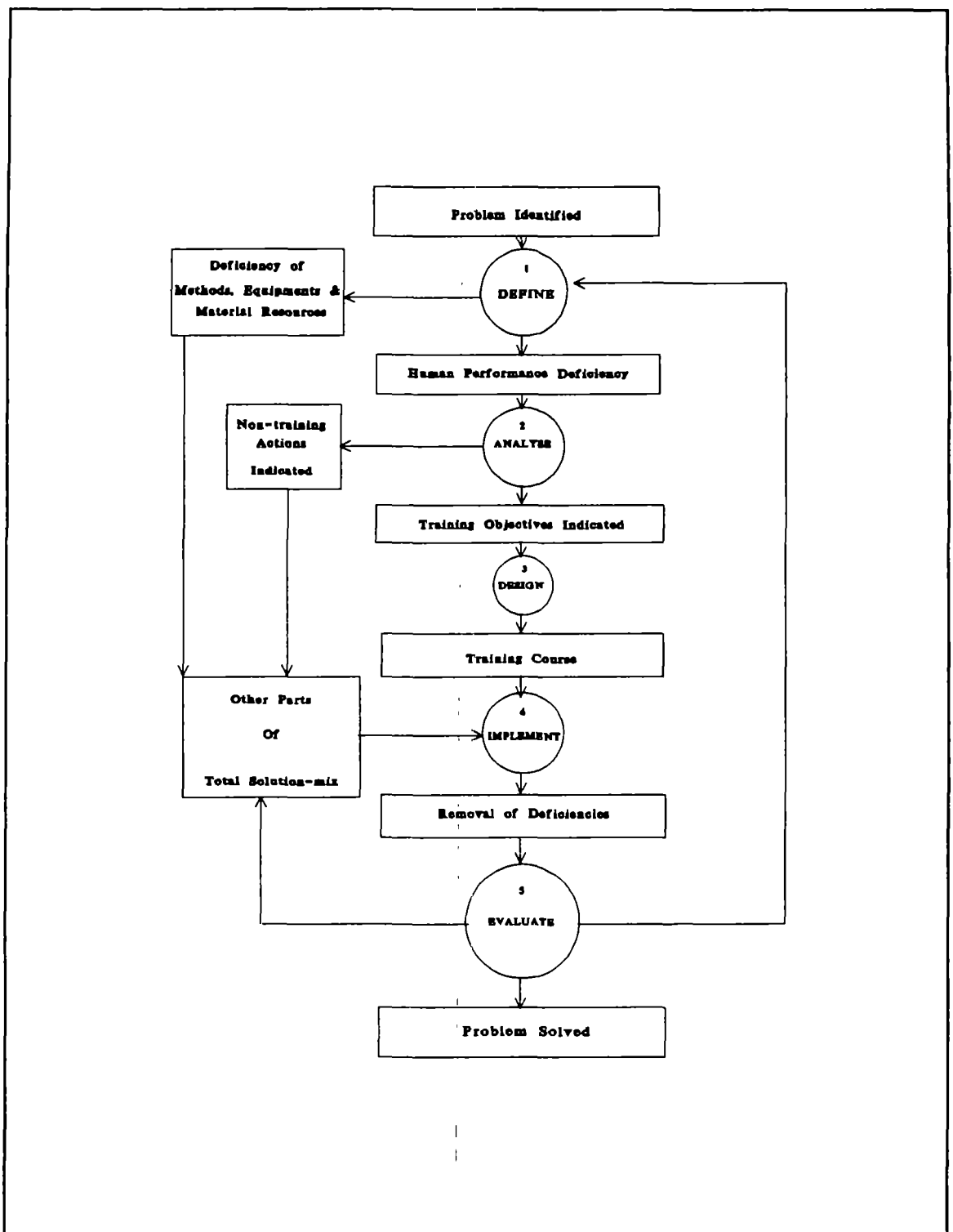


Figure 1 Problem Solving according to system Concept (Adapted from Designing Instructional Systems by Romiszowski,1981)

Thus, the process starts with problem identification and ends with the solution of it. As we are interested in training, we want to identify the objectives of training. Therefore we are interested only in stage 1 & 2 shown in figure-1.

The first stage is to Define the problem. This definition is given in the system terms.

The system terms are Input, Process and Output, which can be shown as under in figure-2.

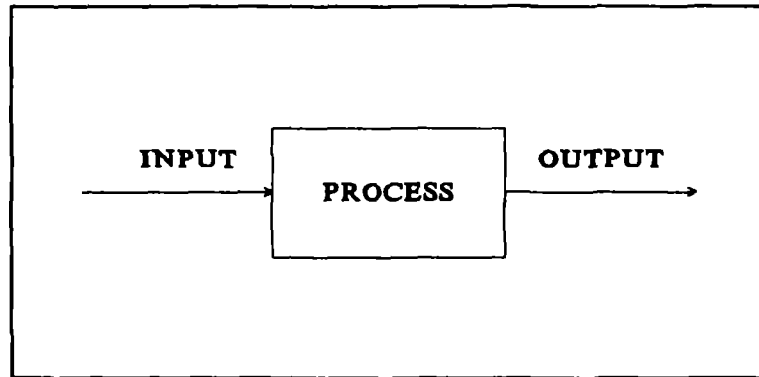


Figure 2 General System Concept

Thus according to this, each system is a conversion process which converts input into output, and thus, there is always a linkage between input and output. In our case, there is a critical linkage between training input and performance output. The inputs of training needs and trainees are converted into the output of trained personnel through the training process.

Same way, also the training programme output is going to be only as good as the training needs data input that the training subsystem is processing. If the training needs have not been properly identified, then both the training course and the training function are in jeopardy. Thus, determining training needs is basically the process of establishing the critical linkage between performance needs [output] and training needs [input]. In other words it is the linkage between requirement of certain "end results" and requirements of "knowledge, skill and attitude" to produce those results. The quality of the data on this linkage will determine the effectiveness of the training course and ultimately of the training function.

According to our interest, we will use this concept, to look at organisation, to look at organisation performance and to look at organisational performance problems. It will provide us a framework for looking at and understanding the relationship of training and performance.

2.2.3 Assessment Process

According to the two objectives of training function focused in para 2.2.1, assessment process can be summarised in the following stages.

1. Identify:
 - (a) the present performance problems and associated performer(s).
(for present needs)
 - (b) the expected performance problems and expected performers in future due to developmental changes.
(For developmental needs)
2. Define:
the problem.
Define the problem clearly to distinguish performance deficiencies and execution deficiencies. This helps in going further if training component is involved in possible solution.

3. Determine:
 - (a) priority of problems
 - (b) standard of performance

4. Analyze:

each problem in detail to determine

 - (a) actual performance and required performance under given conditions
 - 1.in the light of descriptions of existing job and
 - 2.in light of synthesis of future job.
 - (b) required critical job output for the required performance
 - (c) required critical tasks for that critical job output
 - (d) required input to perform those critical tasks
(Input of Knowledge, Skill & Attitude)
 - (e) required enabling environment
(Resources and other enabling factors)

5. Set:

priority of actions. (according to step-4 d & e)

 - (a) according to resources available for training and
 - (b) according to resources available for non-training actions.

6. Formulate:

(according to step-5 a & b)

 - (a) Objectives of Training Programme.
 - (b) Directives of non-training actions.

7. Present:

the results of assessment (in a decision oriented manner) for the approval.

Now, we shall see the details at every stages of process as under.

Stage-1 Identification of problem and associated performer.

What are the organisational performance problems today ?

What are the expected performance problems due to developmental changes in organisation and in environment ?

In answer of it ,we may get a list. The next task now is to establish a linkage between an organisational performance problem to an individual performer or group of performers. System Concept can be used to establish first the linkage between the overall organisation and the individual in terms of performance and then in terms of performance problem.

In order to establish these linkages, we should look at organisation as a whole system, performance of organisation as a combination of several sub systems and individual as a part of that subsystem. To start with let us have a look on organisation as showed in figure-3.

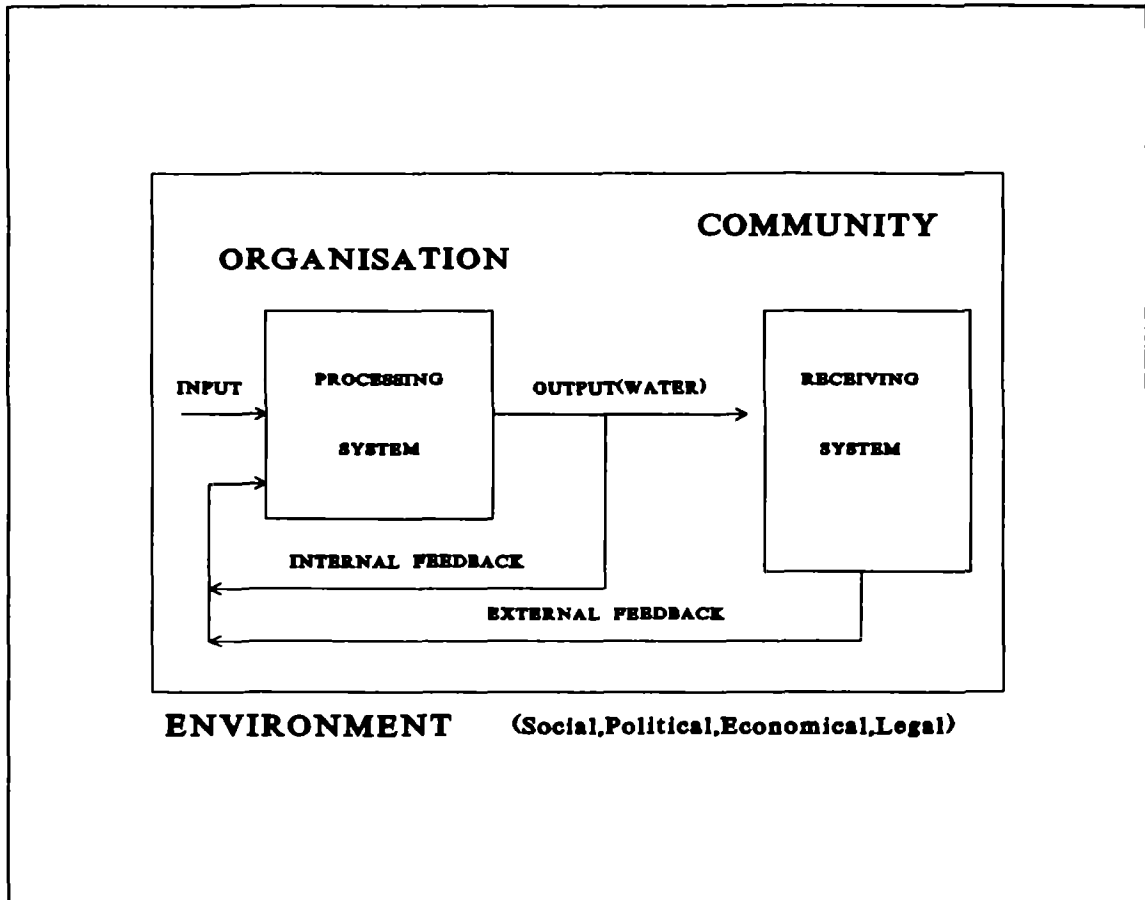


Figure 3 Organisation as a system

As shown in the figure, a water supply organisation is a processing system having several inputs. It takes the raw water as well as other inputs from the environment and processes them to give supply of pure drinking water as an output to the environment. There are two important things to note.

- a. This processing system provides a service to the receiving system (community) and is constantly influenced by it.
- b. The system does not operate in isolation, but is also influenced by the larger environment, i.e by political, legal, social, economical and cultural forces.

Thus there are principal connections between the organisation and its immediate and larger environment. Performance of organisation should be adapted as per the internal and external feedback. This implies that, if organisation does not respond or act according to the feedback, performance problems may arise. The root of such problems may lie in the input, process, output and/or in environment. When the root is identified, we can then identify the associated performer(s). And then also the performance problem at individual level may have the roots either in the performer or in his environment. This is the internal environment in organisation. To understand it better let us look inside the organisation. Figure-4 shows the organisation as a combination of several sub systems known as functions.

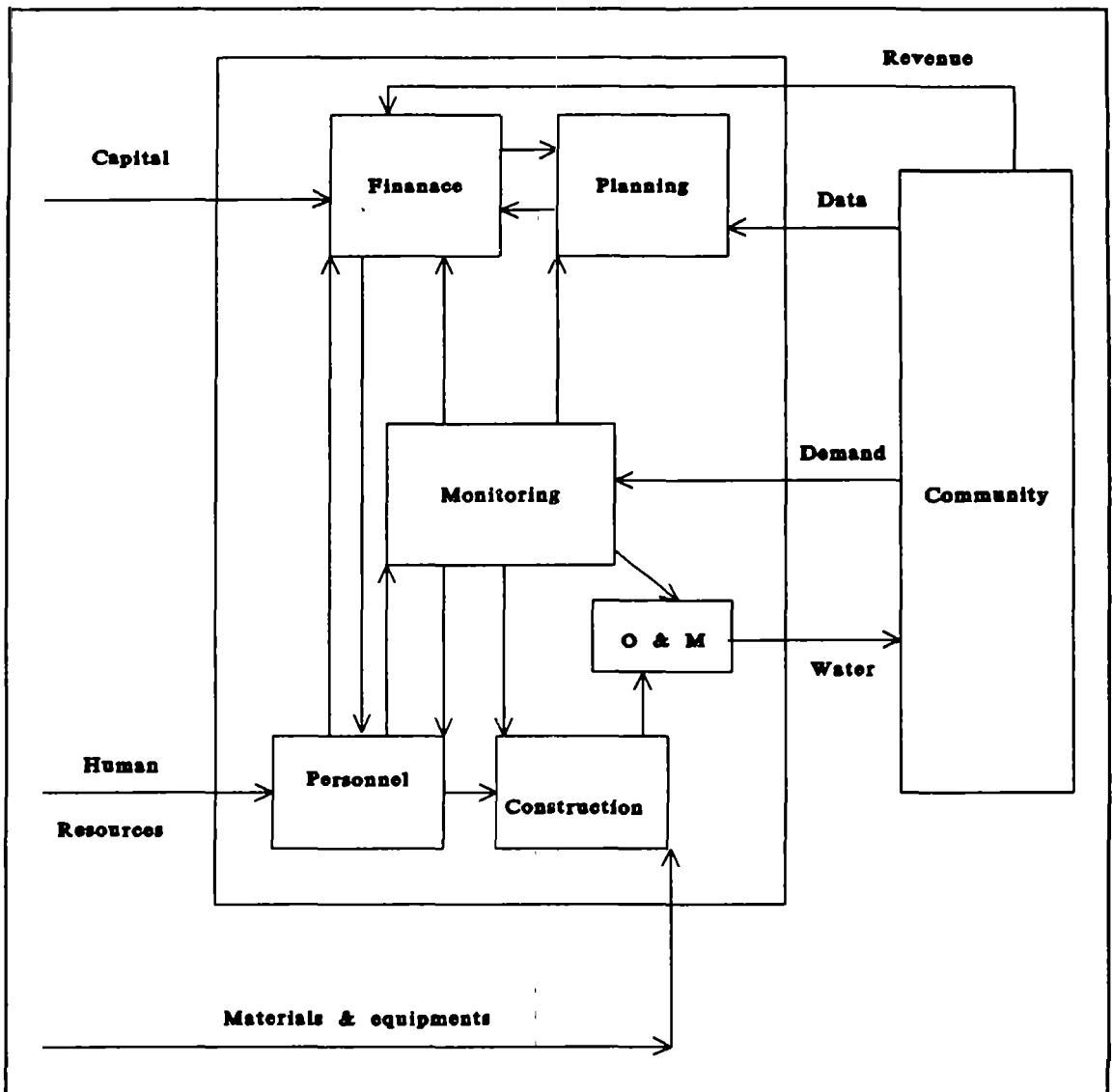


Figure 4 Inside the Organisation (only some functions & some linkages are mentioned)

Thus, each function is interdependent. The output of a function can be an input to an other function and sometimes also mutual interdependence exist. Some functions are organised in a line.

Each function can be considered a processing system where the process inside the function is composed of several jobs. Same way, each job is associated with a job holder whom we can see as individual performer. Each job require certain performance to produce job-output. This job output is contributory to functional output and thus contributory to organisational output.

Thus, we came down from organisation to individual and we are now concerned with this individual performer. In what context and how he/she performs , is the matter of our interest. Generally, in every function, there is a hierarchy of performers. Their combined outputs drive the process. The subordinates must produce various outputs for each step in the whole process and supervisor must produce various outputs to support the key process of the function. As we move up in the hierarchy, the responsibilities of performers become broader , but there is always the same need for effective and efficient execution of duties at every level.

Full achievement, partial achievement or non-achievement of overall organisational objectives / goals / mission / targets is related to individual performer and thus individual performer is the base of overall organisational performance. In figure-5, we can see such an individual performer as a system.

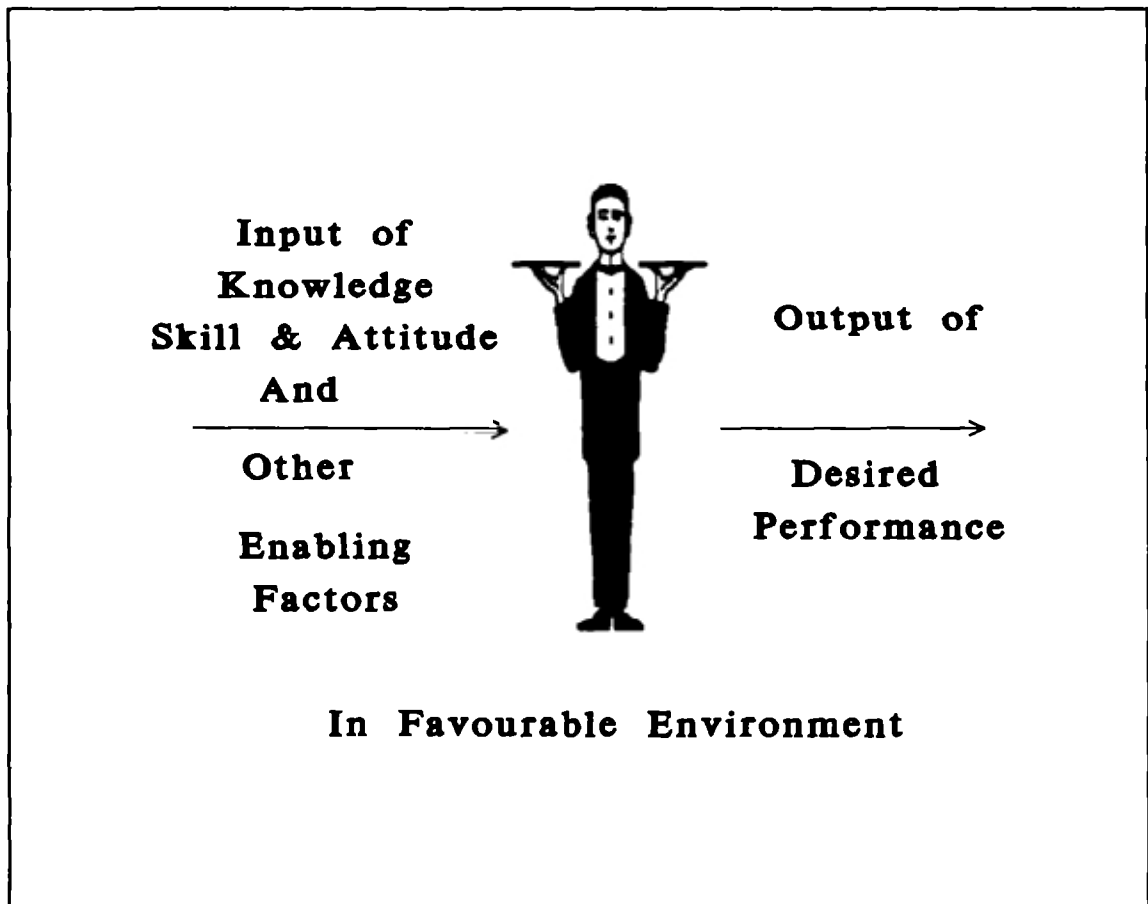


Figure 5 Individual Performer

Thus, individual performer uses resources inputs and converts them in to job or tasks output. For such conversion, he/she needs input of Knowledge, Skill and Attitude which can be provided by Training. It is clear that input of all enabling factors are also essential in addition to training. Some of such critical inputs, are as under.

- a. **Performance specification**
(Performers know what performance is expected)
- b. **Incentives**
(Performers encounter positive/negative consequences when they produce the output)
- c. **Feedback**
(Performers receive adequate feedback on the output so they can evaluate and correct it if required)

Summary of stage-1:

With the help of System Concept, we can establish the important linkages between organisation and individual and thus also we can develop the understanding on how the performer impacts the organisation for the training to have any impact. The linkages can be summarised as under.

1. **Organisation system** as a process system related to receiving system.(e.g. a Water Sector organisation)
2. **Several subsystems** as a **function** in each organisation (e.g.O & M)
3. **Several jobs** in each function. (e.g.an Assistant Engineer)
4. **Several tasks** are required to be performed to fulfil job.(e.g. to establish water committee at village level)
5. **Certain competencies and other enabling factors** are necessary to do each task. (e.g. competency to get along with people and time to do so)
6. Sum of **knowledge, skill and attitude** results in particular competency (e.g.knowledge of group-dynamics & communication skill)
7. **Training** is useful in development of knowledge ,skill and attitude. (e.g.training course on communication)

This linkages help in identifying the problems and associated performers. Therefore at the end of stage-1, we will get the list of problems and associated performers.
Result of stage-1: List of the problems & associated performers.

Stage-2 Define the problem

Organisational processes are dynamic processes and therefore, several problems may arise during operation. Out of all problems, some may not be the problem but the symptom of the problem and therefore it become important to distinguish symptoms and the real causes. This is called defining the problem. At the end of stage-1, we will get the list of the problems and associated performers. Now, before investing more energy in further analyzing them, it is important to screen out straight way those problems which are showing apparently their roots either in deficiencies of material resources or in methods. Only those problems, who have deficiency in human performance can be addressed by TNA.

Result of Stage-2: Problems defined as human performance deficiencies.

Stage-3(a) Determine the priority of the problems

All problems can not be solved immediately due to lack of enough resources. Prioritization will enable the training department to get on with the solution of high priority problems, while still collecting data and analyzing less priority problems. Priority can be decided on following major criteria.

- Worth (what will the organisation gain by solving the problem ?)
- Urgency (is the problem present/future ,growing /static, etc ?)

To measure worth and urgency, we have to find out following for each problem.

- a. Extent, type and trend of Deficiency
- b. Cost to remove or reduce this deficiency
- c. Number of people who contribute to the have deficiency
- d. Criticality and urgency to remove this deficiency.
- e. Benefits to be gained from removal/reduction of deficiency.

A matrix can be prepared as shown in Annexure-4 ,which will be helpful in fixing the priority. After it, list should be prepared of the problems according to priority.

Stage-3(b) Determine the standard of performance.

Actual performance is dependent on environmental conditions (physical climate as well as organisational climate). The performance also therefore changes according to the changes in these conditions. While specifying certain performance, it is important to have a reference criteria. The idea is that a certain productivity standard be set related to ideal/realistic environment. This help in deciding what performance we can expect under given conditions.

Result of stage-3: List of prioritised performance problems & standard of performance.

Stage-4. Analyze the problem

Process of detailed analysis can be done by asking following questions ?

1. Which function(s) is(are) responsible for this performance problem ?
How that function should perform ?
What are the key jobs related to that performance?
How those jobs should be performed?
2. How does the identified job impact the performance of the function ?
What are the critical job output ?
How is each critical ?
3. What tasks are required to produce critical output ?
What tasks are critical?
How is each critical ?
4. What knowledge, skill, attitude and enabling factors are required to perform these critical tasks ?
5. What is the existing level of knowledge ,Skill, Attitude (K,S & A) ?
What is the gap?
What enabling factors are missing or insufficient?

The most important question is "How the job should be performed ?". For that it is necessary to have job-descriptions for different jobs. If it is not available readily, it should be prepared by doing actual job-analysis and referring standard performance. For the future problems, future job can be visualised by synthesis of job from new or adapted tasks which may be required to perform.

The word critical is used here very frequently. The rationale behind it is the limitation of resources. It is not at all wise to waste the training resources for those tasks which are not critical and easy to learn without special training. The fact is that in any function, not all jobs are equally important and in any job not all tasks are equally difficult. Training courses should be designed only for the critical tasks.

Result of stage-4: List of required total training input & non-training factors

Stage-5 Set the priority of input of K,A & S and enabling factors.

Even after having the complete information on required inputs, it may be hardly possible to provide all these at a time. Therefore the identified input should be sufficiently specified and prioritised.

Criteria to be used to identify this priority is as under.

1. Availability of resources to arrange training.
2. Availability of resources to arrange other enabling factors.
3. Possibility of taking other non-training but supportive actions.
4. Cost/benefits analysis.

Result of stage-5: List of prioritised training inputs and non-training factors.

Stage-6 Formulate the Objectives of Training Programme and Directives of non-training actions.

This is the last stage of TNA process and transformation of gathered results of earlier stages into concrete decisions for further actions. It is to be categorised into two streams; objectives of training and directives of non-training actions.

Objectives of training can be decided on the basis of identified and prioritised input of Knowledge, Skill and Attitude. It can be stated as under.

"At the end of the training on aspect A, trainee should be able to perform the tasks T1, T2 & T3 under given condition C1 & C2. Identified trainees are the functionaries F1,F2,F3 etc. working in function N and working at place P".

Same way, Directives of other non-training actions also can be decided. It can be stated as under.

"To solve performance problem X, Training on aspect A is identified. For the success of that training, conditions C1 & C2 are required. To provide those conditions, and thus enabling functionaries F1,F2 &F3 of place P to do tasks T1, T2 & T3, the actions S1 & S2 are required to be taken. Provision of conditions C1, C2,and resources R1 & R2 should be assured for further prevention of similar or same problem "

Result of stage-6: List of Training Objectives & Directives of non-training actions.

Stage-7 Present the results of assessment (in a decision oriented manner) for the approval.

Actually, stage-6 is the last stage of the process, but it is usually observed that, such processes go nicely but at the end results are presented in conclusion oriented way. And then it becomes difficult for approving authority to approve it. As we are interested to solve the problems, the results of TNA process should be presented in decision oriented way, so that approving authority can clearly see the decisions in the context of identified problem. A sample presentation is shown in Annexure-5.

Result of stage-7: Resultant Report of TNA to be presented to authority for approval.

The summary of Model Delft is shown as flow-chart in Figure-6.

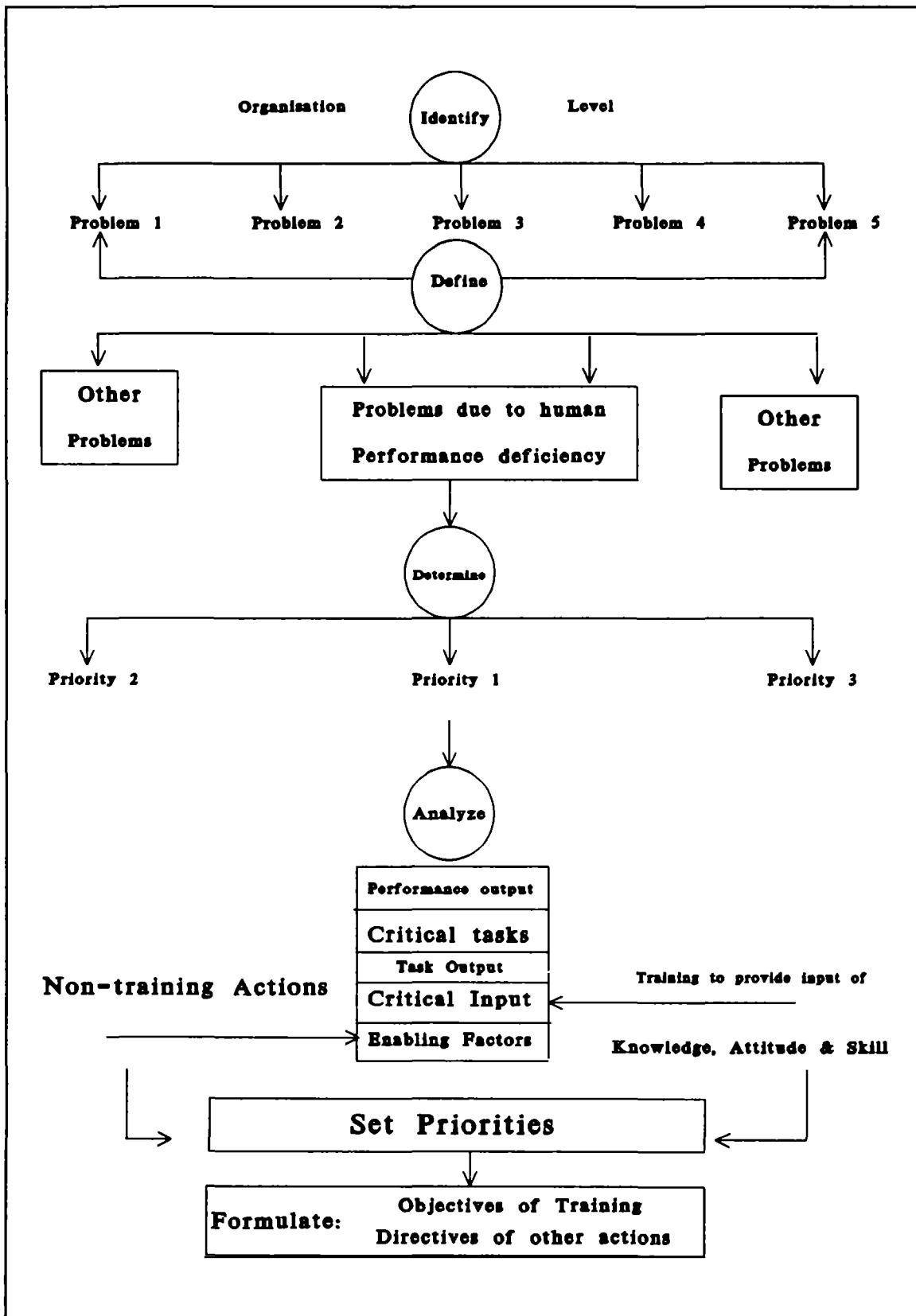


Figure 6 Summary of Model Delft

2.2.4 Existing Approaches of TNA in comparison of Model Delft.

Literature review has shown that there are different approaches to do TNA. These approaches are sometimes named and sometimes not. Although no commonly accepted names & classification exists, Rummler identifies the following approaches, each one being centred around a key question.

1. Training Needs Survey (what knowledge and skill is required ?)
2. Competency study (what competencies are required?)
3. Task Analysis (what tasks are required ?)
4. Performance Analysis (what job performance is required ?)

We will see the existing approaches of TNA in the reference of Model Delft, in order to compare them. It is important to note that Model Delft is developed on the basis of such already existing approaches after modifying them. According to Model Delft, we have seen performer as an individual system. Based on it all the four approaches can be shown (Figure-7) in the perspective of the basic linkage between training input and performance output.

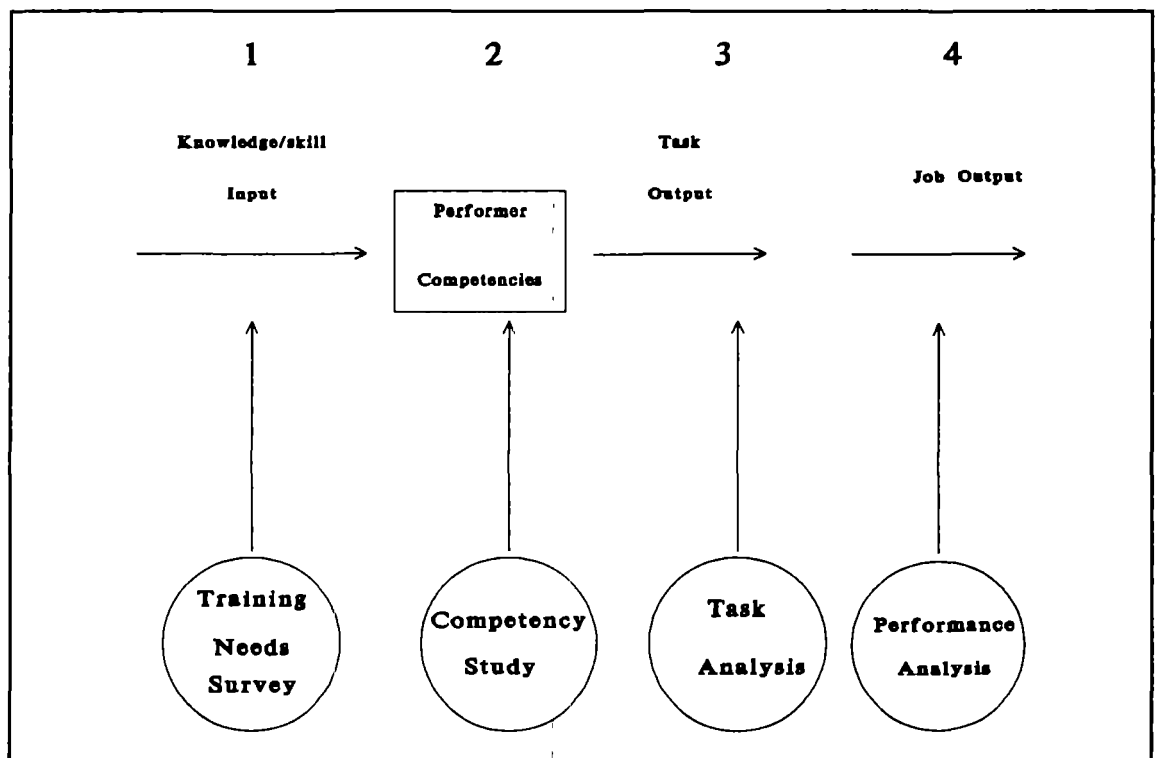


Figure 7 Existing TNA approaches

The description of these approaches can be summarised as under.

1. Training Needs Survey.
This is a straight forward process which survey a range of informed sources within one function and ask what training (knowledge & skills) they thought was required or would be beneficial for the functionaries. Thus it is an informed opinion survey which begins at point 1 and also ends there. It is relatively quick but makes no direct link to performance output or performance problem at any level.
2. Competency study.
This approach suggest to begin with asking supervisors/experts in any function

about what competencies or capabilities are required and what knowledge and skill are required to have that capabilities. This approach is linking Competencies with input of Knowledge & Skill but not linking with output. There is no linkage to performance problems even at functional level.

3. Task Analysis

This approach starts with listing all the tasks and then ascertaining what knowledge and skill are required to perform these tasks successfully. This approach has focused on linkage between task output and input of Knowledge and skill, but it does not link the job performance. Here also there is no linkage to performance problems at higher level.

4. Performance Analysis

This approach suggests to begin with determining the job output and then determining the tasks for each job output and ultimately what knowledge and skill are required to perform the various tasks. This approach also identify the other performance factors such as consequences and feedback - in addition to training - that are required if the job output is to occur. But still this approach does not link to the organisational performance problem to an individual performer.

It is clear that these four approaches vary in how tightly they link training input to performance output and therefore in the quality of the information on training needs. These approaches are relatively fast and less expensive. It helps in identifying generic training needs covering a broad population, but it does not set priorities. Relative importance of tasks in the context of organisational performance is not emphasised in such approaches.

Many organisations follow the TNA approach similar to task-analysis or job analysis approach. It is targeted to improve job performance. But job performance, according to that, is usually described by means of the functions and tasks which people do in performing their job. Therefore where there are reliable job descriptions which conform well to what workers actually do, this is usually the starting point for TNA. Clearly, if it is known what individuals are supposed to do, and if there is some means of determining what they are actually doing, the difference between the two could with some justification be called training need. But the problem with such approach is that existing job descriptions are for the most part confined to defining broad legal boundaries of the job, and give little or no guidance to supervisors and subordinates in setting goals or determining standards or work plans. And also job and performance expectations appear to be based more on tradition and precedence than on any specified performance linkage between individual and organisation.

Organisations may choose any of these approaches. Some of the factors which are influencing the choice are mentioned in Annexure-6.

2.2.5 Rationale of Model Delft [Why to adopt this approach?]

Model Delft is targeted towards improvement of performance by systematic orientation towards the solution of performance problems. The essence of this approach is the determination of the performance context (enabling factors) of the trainee and therefore the training input is directly linked to individual and organisation performance. It uses the instrument of 'System Concept', which has proved its effectiveness in management sciences.

It appears to be applicable to those organisations which have several performance problems and management is interested to solve them by training and non-training actions. Following are the advantages of this model.

1. It clearly links specific knowledge and skill requirements to overall improvement in performance. It establish the linkage from problems at organisational level to individual level and thus to the required input of knowledge and skills. This helps in setting the priorities for training actions.
2. It also helps in establishing priority inside the training function. When the major job performance opportunity is lying in the particular task, then training for that task receive the priority.
3. It helps to evaluate the impact of training, on job performance as well as on organisational performance. Thus we can evaluate training function.
4. It is not identifies specific training as a solution but it also identifies the other factors affecting the performance.

2.3 Review of TNA Reports of water sector organisations of India

TNA reports are reviewed of following water sector organisations of India.

- 1.GWSSB of Gujarat State
- 2.KWA of Kerala State
- 3.PRED of Andhra Pradesh State

More elaboration is given here on approach of GWSSB of Gujarat state in order to link it with the detailed review of Gujarat (Fieldwork in India, mentioned in next chapter.) so that reader can appreciate its relevance.

2.3.1 Review on Approach of GWSSB of Gujarat State

As mentioned earlier, GWSSB is the water sector organisation of Gujarat state, India. GJTI is its training institute for imparting training to its personnel. Before starting any training efforts, GWSSB carried out a TNA with the help of an external consultant. The resulting Report is:

Title	:	A Study on Training Needs and Formulation of Manpower Development Programme for Water Supply & Sanitation Sector in Gujarat State.
		Part 1 Summary & Training Plan
		Part 2 Course Outline
		Part 3 Technical studies
Prepared by	:	ORG (Operations Research Group), Baroda, Gujarat, India.
Publication	:	February 1985.

Review of this report has given following important findings.

1. The scope of this report is not limited only to GWSSB, but the state as a whole and not limited solely for TNA but also for quantitative manpower need.
2. The study was designed (according to the need of formulation of a training policy and programme in quantitative and qualitative terms) to develop a state wide training policy as an integral part of the manpower development programme [MDP], but actually it did not develop or suggest any training policy. It did not mention other developmental options of MDP in addition to training.
3. The report assumes that higher level professional staff has access to external

training facilities and hence there is no need to give them in-service or on-the job training. Therefore the analysis of skill requirements is limited to the bench-mark jobs (AE & below) and as such has formed the basis for formulating the training programmes.

4. It has led to the development of short-term practical training and orientation courses suited to the specific job requirements, and not to the solution of a specific performance problem of an individual or group or function.
5. Emphasis is on quantitative terms. Observations are made on the major inadequacies/problems with regard to the availability and utilisation of different categories of operating personnel. And for these observation, selection of WS scheme was based on two criteria, location and type of scheme and not those which are not operating well or which are having performance problems and thus priority or importance. These observations were made to design an overall training programme and not to design a scheme-specific course.
6. Assessment consists of use of secondary reports (prepared earlier by others) and primary surveys (Done by consultants themselves). The secondary reports used were not prepared at all looking to future training efforts and were relatively old. And primary surveys were random and were done only for two functions: O & M and Execution, only for bench-mark jobs and only up to divisional offices. Interviews were taken on the basis of such chosen bench-mark jobs.
7. Use of terms like 'manpower is a constraint', 'identify training gaps ' and presentation of flow-chart with ambiguous terms and sequence suggest that the report is not prepared by experts of Training. Use of some terms like scheme, system and sub-system for the same reference and other terms like personnel, skill category, basic skill and job are confusive. No definition is given to differentiate them.
8. The identified training needs by this approach has resulted into some of the statements as quoted under. These make clear that it is very difficult to know from such statements, about what the precise need is ?
 - a. Proper orientation course for the personnel performing dual or multilevel functions.
 - b. It was felt that pump operator should have some training in pump operation, maintenance and repair of distribution system.
 - c. The problem encountered by the sub-divisional organisation are not that of training requirements but of administrative nature i.e. limitations in purchase of materials. The training is required to be practical oriented. (No requirement but still suggestion!)
 - d. Need is felt for such training which would be able to make technical personnel understand key elements of public health engineering works and enable them to follow standard procedures of technical supervision and maintaining work and store accounts.
 - e. Technical personnel engaged in execution & supervision of construction need to be trained to improve quality of work and increase efficiency.
9. Prescription is given for class-room training with emphasis on theoretical concepts. So it covers training on those academics which is assumed as required for performing all the perceived tasks of one particular job. Problem-tasks or critical tasks are not identified and therefore training course is offering a broad array of subjects, for all the tasks, some of which is already known by performers. Therefore targeted trainees are those all who are doing job and not only those who really need

the training. Case studies are not at all prescribed.

10. Report mentions that "the basic objective in developing the training plan has been to provide minimum required training (i.e. acceptable performance level for all bench-mark jobs) to all the personnel engaged in identified skill categories covering all aspects of O & M of both rural & urban water & sanitation systems." This suggests that plan is not targeted to solve some specific problems.
11. It has suggested some modular courses ,which are subject-specific, covering hierarchy of EE,DE and AE. But the stress is on transfer of knowledge on common topic. Moreover, trainees are not identified for such modular courses.
12. Though the report does not suggest any actions, it is important to refer following positive quotations.
 - a. Projections and plans presented should not be considered as final but should be updated as and when more up-to date information is available.
 - b. There is need to take into account both organisational and operational constraints.
 - c. Trainer's training is the most important task in initiating training programme.
 - d. The interaction between higher technical personnel and lower supervising personnel gets severely restricted due to constant pre-occupation of the former with administrative work of various nature.
 - e. Training should be considered as a part of overall development strategy & programme for the sector.
 - f. It is important to have an evaluation and monitoring cell attached to the central institute so that the training plan conceived now need not necessarily degenerate into one time static plan but can become a continuous process with built-in flexibility and scope for improvements. There is need of continuous updating to take care of changing technology and training methods.
 - g. Selection of a trainer is not to be guided by the rank the officer holds in the Board. His academic background & experience are the major criteria to be used in its selection. True merit and not a misfit in the division should be the criterion in the selection of trainer. Trainer's training is a must prior to the placement as trainer for the courses. Most of the training which he will be required to offer to his trainees has to be field oriented, the trainer needs to familiarise with field practice.

Summary of Review:

Approach of assessment is the job-specific and not the problem specific. All the tasks of all job-holders are considered equally important. Assessment of needs is done only for lower level jobs considering them most important. Training programme as a result is targeted for lower level operatives and each training course is planned for a specific job. Themes of instruction sessions are on all the tasks of any job without considering its criticality or importance. Other organisational issues are not identified in addition to training although considered important. The approach is thus not directed towards organisational performance problems or its solution.

2.3.2 Review on Approach of KWA of Kerala State

KWA is the water sector organisation of Kerala state, India. KWA has got carried out a study with the help of an external consultant. The Report referred is the outcome of that study, having details as under.

Title : KWA Training component Phase 1
Training Needs Analysis
Final Report

Prepared by : North West Water International Ltd.
Manchester, U.K.
Publication : September 1991.

Review has resulted in following findings.

1. This report is on detailed Analysis of needs and not specifically on Assessment. For assessment an inception report was prepared prior to this report in September 1989. However, this report gives an idea about its approach of Assessment.
2. Training needs are identified as an integral part of problem areas and the problem areas are identified from the interviews with a wide range of senior members and management staff of the authority. Of course, inspection of works and review of available data was done in addition to these interviews, but still the areas such identified are limited to functions and thus also limited to the perception of functionaries interviewed. Problems at organisational level are not identified.
3. To find the needs, sampling were done based on above identified areas. Thus needs are assessed purely on the basis of survey of this sample and common responses found during that survey and interviews. Needs thus identified from sample are projected as common for all related job positions in similar operations elsewhere. This has resulted in the courses targeted for all job holders of particular position considering that all have same and similar needs. All levels of employees are therefore targeted. This implies that assessment process was not done to find the root of typical organisational performance problem and hence summary of training needs has shown number of trainees for identified course.
4. Training is viewed with the aim of strengthening the overall operational efficiency of that organisation. Efficiency has been correlated with some problem areas. But all the jobs in that problem areas are considered important for training. Therefore Training courses are designed for all those job positions. Content of such course consists of topics on all the associated tasks of that job. Thus ultimately the courses are found job specific. To have all these job-holders as trainees, system of compulsion or incentives is suggested. In the overall training programme, if we look at the assigned priorities, transfer of knowledge and skill has given the highest priority.
5. It is important to note that several organisational issues are mentioned and relevant suggestions are made in addition to training. The major is Reorganisation or structural changes of KWA. It is suggested very clearly that maximum benefit of training programme will not be obtained unless there is a coincident reorganisation. However, it is also a fact that a suggested reorganisation was found impossible in the near future by those who assessed the training needs.
6. Another observation is that, it has advised to do continuous needs assessment. Regional training managers are assigned the task of need assessment in consultation of training manager.
7. Lack of resources and specifically lack of adequate funds is considered as the reason for many problems. This is actually an old tendency to cry for funds always. It is true and accepted fact that monetary resources are always scarce. But such tendency prevents to analyze the problem further.
8. Stress is given on effective management of resources available for O & M function

without considering Planning & Designing function. It may be true that O & M function was observed to be poor but many times the root of problem may lie in planning or design function due to the tendency to appreciate the cost and not the sustainability of project proposal. Assessment approach with such stress limits the process only up to one function.

2.3.3 Review on Approach of PRED of Andhra Pradesh State

PRED is the water sector organisation of Andhra Pradesh state, India. RDTTC is the training centre of PRED. PRED carried out a study on TNA with the help of an external consultant to run the courses at RDTTC. The resultant Report is:

Title : Human Resources Development plan for PRED Andhra Pradesh
Sponsored by NAP Office / Royal Netherlands Embassy
Volume 1
Prepared by : CFDR
[Centre For Development Research And Training],
Madras,India.
Publication : January 1991.

Review has resulted in following findings.

1. The scope of report is not an overall HRD plan, as the title suggests. Training is the only activity of the HRD plan and a training programme is the only output even though HRD was identified to improve the performance efficiency of the PRED.
2. Assessment approach is summarised in 3 steps as under.
 - a. Study of jobs
 - b. Job descriptions
 - c. Task Analysis in terms of attitude, awareness and skills of all the functionaries on the sample.
Thus, focus is on in-depth analysis of the jobs. A sample survey was carried out in 3 different geo-ethnic regions. Only sub-divisions, 7 high performing and 7 low performing were selected as sample. Assessment was done on the basis of interviews of supervisors and functionaries , the study of job descriptions and observation of task performance. Requirements to perform a job is considered as training need and hence job are analyzed. Task analysis is also made.
3. Needs are broadly identified like MIS, Quality control of works, Team work etc. Performance problems and associated performers are not identified.
4. Programme is developed only for different technical functionaries /job positions working in the field offices. Themes in the course are therefore on subjects relevant to the functional/ job operations. And therefore major target group is the only technical cadre personnel working in the fields. CE and other higher level functionaries are also targeted but only for general management courses. Thus assessment was limited to field operations.
5. The programme is considered being dovetailed to the training programme offered by GOI. Actually GOI programmes are rather academic and not designed for any state-specific situation but designed on general situation at country level.
6. It has suggested scheme specific training, but problem schemes or associated problems in the schemes are not identified.

7. It is important to note that importance of trainer's training is realised to ensure a high quality of training. Also the need for a monitoring and evaluation system is emphasised such that a regular feedback / reporting system from trainees, is obtained after the training. In their words, communication from the field situation to the training situation and communication back to the field situation without loss of time is the essence of the training system. This will constitute a continuous TNA input to the training system which will thus get updated periodically, and automatically.

2.4 Conclusion

Objectives of Training is to prepare a performer in order to solve existing performance problem and also to prevent future problems due to developmental changes. The modified approach (Model Delft) developed by the author uses the system concept to look at the organisation, inside it and also at performer. It links the organisational performance problems to the individual performer or group of performers and executes a systematic and detailed analysis to identify the critical input of knowledge, skill, attitude and other enabling factors that are required to solve them. The TNA process results not only in identified training needs in terms of objectives of training but also in directives of non-training actions.

TNA Reports of three Indian Water Sector organisations have been reviewed. Approach followed for the GWSSB & PRED is purely job specific and a training programme is identified for a limited number of jobs. Other organisational issues are not addressed. The TNA approach for KWA has addressed these issues and also considered problem areas to start with. But the report finally identifies job-specific training for all jobs and for all tasks associated for that job.

In any of these approaches linkage to overall organisational performance problem is not identified and therefore criticality of performance is not considered. Stress is put on all the tasks of a job and all the jobs of a area/function. All approaches have the common base to improve the efficiency of operations or performance and achievement of organisational objectives, but they did not consider the fact that, the hurdles in the way is not due to the poor performance of all jobs or poor performance of all job-holders in one job or all tasks for a specific job. Therefore the training suggested as a result of assessment is more general and targeted towards transfer of knowledge and not towards solving a specific problem. And therefore, targeted trainees are all those, who are holding the specified job and the course is planned for that specific job.

It appears that Model Delft is applicable to the organisation which have several performance problems and management of which is interested to solve them by training and non-training actions. The model carefully targets problem areas and offers tailor-made training and other solution. This approach by singling out priority problems and solution has the obvious advantage of taking less extensive and thus requiring lesser efforts and costs.

CHAPTER 3

DETAILED CASE STUDY OF GUJARAT WATER SUPPLY & SEWERAGE BOARD (GWSSB) (A Water Sector Organisation of Gujarat State,INDIA)

Structure of the Chapter:

- 3.1 Introduction**
- 3.2 Overview on Organisation**
 - 3.2.1 Overview on GWSSB as a water sector organisation**
 - 3.2.2 Overview on GJTI as training function**
- 3.3 Approach for TNA**
 - 3.3.1 Approach**
 - 3.3.2 Training Programme as a result of this approach**
 - 3.3.3 Limitations of approach**
 - 3.3.4 Comparison with Model Delft**
- 3.4 Applicability of Model Delft**
- 3.5 Other Organisational Issues**
- 3.6 Conclusion**

Objectives of the Chapter:

- To understand the organisation and review its training function .
- To know the approach of assessment of training needs and its limitation.
- To see the possibility of application of Model Delft for GWSSB.

3.0 DETAILED CASE STUDY OF GUJARAT WATER SUPPLY AND SEWERAGE BOARD (A Water Sector Organisation of Gujarat State,India)

3.1 Introduction

Gujarat is the western state of India. For the state, GWSSB is one of the organisations responsible for drinking water supply. GJTI is the training institute of GWSSB. To know the exact approach of GWSSB for Assessment of Training Needs, fieldwork was done in Gujarat state, India with following methodology.

1. Collection of Documents from several offices of GWSSB.
2. Observations of Training function at GJTI
3. Interview of following personnel
 - a. GWSSB key personnel at every level including key personnel of GJTI
 - b. Retired GWSSB personnel who have played key role in training function
 - c. External experts
 - d. Heads of leading allied organisations

It is important to note that interviews of lower cadre staff who work at higher level offices were also taken for key information and for verification of some information supplied by others.

A questionnaire (Annexure-7) was prepared for overall fieldwork. Different sets of the questions were prepared from it and tested by taking pilot interviews with the use of tape-recorder. Based on that experience some questions were modified. Interviewees were informed either in advance or at the beginning of interview about purpose and details of this study and also were assured about the genuine use of their responses. Brief notes on key responses were made, during the interview and worked out afterwards.

Important documents referred are listed in references and a list of the persons interviewed is attached in Annexure-8.

3.2 Overview on Organisation

3.2.1 Overview on GWSSB as a water sector organisation

Background:

GWSSB was established by an act in 1978 for the rapid development and proper regulation of water supply and sewerage services in the state of Gujarat. The Board was formed from previous Public Health Department (Ministry) to achievement of operational autonomy, efficiency, more effectiveness and economy. However, the supervisory Ministry of Health & Family Welfare still interfere in many matters.

Objectives:

According to the act, the objective of GWSSB is to prepare, execute, promote, finance, operate and maintain the schemes for supply of water and for sewerage and sewage disposal and provide all necessary services related to it. However, from the list of "Duties & Functions" of Board, following one is of prime interest to this report.

To assess the requirements for man-power and training in relation to water supply and sewerage services in the state.

It is important to note at this stage, that after the establishment of GWSSB, the this

function was performed only once in these 14 years by an external consultants and second was not at all.

Structure:

Looking to the present working of GWSSB, major work is to supply water to 'no source' villages under several funding programmes by constructing, operating & maintaining water supply schemes and also to plan & estimate the schemes to be executed by Municipality Corporations.

The overall structure of the GWSSB and span of control is in form of Pyramid where top management is at apex and lower level management is at base. Bureaucracy is also observed due to overlapping of administrative boundaries and poor inter-departmental communication. Organisation is divided into geographical Zones headed by Chief Engineers. Each zone has Circles headed by Superintending Engineers. Each circle consists of several divisions, sub-divisions and section offices headed by Executive Engineers, Dy. Executive Engineers and Assistant Engineers respectively. At the Head Office, numerous cells operate i.e. Monitoring cell, vigilance cell, technical cell, etc. Monitoring cell collects different type of data regarding progress of WS Schemes and forwards it to top management of GWSSB in order to take decisions, to send it to GOI and to send it to ESAs. But it does not monitor all the schemes of state and does not analyze the causes of poor progress or problems. It does not give any feedback to GJTI. Vigilance cell acts upon the complaints of mal-actions. It does all necessary search only on the cases of complaints but does not analyze other problems. GJTI works directly under the control of Head Office.

We can visualise the personnel of GWSSB working in following matrix of 3*3*3 although no such clear distinction exist.

3 main functions	:	Technical Financial Administrative
3 main stages of projects	:	Planning & Design Implementations O & M.
3 main levels of working	:	Lower (operatives) Middle (supervisors) Higher (decision makers)

Jobs of individuals are thus synthesised according to the placement in this matrix.

Normally importance is given to the pyramidal frame and not the individual. Due to frequent transfers and subsequent unplanned placement, it is very difficult to find the most suitable person in relevant job all the time. Performance of staff is thus also influenced by such frame. It is not possible to judge, but in the view of one top level officer, 10% of GWSSB personnel is intelligent and resourceful, 70 % is slightly above average and 20 % is below average.

Performance:

In order to fulfil the functions, targets are fixed and evaluated in quantitative terms, e.g. Number of no-source villages to be covered. Till the year 1990-91, 13746 villages were covered out of total 14273 identified no-source villages. In the year

1991-92, this total coverage reached to 14087 out of total 14503 problem villages. Every year the number of problem villages is increasing and therefore 100 % target could not be achieved. The achievements as mentioned here (97% coverage) appears very substantial in quantitative terms. However in the view of some higher level officials qualitative achievement is only around 25 % which is difficult to verify in absence of a qualitative evaluation system.

Performance of GWSSB is highly appreciated by those who were deprived of good quality drinking water for many years. But on other hand, some of the villages still have complaints inspite of supply. GWSSB pays attention to what public says, but limited.

The targets are related to national plan as far as financial outlay is concerned. But it appears that financial planning is being done by increasing the figures of earlier outlay and according to availability of funds. Innovative planning on the basis of experiences & evaluation of earlier projects is not found.

It appears from the frequent complaints in newspapers, issues raised very often in legislative assembly and as per the views of external experts and ESAs that performance of GWSSB is not well. For example inability of cost-recovery from public is a widely agreed performance problem. Although no system exist to identify performance problems, some indications may be found in the documents mentioned in Annexure-9. Roots of some problems also lie in uneven distribution of workload against the available finance as well as the manpower and also in overmanning at offices located in urban areas and undermanning in field offices of rural areas.

3.2.2 Overview on GJTI as training function

Background:

GJTI was established due to State Government's foresightedness, interest of top management and dedication of some personnel of GWSSB and of course financial assistance of WorldBank. It was conceptualised to assist in the improvement of efficiency and effectiveness of GWSSB.

Objectives:

Objectives of GJTI are mentioned in its training brochure but they are not the outcome of any training policy because no such policy exist. These objectives are perceived by those who have prepared the brochure. In summary, the overall objective of GJTI is to meet the urgent need of trained personnel for water supply and sanitation subsector of the state.

However, out of the listed objectives following two are of prime interest:

- 1. To clear existing training backlogs to meet with the future requirements, both qualitatively and quantitatively.*
- 2. To improve the performance of water supply and sanitation sectors*

It is important to note at this stage, that these objectives neither reviewed or evaluated since 1988. No system exist at GJTI to know the training needs continuously and to know the hurdles in the way of improved performance.

Structure:

Pyramidal structure is also found here. Director, in the rank of Chief Engineer, is the head of GJTI who reports to Head Office. For operational convenience, there are two wings, Training and Administration which are headed by Joint Directors in the

rank of Superintending Engineer. Several Senior training officers of the rank of Executive Engineers, Training Officers of the rank of Dy.Executive Engineers and Asst.Training Officers of the rank of Asst.Engineers are reporting to Joint Directors via the hierarchy-channel or (sometimes) directly. In addition to technical staff, clerical staff is also available to support all the activities of GJTI.

Activities of GJTI:

GJTI has two types of activities. Core activity is to run the training programmes regularly. Non-core activities are to provide accommodation to trainees as well as other staff members of GJTI and GWSSB, to provide catering services during training courses and non-training gatherings, to organise and conduct several meetings, workshops and seminars and to provide necessary services for that.

Training Programme:

The Training programme consists of several courses. Training courses and other activities are decided by the Director. During the tenure of each Director, new courses are included. Every year quantitative targets, in terms of number of courses and number of trainees per year are fixed. Except for first year, the quantitative targets could not be achieved fully. No qualitative targets are fixed. No system exists to evaluate the achievement or to evaluate the programme in terms of improved performance of personnel trained at GJTI.

Training courses are found to be targeted for only lower level management. There are some courses in which middle and top level management can take part, but not a single training is specifically targeted for them. In-house courses are being run at GJTI campus and field courses at different remote places each time.

It is found that GJTI is equipped with sufficient class-rooms, audio-visual equipments and two laboratories for water-testing & remote-sensing. But except a few models on water-harvesting, few cutsections of Handpump and limited number of pipe-samples, other provisions for practical training are absent. It appears that present training has more stress on transfer of knowledge than transfer of practical skills. In view of almost all interviewees, present training is not sufficient nor adequate.

Eligibility criteria as mentioned in training calendars till last year were according to designations and also limited up to DEs. Latest time table of 1992-93 (Annexure-10) shows disciplines like Civil Engineer, Mechanical engineer as an eligibility to become trainee. Therefore, in practice, it is found that civil engineers working in design office can come to the course of low cost sanitation or waste water analysis, which is not related to present work and may not be helpful in immediate future. Nomination of trainees appears inappropriate in many cases. It is also observed that those who need training hardly ever get spared, whilst others come very often for various courses irrespective of their present functional position as well as their needs. It appears that supervisory staff are apparently less than critical in assessing the need for subordinate staff to go to (inappropriate) training courses.

3.3 Approach for TNA

3.3.1 Approach

At present no systematic assessment of training need is being done at GJTI / GWSSB and also no specific system exists to do it regularly or periodically. However TNA was done once in 1985 and at present the courses are designed on the basis of that approach.

The earliest training programme was designed according to the TNA Report (1985) prepared by external consultant ORG. We have seen the review of this report in chapter-2. The report has resulted in training courses targeted for lower level specific jobs and job-holders. Very few modular courses were suggested to cover various job holders in a single course to impart common knowledge without any detailed needs assessment. (In fact such modular courses were hardly implemented.) The courses cover all the tasks to be performed by particular job-holders. Criticality or importance of job or task was not considered. The overall target for 5 years was prescribed as to train total 20000 persons of the state, however no break-up in categories or in different organisations was included. Annual targets at GJTI are being set on the basis of this total target. Although this target should cover other personnel than of GWSSB, also here no break-up is made.

Present Training Programme and several courses are evolved on the following basis.

- 1.Experiences of earlier training courses.
- 2.Informal feedback from trainees during the course.
- 3.Formal class-room evaluation at the end of each course.

Informal feedback is more than formal feedback and from the trainees which were not the actual target group for that course. Based on this feedback and on the experience and the views held by the trainers, who are responsible for course design, courses are getting modified. This process has been running since the inception of the courses in 1985. Thus courses are not designed on the basis of assessment of really existing needs or upcoming needs but on the basis of evaluation by trainers and trainees.

Nominations for trainees are called every month for the courses to be run in next month. If sufficient nominations do not come or sufficient trainees do not turn up , the course is being cancelled. No evaluation is being done to find out about failing responses to a course announcement. Also profile of participants are not evaluated against the profile of target group. More stress is given on achievement of targets in number of trainees.

3.3.2 Training Programme as a result of this approach

According to the latest Training calender (Annexure-10), the Programme consists of different 47 courses. Title of the courses & Eligibility suggests that the courses are either targeted for specific job position or for particular job function. During the observation of records and interviews it is found that number of trainees mentioned per course and number of particular course per year has not derived from the population in that staff position or need associated. This implies that trainees are not really identified , but rather assumed.

As a result, the courses, need of which was felt by top management, like "project planning and management", "low cost sanitation", "drinking water quality standards and interpretation" are planned only once according to directives. But the courses on "Integrated Water Resources Management", "Feasibility of project" and "Communication" the need for which was identified by RSM or other ESA are not at all planned. It is not the case that need of such courses was not felt in GWSSB, but it was not realised at GJTI due to the lack of formal assessment. Thus existing programme do not reflect the existing and future needs. The programme has very little linkage with the needs which becomes very clear from the list of the problems mentioned in Annexure-9.

It is also important to note that, some courses on mass awareness and people's participation were not prescribed by consultant's report, but they were introduced by felt need by top management. As the need was felt but not assessed, these courses are designed according to perception of designer. Therefore the course on people's participation has more stress on how to conserve the water and very limited stress on how to involve people in their water supply schemes.

3.3.3 Limitations of this approach

Present approach of TNA has proved its limitations. It has resulted in following.

1. Isolated Training Function
2. Inappropriate Training Programme
3. Ignorance towards Performance problems which could have been considered as the real training needs.

In details we can see as under.

1. Isolated Training Function

As seen earlier, Training function consists of mainly four activities; Need Assessment, Design, Implementation and Evaluation. Need assessment is the first activity and therefore rest of the all activities are dependent upon it.

As the training courses are designed on the basis of outline prescribed by consultant, it is being done in isolation without referring what is actually going on in reality. Based on this design, most of the trainers & guest faculty prepare their presentation, in very short time, without referring practical realities and without going outside the campus. Thus their presentations are solely based on their own experience and readings. This results in dry lectures without case studies or exercises and it get improved by subsequent training implementations at GJTI, again in isolation. No formal system exist for evaluation of presentation and trainers.

Trainees are not identified and targeted. Rather interested persons apply for several training courses irrespective of their present position, to their superior. It may get approval due to several reasons like less work allocated to that applicant or it is possible to spare him. But also as a result, some trainees are found as if they have come for touring and some as an unwanted at his own office. For training out side GJTI(Outside state or country) selection is made solely on ad-hoc basis, either on seniority or on application. No assessment is being done to select the trainees for such advanced courses. As a result Training courses outside state or outside India is considered as a good reward in views of the persons who see it as an opportunity for touring. No strategy/policy exist about which courses should be designed and implemented at GJTI and which courses should be left for other institutions.

Registration is on a course by course basis, and not by trainee. Therefore it is very difficult to find out the linkage between trainees and their needs -past, present and future.

It appears that GJTI sometimes operate in isolation. And due to such image sometimes training has been considered of less priority by top management. It is increasing tendency to consider GJTI as non-sensitive office. This has also resulted sometimes in placement of those staff at GJTI who were considered either useless or victim for punishment. This has also resulted in frustration of committed and devoted trainers of GJTI. It is also fact that GJTI operates well due to some of its devoted trainers.

2. **Inappropriate Training Programme**
Training Programme is consists of several courses, but these courses are not actually woven to make a comprehensive programme. Therefore courses are not always complementary to each other. Duration of the course is also based on the standard prescription and little flexibility is in-built. As the programme is not resulting from assessed needs, it is not precisely targeted to identified trainees.

3. **Ignorance towards Performance problems which could have been considered as the real training needs.**

As the courses were not planned on the basis of problems and associated performers, it is very difficult to find the linkage between the problems and the offered courses. Moreover, problems are neither identified nor analyzed formally. The tendency of using ready prescription has resulted in ignorance towards the existing problems and expected problems. List shown in Annexure-9 suggest that there is hardly any linkage. And even if any linkage exist, trainees are not selected on the basis of their performance problems or in other words their individual training need, it is almost impossible to say about what problems were solved by training and what not.

3.3.4 Comparison with Model Delft

1. Model Delft is Problem specific and hence TNA process not only results into list of training objectives but also into list of other non-training actions . Total of theses actions are directed towards solution of problem. Therefore need assessment process start with identification of problems.

At GJTI, TNA was done only once and the approach was job-specific and mainly for lower level operatives. It has resulted in the training programme as the only manpower development option without suggesting any other non-training actions. As the approach was not oriented towards solving performance problems, resultant training did not contribute much in improvement of performance. No provision in approach for identification of problems. Due to specificity to jobs, some problems are ignored. For example, it was stated by one trainer that now there is no need to train Jr. Clerks. The reason stated for it was that after several regular courses no more Jr. Clerk was nominated for the training. Detailed analysis showed that Jr.clerks were given the pre-service training which was obligatory for them to pass the end examination. As all the Jr. Clerks have already passed that examination, no more was nominated. Actually there are several problems which have roots in poor performance of Jr.Clerks. But according to the current approach no further training is planned.

2. Model Delft identifies the problem, related trainees and also the deficiency in particular performance. Therefore we can fix the Targets in quantitative and qualitative terms; i.e. target group and performance objectives. This identification is not at random but as a result of detailed analysis therefore it is also possible to evaluate the achievement of target.

At GJTI, total target is being fixed in terms of number of trainees and number of courses. This is the projection of the results achieved from random survey. Performance objectives are not established clearly and trainees are not identified. Therefore no qualitative evaluation of training -change in performance of the trained personnel- is being done. Class-room evaluation is mostly related to implementation

aspects.

3. Model Delft also looks for the prevention of the future problems by assessing the needs raised due to developmental changes either in environment or in organisation.

At GJTI, no formal need assessment is being done for such changes. New courses are being introduced due to the foresight of some trainers at GJTI. No training provision is made by GWSSB for the person who gets promotion to a higher position or is transferred to another function and location. Also no training provision is made for freshly recruited staff.

4. Model Delft uses system concept to see organisation and also asks for analysis of organisational problems according to it.

At GJTI/ GWSSB, no holistic concept is accepted to assess the organisation. However, it appears that system concept is not used. At GJTI or in GWSSB, no in-built system exist to see, identify and analyze any problem in continuous dynamic way. Problems are solved in traditional way; by 'Trial & Error'. Solution at one office for one problem remain with the person who was involved and it never get spread to all concerned in other offices. Absence of proper communication is observed. Sometime, scientific study has been done by the external consultants addressing some specific problems, however, reports prepared by them get shelved, usually after with partial implementation recommendations and without communicating their findings to others in the organisation.

3.4 Applicability of Model Delft

To check whether Model Delft is applicable to GWSSB or not, it was discussed in brief with top level management of GWSSB. It was also discussed with those top level people who are now retired but were associated with development of training function and who have worked at the highest positions of GWSSB and GJTI.

In their views, earlier job-specific approach was o.k. for that inception phase but in these 5 years it has proven to be limited and therefore now it does not hold good. As GWSSB has several performance problems and the approach suggested by Model Delft is problem-specific, it appears to be more suitable. It was also agreed during several interviews at all levels that it would be good to apply it. Top level management have shown positive response to implement it for designing training programme. However, applicability of this model is checked only at discussion level and not by putting it into practice. It would be more advisable to do need assessment for one problem (out of many) at one identified function (out of many) as a pilot assessment.

Following are some points which shows favourable situations for its application.

1. A fully developed hardware for training (GJTI) exists. Enough staff is also available to work on such vital issue. Funds are assured by Government for all training related activities. GJTI can act as a central authority for TNA.
2. Regularly, meetings are being held at GJTI. It should be possible to organise a workshop or an orientation course to impress the all top level management personnel on importance and methodology of TNA on the relative weakness of the current approach and to obtain their active support for the new approach. (Model Delft)

3. There are Monitoring and Vigilance Cells at GWSSB Head Office. These cells can provide the necessary continuous feedback on problems and their priority. It is possible to designate them as an inlet desk for all problems, where employees can express themselves easily and without fear.
4. Assessment is also possible at zonal or circle level once the root of problem identified there. A strong organisation structure is available to do TNA in a systematic way starting from circle office and ending to section office.

3.5 Other Organisational Issues

As discussed above, Model Delft appears as applicable to GWSSB. But by doing only TNA, the problems can not be solved. There are several organisational issues, which also should be addressed in addition to modified TNA approach. Fieldwork has resulted in identification of some issues influencing directly or non-directly to either TNA process or training function as a whole. Following are some of such issues. More detailed description is done in Annexure-11.

1. Availability of huge amount of data but lack of systematic database which can be used for decision-making.
2. Availability of procedure for regular auditing but lack of evaluation in its true sense.
3. Functioning of individual functions as a separate entity with limited thinking towards organisational objectives.
4. Isolation from development in other training institutes, in other water sector organisation. Isolation from global thinking - in the field of training as well as in water sector.
5. Wrong belief by many employees that water supply is a simple activity which hardly requires any training.
6. Lack of enough expertise on training at training institute.
7. Delay in many matters.
8. Lack of commitment towards works due to absence of accountability ,frequent transfers.
9. Lack of policy and strategy about main functions like O & M .
10. Planning-short term, mostly quantitative and without providing future evaluation. More stress on economy than on efficiency and sustainability.
11. Tendency to lean almost fully on contractors. This has resulted in a feeling that WS scheme is of contractor and not of GWSSB nor of public.

3.6 Conclusion

GWSSB is a water sector organisation, with a training institute named GJTI. GJTI was established for getting improved performance, but it appears that training programme could not contribute much in improvement. Training programme is not tuned for solving performance problems. The reason is its approach of TNA. TNA approach of GWSSB is job specific which has focused only at lower level operatives and has considered all the jobs and tasks equally important. Looking to several performance problems of GWSSB, modified approach as suggested in Model Delft is found applicable. It is problem specific and hence resultant training is tuned towards solving the problem provided that in addition identified non-training actions are also addressed.

CHAPTER 4

DISCUSSION ON MODEL DELFT

Structure of this Chapter:

- 4.1 Introduction
- 4.2 Discussion on applicability of Model
- 4.3 Operationalisation of Model
- 4.4 An Example of TNA according to Model Delft
- 4.5 Conclusion

Objective of this Chapter:

To understand the applicability and operationalisation of Model Delft to Indian Water Sector Organisations.

4.0 DISCUSSION ON MODEL DELFT

4.1 Introduction

Model Delft was developed based on literature review. It is a modified TNA approach adapted from existing approaches and conceived against the background of the author's own experiences as a trainer at GJTI, training department of GWSSB, a water sector organisation of Gujarat State, India.

It is worth to quote a para from a conceptual paper prepared by the HRD central co-ordination cell (in the National Drinking Water Mission working under Ministry of Rural Development(MRD), Government of India) taking care of HRD programme centrally at National level of India: " Currently training courses are being run by several different institutions identified by the MRD on an ad-hoc basis without any overall strategy and without any fundamental needs analysis." And also, the first Action to be taken at all states is mentioned as "Assess training needs in the rural water supply and sanitation sector"

This suggests the importance of TNA. As the TNA process can be done by different approaches, the question arise is whether Model Delft is applicable to Indian Organisations or not ? If yes, then how to make it operational ? Following paras are the answers of these questions.

To check whether this model is applicable to GWSSB or not, it was explained to top level as well as other levels of management of GWSSB. List of the persons interviewed is mentioned in Annexure-8 section-A. At discussion level it appeared that Model is applicable and due consideration will be given to put it into practice for coming training programme.

As other Indian Water Sector Organisations are also somewhat similar to GWSSB, the Model Delft was also presented to a National level 'Policy maker's workshop meeting on HRD Programme' on 10 th February'93. The participants of this workshop were the senior most staff from Water Sector Organisations of several states of India (Annexure-8, section-B). Written critical comments were invited on the Model whilst also verbal comments were given invited during informal meetings and formal discussions. The workshop was organised to decide policy on three main issues; Institutional Arrangements, Training Needs and Training Materials. Author was also involved in the Working Group for the formulation of recommendations on Training needs. The importance of TNA was agreed by the participants which is reflected in final workshop recommendations. It is stated as " The assessment of training needs in each state, being the prime need, should be made within 6 months. The Ministry of Rural Development, Government of India will provide necessary guidelines for assessing the training needs within 2 months to each state. The training modules to be developed should be need based and practice oriented." After that, author contacted the Ministry and he was asked to submit this model with full details so that it can be circulated to all states for further implementations. Looking forward to the possible implementation, several interviews were taken of Experts in India as well as in The Netherlands for critical comments on Model. List of persons interviewed is mentioned in Annexure-8 section-B. All the comments received were considered and finally operationalisation of Model is suggested.

4.2 Discussion on applicability of the Model

1. Model suggests to identify the organisational performance problems first. Problems are categorised in to two categories-present and expected in future. Present problems are due to existing deficiencies and future problems may arise due to lack

of preparedness to cope with developmental changes.

Identifications of overall performance problems at organisational level can be suggested by top level management. They can use readily available problem indicators identified in the reports of external evaluators like ESAs, Departmental reports including progress reports, target plans & achievements, annual financial statements etc. The reports of Public Undertaking Committee, questions asked in assembly and Editorials in newspaper can also serve the purpose. To identify the developmental changes and potential changes and problems, the organisation has to keep itself update by referring journals & regional, national & global discussions and recommendations. Another option to know the problem is to do detailed exploration study i.e. Institutional Assessment for the following performance categories:

- 1.Organisational autonomy
- 2.Leadership
- 3.Management and administration
- 4.Commercial orientation
- 5.Consumer orientation
- 6.Technical capability
- 7.Developing and maintaining staff
- 8.Organisational culture
- 9.Interactions with key external institutions.

2. Model Delft has used System Concept to see the organisation and define the problem. According to it effective problem-solving is concerned with the selection of the best solution from among alternatives. The criteria for such a selection to be made must spring from the specific problem . Hence the emphasis on first defining the problem. Thinking in systems terms helps us to define the problem as clearly and as completely as possible, to analyze the problem in order to identify possible alternative solutions or a total solution mix, and to select among the alternatives and to develop the most viable solution. This system concept has the base in management science and it is widely accepted.

To do TNA as per Model, the task for any organisation is to use this system concept to define its system very clearly. To identify subsystems and its mutual interdependence is necessary to locate the root of problem. However it appears that this may not be difficult. All Indian Water Sector Organisations have very strong organisational structure. The need is to see the existing structure in a different way and establish formal linkages if necessary. This linkage can be established by using system concept. For example, monitoring cell should give regular input to training cell. In reality there may not be any communication linkage, but it can be established by viewing mutual interdependence between monitoring and training.

3. Problem definition, prioritisation and then its analysis is the core activity in the Model. Several aspects are involved in order to perform this activity.

It is not always easy to define the problem at very first glance. For example it is not easy to distinguish the type of problem, whether it is technical problem or administrative or social problem. As the organisational problems are rather very complex in nature and many times their roots lie in more than one function. This trouble will be very often in the beginning but it will be solved after regular practice. Who will define the problem ? This is another important question. Monitoring cells and top level management can do this with the help of functional heads. A policy may be required to develop to decide the responsibility.

Another issue is to fix the priority of problems. Normally it can be decided by top level management and thus individual perception may influence a lot. Moreover, priority also changes, with the changes in policy and financial circumstances. It implies that there should be a formal team to assign the priority of the problems. As Water Sector Organisations have either Board of Directors or Committees, they can do it. However, those who are in position to decide should be oriented towards the profession (Sanitary Engineering or public health engineering) and not towards the traditional civil engineering or construction engineering.

According to model detailed analysis of problem requires time, skill and management commitment. TNA should be given due importance for its success. For that training should be viewed seriously. It appears that many times training department works in isolation. This tendency should be changed first. It is almost impossible to analyze the problem in detail if conducive environment is not existing. For that, before assessment, all employees should be assured that by expressing the causes of problem or their deficiencies, they will not get any punishment. They should be encouraged to co-operate in the TNA process.

During analysis, it is required to refer job description. The important thing is that Job-description should have been prepared by doing Job Analysis of actual jobs to be done. Job description should list all the tasks and duties involved, together with the necessary explanatory details and also the characteristics required of the person performing the job. This job description, whether of an existing job, or a model of the future job, can be used to fix the standard of performance. It appears that at present readily available job-descriptions are very old and derived from Public Works Department norms as a whole. In the changed environment, (when community involvement is considered as an important task which does not appear in the previous job descriptions) it should be prepared a fresh. This implies that this Model involves lot of work as a pre-requisite.

4. From above discussion it appears that Model is most suitable for small organisations, where TNA process do not require much time and other resources. However, big organisations have bigger needs of training due to complexities of operations. This Model asks for much resources, but it results in concrete line of actions. It can directly and significantly impact the organisational performance by producing relevant training programmes. The essence of this approach is the determination of the performance context (enabling factors) of the trainee and therefore the training input is directly linked to individual and organisation performance.

Another considerable advantage is that it serves to provide base-line data on problems and identify the needs from those closest to the source. This avoids the trap of getting training needs based only on choices from the available courses. (i.e. "supply-driven training needs") but instead focuses on what performers need to be able to do better in order to be more productive in their jobs. It can directly and significantly impact organisation performance by producing relevant training programmes. The essence of this approach is the determination of the performance context (enabling factors) of the trainee and therefore the training input is directly linked to individual and organisation performance.

It has very few disadvantages :it takes time and skill and every thing is clearly visible, which may generate expectation and anxiety. But considering the fact that water is essential commodity and now water sector organisation can not afford to

continue with poor performance in the light of present challenges and increasing demands , these disadvantages are inevitable and negligible.

In summary, it is important to be clear about the objective of training i.e. 'preparing the performers'. Actual performance only can be achieved if enabling environment is also provided in addition to training. Training alone always may not be the solution of each performance problem. Training can solve only those problems which are related to deficiency in human performance. Sometimes there are problems to which, deceptively, training appears to be the answer, but is not so. It may appear to be when a department or some particular group of people within a organisation is not performing as expected. In such circumstances , management will sometimes be tempted to seek a remedy from a training course, rather than to make a more general analysis of causes of the deficiency in performance. An assessment of training needs as suggested in Model Delft, can often provide evidence that training is not the first step to be taken to cure an organisation's ills; in fact it may not be necessary at all. And there may be also other steps which should be taken along with training, if training is part of the total solution.

4.3 Operationalisation of Model

In this paragraph, we will see the line of actions to operate on this Model.

Model Delft is targeted towards solution of performance problem and thus targeted towards improvement of performance in real scientific sense. Therefore it is suggested that , before doing any efforts, following two questions should be asked to top management and policy makers.

1. Do you want improved performance or only some training activity as an introduction of an additional function ?
2. Will you make changes in other performance factors to support the recommended training ?

If the answer is positive, then TNA according to Model Delft should be started.

As the detailed review has been made only for GWSSB and positive answer to above questions is expected, this operationalisation is suggested for GWSSB. This operationalisation has the base of observed present situation of GWSSB but it still hold good for other Indian Organisations as well because many situations are somewhat similar to GWSSB.

GJTI, training department of GWSSB is already running several job-specific courses. As these courses serve to increase the knowledge on public health engineering, it is not advisable to stop it, if only to maintain the already gained momentum. There are two possibilities. One is to do detailed analysis of some problems which have roots in particular jobs for which a training course is already planned. Thus existing courses can be adapted according to needs. Second is to start simultaneously the TNA in parallel to regular training activities. By doing so, gradually each course can be adapted, unnecessary courses can be deleted and new courses can be introduced. Following action-line is suggested with this consideration.

Pre-requisite:

1. Decide about the overall responsibility of TNA process. It is suggested that GJTI should house the office for it. A committee should be formed which is chaired by Director of GJTI. A group of personnel from different departments like personnel, monitoring, planning, finance, and other functions can assist the chair person.

2. Prepare a organisational chart showing system and subsystems after studying the detailed relationship & mutual interdependence between different functions of GWSSB. Present organisation structure should be used as a reference and possible fit. It is suggested that Monitoring cell should prepare it.
3. Prepare a fresh job descriptions of all jobs in all functions. It should not be only based on cadre, but also on function e.g. for execution, for planning, for o & m etc. It should list tasks and actions in unambiguous way. While listing the tasks, attention should be given to tasks really required to be done on which concerned group and management has agreed. It is observed that performers performs according to the style of previous performers or to the style of boss. Thus the present tasks may be the result of earlier observations and then subsequent practice. It is suggested that Personnel Office should do this task.

Assessment Process:

The process mentioned here is as per the stages of Model Delft.

1. Identify
 - (a) the actual performance problems of the organisation.
[Action: Board of Directors with consultation with Monitoring cell, Public relation office, Socio-economic unit & GJTI]
 - (b) the expected performance problems due to developmental changes.
[Action: GJTI with feedback from Material cell, planning cell, vigilance cell & personnel office]
2. Define the problem.
[Action:TNA committee at GJTI]
3. Determine
 - (a) Assign priority of Problems.
[Action: Board of Directors]
 - (b) Standard of performance.
[Action:TNA committee at GJTI]
4. Analyze each problem.
[Action: According to definition of Problem; Functional head, supervisor, performer, external expert if necessary & GJTI]
One can ask following questions to start the analysis at one function.
 - a. What are the problems (present and future) that you see in the internal operation of the function ? (what is wrong with the process operating within sub-system ?)
 - b. What are the problems (present and future) that other functions with which you interact may cause for you ? (what is wrong with inputs from the other sub-systems?)
5. Set the priority of actions.
 - (a) Training actions
[Action:Top management]
 - (b) Non-training actions
[Action:Top management]
6. Formulate
 - (a) objectives of training programme/course
[Action:TNA committee]
 - (b) directives of non-training actions
[Action:TNA committee in consultation with related management]
7. Prepare result of Assessment.

[Action: TNA committee]

Finally this result should be presented to top management for approval. Top management consists of Chairman, Member Secretary and concerned Chief Engineers.

Where to start ? Why to start ?

It is already identified that O & M is a major issue, at least in The Netherlands assisted and it is suggested that O & M procedure should be established. (Referring Reports of RSM). Before running a traditional course on O & M, it is important to analyze this problem. Probably, O & M may be the overall organisational problem which may have been observed at other schemes as well. It is important to see first that, how the ' O & M function ' influence the organisational performance as a whole. What are the financial implications and what are the social implications ? This will make clear that what actually the problem is and how critical it is ? Further analysis may suggests its roots in other functions. And if root only lie in O & M function, it is still question that how the processes impacts the overall performance and what is the critical process ? The another questions are also to be answered; How each step in the process impacts the total process output, and how each step might fail ? What are the real causes of the problem and who are responsible ? How the responsible operatives and supervisors affect each step in the process and How that performance by them can vary and why ? What knowledge and skill is required by the operatives and supervisors to produce the outputs necessary for the whole process to operate effectively and ultimately to solve the problem ? What other performance factors must be altered if they are to be effective ?

For very complex problem consultative approach can be made. In such cases, needs according to performer himself, needs according to supervisor, needs according to trainer from GJTI and needs according to external expert should be discussed in a group consultation and then finalised.

4.4 An Example of TNA according to Model Delft

Example mentioned below is designed to give an idea to reader about how Model can be put into practice. Therefore each stage is described only with the relevant little details and not the full.

Stage-1. Identify the problems.

One of the several complaints in Legislative Assembly : " GWSSB ignores the demands of poor villagers of village X Y & Z. In spite of pipeline water has never reached to thirsty people "

Problem :Lack of water supply at X, Y & Z.

Associated performers :O & M personnel of WS Schemes.

Stage-2 Define the problem.

Village X,Y & Z are targeted under WS Schemes S1, S2 & S3 respectively and all these villages are located at the tail end of those schemes. Water in targeted quantity is being pumped regularly. Due to leakages in the main line, it is not reaching to tail end. Sufficient manpower and tools to detect & repair the leakages are available at the O & M division of WS Scheme S1 & S2 but not at S3. It appears that personnel involved in leakage-repairing are responsible for it. It is worth to do further analysis for O & M of WS Scheme S1 & S2.

Stage-3 Determine priority of problems & standard of performance.

Priority: Village X has traditional source with excess fluoride and village Y has

high turbidity. It is important to address the village X first.

- Standard of performance:
- 1.O & M operators responsible for WS Scheme S1 should go to village X for their complaint.(Visit of 7 villages per day)
 - 2.Each operator should check all the valves and joints in the allocated length once in a fortnight.(Inspection of 10 KM. long pipeline)
 - 3.Operator should immediately repair the leakages and report to superior about work done.(Valve repair takes 1 hour if washer is to be changed when tool and washer is given and sufficient light is available to check the valve)

Stage-4 Analyze the problem.

- (a) Out of total length of 100 km pipeline, first 60 and tailed 25 are ok. The operators are performing satisfactory and no training is required for them to solve this problem. Middle 15 KM pipeline has several leakages. out of it first 10 KM is attended regularly and repaired also but frequent breakages take place. Operator knows how to repair but he also should try to know the cause of frequent breakage. Rest of the 5 KM. has only one leakage but it is not attended properly. But as everything is available he should repair it perfectly.
- (b) The reason for frequent breakage is found that villagers along the 10 KM break the pipeline with the wooden hammer in the night. During night pumping is done and therefore they are used to steal the water in the night. Operator is of shy nature and therefore afraid to convince the poor villagers to stop it. The operator responsible for improper repair of 5 KM pipeline is freshly recruited and does not have sufficient skill.
- (c) Fresh operator should know the operations of all the valves and repairing procedures. Skilled operator of 10 KM pipeline should be capable to convince villagers for not to break the pipe. He should be having sufficient light source to keep watch in the night. He should be provided motorcycle and extra allowance to work in the night. Special awareness should be created among people for conservation of water and not to break. Pumping should be done in the daytime.

Stage-5 Set the priority of actions

We have following list of actions without any priority.

- 1.Give induction training to fresh operator.
- 2.Organise mass awareness camps in those 7 villages along the 10 KM pipeline.
- 3.Give motorcycle and extra allowance to skilled operator.
- 4.Give communication training to skilled operator.
- 5.Pumping should be done in day time only.

Now according to resources available, priority of actions are as under.

- 1.Pumping should be done in day time only.
- 2.Organise mass awareness camps in those 7 villages along the 10 KM pipeline.
- 3.Give induction training to fresh operator.
- 4.Give communication training to skilled operator.
- 5.Give motorcycle and extra allowance to skilled operator.

Stage-6 Formulate

- (a) the objectives of training.

At the end of induction training, an operator should be capable to install

valve within 40 minutes if tool t1 & t2 are provided.

(b) the directives of non-training actions.

In order to do pumping in day time, sufficient electricity should be available and to assure that, Electricity Authority should be contacted by Executive Engineer of WS S1.

Stage-7 Present the results of Assessment

In order to solve the problem of non-supply of village X, following training are objectives are identified.

1. Induction training to fresh operator so that he can open the valve in 40 minutes. At present he takes 4 hour to do so.

2. Communication training to skilled operator so that he can communicate well with the villagers in order to prevent breakage of pipe & theft of water.

3. Immediate actions are required to keep watch over pipe line and for that day-time pumping should be done. EE of WSS1 should contact Electricity Authority for power supply in day-time.

4. Mass awareness campaign should be done by NGO. For that top management should discuss with NGO NN.

4.5 Conclusion

Model Delft is applicable to those organisations which have several performance problems and management of which have commitment to solve it by imparting training and non-training actions. As it consumes lot of time & skill, it can be operated in parallel to existing training practices. Operationalisation for GWSSB is suggested which can also be utilised to other Indian organisation with relevant modification.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Structure of the chapter:

- 5.1 Conclusions
- 5.2 Recommendation
 - 5.2.1 Recommendation for Training function
 - 5.2.2 Recommendations for further studies

Objectives of the chapter:

1. To give brief idea about conclusions of the study
2. To recommend for improvement, based on the above conclusions

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

The study was done by doing literature review and fieldwork. Literature review has resulted in a modified approach of TNA. Author named it "Model Delft". The model is based on system concept and according to it, needs assessment process starts with establishing linkage of Problem at organisational level to problem at individual performer level and ends with deciding Objectives of training and also Directives of non-training actions. Model Delft is thus oriented towards solution of problems.

Findings of Fieldwork has proved the hypothesis that present TNA approach of GWSSB needs improvement. The approach adopted earlier by GWSSB is job-specific and therefore training is given on how to perform a specific job, assuming that other factors are favourable to performance. Of course, this approach increases the general level of knowledge of PH Engg., but it does not contribute much in solving the performance problems. The training programme as per that approach is not tuned for solving the performance problems. Model Delft is found applicable to GWSSB. Consultation with experts and other authorities showed that it is also applicable to other water sector organisations of India.

The important conclusions of this study are as under.

1. Lack of trained personnel is one of the causes of poor performance of Water Sector Organisations. But training needs can not be considered in isolation from other factors which adversely affect the performance of organisation. These includes lack of proper communication and information system, unmotivated staff , political interference and many more. This implies that improved training can not make significant impact on performance unless and untill also the organisational issues are addressed.
2. Training departments have usually the tendency to design the courses which are job-specific. The reason behind this is the inappropriate approach of TNA. Observed approaches are oriented towards the different jobs of an organisation and considers all jobs and also all tasks in a job equally important. This results in a wasteful use of resources on the training for easy and unimportant tasks.
3. Training courses are found rather academic having more emphasis on design and construction and use of lecturing as a method to impart training. Training programme do not cover the complete range of topic needed looking to an organisational problem. Courses on General Management, finance and accounting and community involvement are not planned for different level of management. This courses do not address the organisational performance problems and also their changing internal & external Environment.
4. Organisations operate as an engineering organisation to construct something. There is a urgent need to change the orientation from product to public-oriented services, from economy to sustainability and from isolation to involvement. Training can play vital role in changing the organisational culture if it is taken seriously and if given due importance by taking supportive actions.

As the detailed case study was done only for GWSSB, some of the conclusions are made as a result of fieldwork. These are mentioned in Annexure-12.

5.2 RECOMMENDATIONS

Recommendations are grouped in 2 sections. One for training function of GWSSB and another for further study in this line.

5.2.1 Recommendation for Training function:

1. Model Delft should be tested at GWSSB. A pilot assessment on an identified problem should be done for it. Feasibility of this model (based on the experiences of pilot assessment) should be checked before putting it into full practice.
2. If Model is found feasible for full practice, it should be suggested to other water sector organisations of India.
3. A clear training policy and strategy should be developed in order to give it due importance and to make it effective. Possible points for such policy are mentioned in Annexure-13. This policy should be an integral part of proper management plan with multipronged approach. Training function should be viewed always in the context of overall organisational objectives and proper attention should be paid to it while taking strategic decisions.
4. A R & D wing should be set up immediately at GJTI to take care of research & development specifically for training and also for overall HRD & Capacity Building.
5. A database should be created at GJTI. It should consist of profile of individual trainee in terms of academic qualifications, practical experience, training taken and results of individual needs assessment if any. Use of Computer based HRD system is recommended. A software package developed by Indian organisation CPHEEO namely PERSONNEL RECORD PACKAGE should be immediately tested for its applicability to GWSSB.
6. A database should be created at monitoring cell which should consist of major project details in terms of its complexities and problems involved. A formal communication should be done on regular basis between Monitoring cell & GJTI for the transfer of derived information from this database.
7. MIS should be established in order to have constant feedback for training.
8. It is recommended here not to stop the existing courses right now. Adaptation of each course should be done gradually in order to tune them towards specific performance issues at Job-level. Meanwhile pilot TNA process should be started. For such adaptations Trainers should go to real field situations, interview the key personnel involved and should observe the operations.
9. Till the full need-based programme is designed, following three types of training is suggested.
 - continue with present Job-specific training with enhancing its curricula by orienting towards solution of problems.
 - Start new courses based on-going TNA process.
 - Arrange refresher courses for related earlier trained personnel based on TNA.
10. A formal system should be established to evaluate continuously or at regular interval the training programme and associated trainers.
11. As the TNA alone is not the only thing to do for the success of Training activities,

several supportive organisational actions are also required to be taken. Some of them are listed in Annexure-14. Overall institutional & Human Resources study of GWSSB is needed in order to make the training programme more effective and thereby to improve the strength & operational procedures of the Board.

5.2.2 Recommendations for further studies

1. TNA is the first step of whole training cycle. Similar detailed study should be done for the following next steps.
 - (a) Designing a training programme and its component courses.
 - (b) Effective & efficient implementation of training programme.
 - (c) Evaluation of training programme & training function.
2. As it is not clear to what extent it is possible for the trainees to apply the contents of the present training in their actual work, a study should be done for that.
3. Other organisational issues are playing big influential role for the success of training or any other developmental action. The root of many problems also lies in the weakness of organisations. It implies that there is a urgent need to build the capacity in order to remove the existing weakness and to cope up with increasing demands and changing Environment. A detailed study on how to build the capacity in Indian Water sector organisation is strongly recommended.
4. Earlier studies have made clear that People's participation is inevitable for the success of coming future projects. Need is also found for a study on how should water supply projects to be organised and financed looking to this participation. It is recommended here that a special component of such study should be on how can people be trained to install, use, and maintain the facilities of water supply project ?
5. Training institutes have lot of potential for other allied tasks in addition to training. A study is also required on how can training institutes help in developing the organisation further and make improvements more sustainable ? How training institutes can be engaged in additional activities like finding appropriate ways of mobilising community support ? The target of such activity should be on possible participation of people in the provision of sustainable water supply and sanitation in specifically for rural areas.

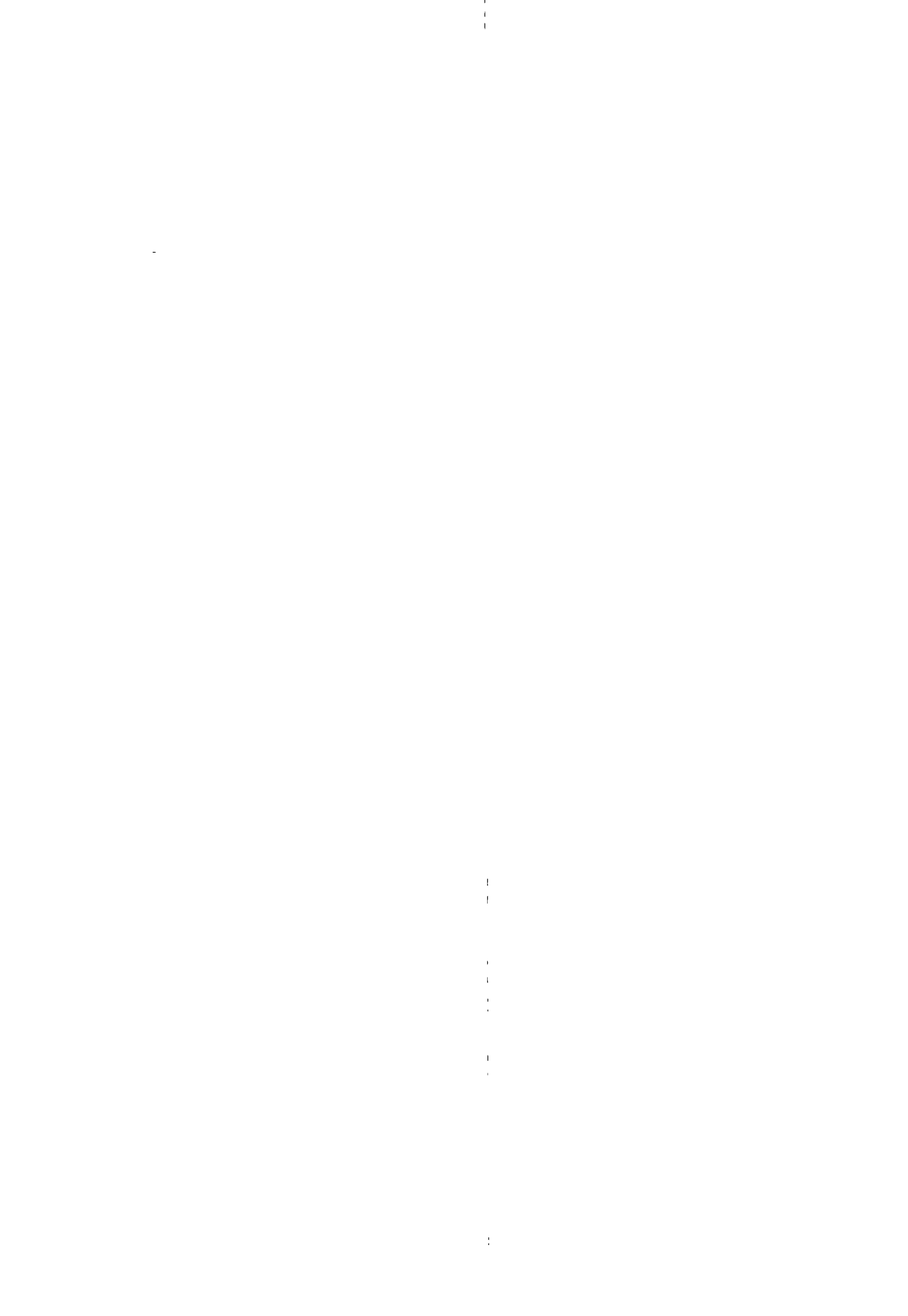
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1. Documents related to GWSSB.
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Annexure

Recommendations showing importance of HRD

- A. Greater efforts have to be made to strengthen institutions and develop human resources at all levels, to enhance the capacity for the development and management of water related programmes.

source: UN '91 , Report on strategies & Measures for the implementation of the Mar Del Plata Action Plan for the 1990s

- B. Human Resources Development (HRD) at all levels, from community members to politicians , is essential to institutional development. Training of professionals, managers, technicians and extension workers builds competence and confidence.....This will require changes in the way service agencies operate to make them more cost-effective and responsive to consumer needs and demands....Without fundamentally new approaches, the broad scale deprivation will turn into an unmanageable crisis.

Source: The New Delhi Statement , September 1990.

- C. One, out of three, basic element of capacity building is, Human Resources Development and strengthening of managerial systems.

Source: Delft Declaration , June 1991.

- D. There is need to make a formal assessment of HRD needs in RWSS in the states to help them to plan the sponsorship of their staff for training/orientation under NHRDP.

Observations at GJTI.

1. **Targets and achievement:**
Total target of 20000 trainees in 5 year was prescribed by consultant. Based on it, total target of number of trainees per year is being fixed every year since 1988. The total figure is then divided in to several number of different courses having definite strength of trainees according to availability of room space. These course wise targets are only on quantitative basis. No breakdown exist for identified trainees in different staff positions. Even these targets, could not be achieved fully except the first year's pilot programme. Although the achievement of 84.5 % (overall average during all these years), which appears very substantial, is due to relatively large coverage of the trainees (people of villages) through the courses of Mass awareness. No evaluation has been done regarding such partial quantitative achievement or the extent of qualitative achievement.
2. **Evaluation:**
At the end of each course, only in the class-room, evaluation is being done for the course implementation. No field evaluation or formal study has been done about the qualitative evaluation of training (like extent of improvement in performance, development of needed skills, increase in knowledge, and development of attitude etc).
3. **Trainees:**
Training is given to all those who have been nominated by their heads and come to GJTI mostly as a volunteer. It is found that Assistant Engineers having experience of more than 10 years have been nominated for the introductory course, which was targeted and designed for fresh recruited. Very limited trainees are being sent according to their needs. No study has been done to find out the causes of such unplanned nominations.
4. **Courses:**
Most of the courses are being designed, developed and conducted for the last 5 years as prescribed in consultant's report of 1985. They get modified after each implementation, based on only class-room evaluation. There is no arrangement appears to get constant inputs for designing any course. Thus courses has the base of Need Assessment done only in 1985 and its content includes every tasks of a specific job.
5. **Needs Assessment:**
Formal Need Assessment was done only once in 1985. No continuous needs assessment-regularly or periodically- is being done at present. No special study has been done to find out whether those earlier assessed needs still exists or not. No other system exist to find out present needs and upcoming new needs. Therefore no study is being done to find out the suitability of present training programme to needs. No study has been done to evaluate the earlier approach of TNA by asking some questions like -whether offered training programme has satisfied the earlier needs or not ?, whether needs assessment done earlier and recommended training programme hold good for today and future development and challenges or not ?

Hypothesis, its breakdown and Research Questions.

Hypothesis:

Approach of Training Needs Assessment (TNA) of GWSSB needs improvement in order to tune the training towards solving the performance problems.

Breakdown of Hypothesis:

1. There were/are some performance problems in GWSSB.
2. Training programme at GJTI appears to be less effective in solving performance problems. It has very limited linkage with the performance problems and hence it is not tuned to solve them.
3. Reason of the lack of this linkage is the inappropriate TNA approach.
4. TNA approach used by GWSSB has several limitations and therefore it should be changed now.
5. There is a modified approach, by adopting it, training can be tuned to problem-solving.

Research questions:

1. What are the performance problems at present ? What were before?
2. What is the present programme of Training ?
What are the courses ?
What is the real offer in the courses ?
3. How is the training function overall ?
What was the approach of TNA before ?
What is the approach of TNA at present ?
4. What are the limitations of TNA approach used by GWSSB?
5. What are the different approaches to do TNA ?
What are the approaches of other Indian Organisations?
6. What should be the approach of TNA to solve certain performance problem ?
Is this approach applicable to GWSSB ?
Is it acceptable ?

Matrix to fix the priority of problems.

It will be convenient to prepare following matrix, for the identified function. As discussed in main text, organisational performance is the combination of performances of different functions (subsystem) of organisation. Therefore once we locate the problem in one function, we can do the detailed analysis later on particularly for that function according to priority.

		Existing problem	Predicted problem
Problem inside the function	Deficiency : Cost to organisation: Benefits involved: Number of people : Urgency:		
Problem with interacting to other functions	Deficiency : Cost to organisation: Benefits involved: Number of people : Urgency:		

List the problems according to the priority resulting from above matrix.

Sample presentation of Results of Training Needs Assessment.

A statement of presentation can be written as under. It is to be derived from stage-6 of TNA process. Important thing to note that such statement should be as clear as possible and action oriented, because based on it all further training efforts are to be made.

Such presentation also help in evaluation of training function later on.

"A successful solution to Performance Problem PP1 involves contributing factors x, y, z and training. All these factors should be applied in a coherent , integrated way, so that the final solution will be a combination of following major actions.

- Action Xto be done by.....
- Action Yto be done by.....
- Action Zto be done by.....
- Action T Training to.....(trainees) on..... (subjects) to be given by Training Department.

The objectives of the training mentioned at T, are as under

Objective 1 At the end of this training , trainee should be capable of performing task P1 up to defined standard in the given conditions

Objective 2

These objectives are conditional upon following detailed other actions derived from major actions X,Y & z, which also should be performed successfully.

- Action 1to be done by.....
- Action 2to be done by.....
- Action 3to be done by.....

These actions are the responsibilities of department A & B and officers on positions Alpha & Beta in particular offices.

Review should be done to monitor and evaluate the progress of the all the actions and effectiveness of training.

Based on the above statement, training department should make the list of clear objectives of training programme or different training courses as under and get it approved from the concerned authority.

"Given the following conditions for viability (to be achieved by other non-training actions):

.....
.....
.....
.....

The training department will provide a flow of persons capable of performing following tasks :

.....
.....

To the following standards (of productivity, quality ,speed etc.):

Flow criteria (for identified target group):

-----persons per year/month/week etc."

Thus , this statement will work as guide-lines to implement the total solution mix.

Factors influencing the choice of TNA approach.

1. The size of organisation (population of possible trainee).
2. The type of organisation.
3. Complexity of the operations of organisation.
4. The importance towards change. Importance of Training.
5. The time available.
6. Commitment of top management.
 - to improve overall organisation performance.
 - to improve some functions or some jobs.
 - to provide training as an additional function.
 - to provide training with clear policy, strategy and multi-year plan
7. The resources available.
 - The manpower to do the analysis.
 - quantity of manpower
 - expertise within organisation
 - The supportive system and environment
 - The budget for the assessment
 - The budget for the overall training function.

Questionnaire for fieldwork

Questionnaire is developed from following main areas.

- (a) Actual performance of GWSSB , in terms of set objectives and extent of achievement. Objectives to be referred are decade targets , 5 year plan and yearly plan. Causes of non-achievement.
- (b) Problems of organisational performance , Approach to know the causes and solutions of these problems , Approach to identify the training programme as a solution and identify the linkage between organisational performance and individual performance.
- (c) Approach to identify the trainees , Approach to assess the training needs (at different levels) of them and frequency of such assessment, Approach to develop training package as a offer to acknowledged needs related to problem and approach to design course as a offer to satisfy these needs .
- (d) Approach to evaluate the suitability of available training package as the reflection of needs, individual as well as organisational.
- (e) Approach to identify changing needs and future needs due to upcoming changes as well as new development in the Organisation as well as in the Environment.
- (f) Overall approach of different levels of Management towards training , from Needs assessment to final evaluation. Approach towards Model Delft .
- (g) Above mentioned and all related information about TNA, which may arise during fieldwork itself.

Based on following groups of questions were formed.

- [A] Questions related to performance of organisation (which can lead to information about hidden needs to improve performance)
- [B] Questions related to approach (used in past and being used today) to assess the training needs.
- [C] Questions related to development of training programme.
- [D] Questions related to changes and new development in organisation.
- [E] Questions related to applicability of Model Delft.

Operational Questions based on these groups.

What is presently the approach of GWSSB to assess training needs?

Have recently any changes been adopted in this approach?

What are the objectives of the GWSSB?

What is the performance of GWSSB in terms of set objectives?

What is the extent of linkage between GWSSB objectives and Decade targets and National Drinking Water Mission?

What are the causes for non-achievement of (some) of the (main) objectives?

What are the identified (Main) problems of organizational performance? What is the approach of GWSSB for problem identification and problem solving?

Is there any process exist to identify the relation between organizational performance and individual performance?

Whether training programme are identified as a solution to performance problems?

What is the approach of GWSSB to identify trainees? What is the approach to assess the training needs of identified trainees or those who are required to be trained?

What is the frequency of such assessment?

What is the approach for development of a training programme considering assessed needs?

What is the GWSSB's approach for development and evaluation of training programme from the point of view of the organizational and the individual needs?

Detailed Questions

It is very difficult to list all the micro questions which were asked during fieldwork. Therefore only major questions are listed under.

Group-1

QUESTIONS	METHOD TO GET ANSWER	SOURCE
What were/are the stated objective of the GWSSB ? What is the extent of achievement ? How was it measured ? How often ?	D I I D & I	Constitution Top Mgmt
What were/are the targets? Decade Targets 5-Year Targets Is it related to national 5 year plan? Annual Targets Was there any break-up of decade-target into year-targets ? What were the targets set by National Drinking Water Mission ?	D D D I D I D	Master-plans Top Mgmt.
What is the extent of achievement in each target-quantitatively and qualitatively ? How was it measured ? How often ?	D I I D& I	Master-plan Top Management
Are you satisfied with the extent of achievement ? If yes, why ? If no , then what are the reasons ,in your views for less achievement of targets ?	I I I	Top Management Director of GJTI

Group-2

QUESTIONS	METHOD TO GET ANSWER	SOURCE
<p>What are the problem-areas in what function ? What are the main problems ? Of all the problems you have mentioned just now, which ones are the most important and at which level? Please rate them in priority.</p>	I & D	Status Notes, Report of Review-Missions of ESAs
<p>Problems such as mentioned by you, are these being analyzed at GWSSB? How often ? What was/is the method for analysis? Who did the analysis? What was the outcome of the analysis? Who design the solution</p>	I	Top Mgmt & Director of GJTI
<p>In your opinion, what can be the solution ? Do you think that training is a solution to performance problems as mentioned by you ? If yes , how ? If no, why ? and for what performance problems , training is a solution ?</p>	I	Top Mgmt Middle & lower level Mgmt. Director of GJTI
<p>Do you think the present training is geared to solve such problems ? If yes, what problems were solved by training ? How ? What other factors are important in addition to training? If no, why ? Do you mean that present training is not adequate/sufficient ? If yes, then which training do you think is not adequate/sufficient ? All training or part of it ? When only part, which part of the training ? Why ? What additional training you will recommend ? On what base ? If no, then do you see any need to look at training function ? Do you mean that, training function is perfectly well ?</p>	I	Director of GJTI All Interviewee,
<p>In your opinion what changes can be achieved by training in operation of GWSSB ? Was that the idea behind today's training activity ?</p>	I	Director of GJTI & Top, Middle Mgmt.
<p>What was the initial objective behind the establishment of the GJTI? Is it the same objective today also ? Who made the proposal? Who approved it? What were the conditions of the Worldbank to sponsor the establishment of the GJTI ? Were there any other influences (parties or arguments) to establish the GJTI? What are the activities of GJTI today ? Were these all activities planned for ? What is the programme of training -this year ? Can you show me the linkage between this programme and performance problems ? Whether trainees are selected on the basis of their performance problem ?</p>	D & I	Director of GJTI All Interviewee,

<p>What others say about GWSSB/GJTI ? How is the appreciation of GWSSB ? -By People , by press , by GOG /GOI ? Who says GWSSB has performance problems ? why they say like that ? What they say to improve the performance ?</p>	I	<p>Top & Middle Mgmt. ESAs Related organisations</p>
<p>What is the service level ? How many GWSSB Engineers are serving to what total population ? How many total engineers are in the state for water supply? What population is served by an GWSSB engineer ? How many people are served by an engineer overall in the state ?</p>	D	<p>Status Notes. Progress Reports. Master plans.</p>
<p>What monitoring cell and vigilance cell do ? Do they forward any special remark to GJTI ? Is there any audit on operations & efficiency ? What personnel office do ? Do they have any record about training taken by individual or training need of individual? Do they suggest GJTI anything about needs ? What monitoring/vigilance cell do if they find delay in certain programme ? Is 'delay' considered as serious performance problem?</p>	D & I	<p>S.E. Monitoring cell and S.E. Vigilance cell</p>
<p>What is your opinion about overmanning and undermanning in GWSSB ? Is the situation is same in each function ? What is the personnel policy ?</p>	I	<p>Personnel Office Top & Middle Mgmt.</p>
<p>How old are the Rules and regulations for appointment and promotion ? Do you see any need to modify them ? What big modification you would suggest ?</p>	D & I	<p>Personnel Office Top & Middle Mgmt</p>
<p>GWSSB decided to have a study on " Training Needs and formulations of manpower development programme for watersupply and sanitation sector in Gujarat State Based on some performance problems ? or on what ?</p>	D & I	<p>ORG Top Mgmt. Ex-officials involved with Report</p>
<p>What are the options given by consultant about manpower development ? or they simply recommended training ?</p>	I & D	<p>ORG Top Mgmt. Ex-officials involved with Report</p>

Group-3

QUESTIONS	METHOD TO GET ANSWER	DETAILS
<p>What was according to you the objective of establishing GJTI ?</p>	I	<p>MS,GWSSB Director, GJTI</p>
<p>What are according to you the present objectives of GJTI?</p>		

In the training brochure it is mentioned that one objective was to clear existing backlogs. Could you explain to me what is meant with existing backlogs?	I & D	Training Brochure, Document of objectives, Resolutions of Board MS, GWSSB, Director, GJTI
Do you set annual targets for training of GWSSB Personnel? How many?	I & D	Annual plans, Director, Joint Director, Course co-ordinators, GJTI
Is there a breakdown in target for different staff positions?		
How do you set this target/targets?		
What was the achievement of the objective ? for the period 1988 till now.	D	Status Notes Register of Registration
What were the qualitative targets for the period 1988 till now?	I & D	Director, GJTI MS, GWSSB
What was the achievement in the targets specified earlier ? (for total and breakdown) for the period 1988 till now?	I	MS, GWSSB Director, GJTI
How has qualitative achievement been measured? How often? Have there been any changes in measuring qualitative achievement?	I	MS, GWSSB CE, Moni. cell CE, Vigil. cell
What are the advantages and what are the disadvantages of the measuring methods used?	I	-do-
How did you evaluate experiences of first year's pilot programme? How have these experiences been put into practice?	I	MS, GWSSB Director, GJTI Course coordinator
What is your opinion about the extent of the achievement of the targets (qualitative and quantitative)	I	MS, Director
What do you think are the main reasons for partial achievement? Would you be so kind to prioritise them ?	I	MS, Director Course coordinator, CE, Moni. cell Trainers EE, O&M DE, O&M
Are you familiar with the report "Training needs and formulations of manpower development programme for water supply and sanitation sector in Gujarat state" by ORG? What has been the approach of ORG to do the training needs assessment?	I & D	MS, Director Course coordinators Trainers EE, O&M DE, O&M ORG Resolutions of Board
How much (in %) staff of GWSSB was surveyed for TNA by ORG?	D	ORG Report

Did ORG develop a policy statement like KWA, Kerala? If yes , does it say anything about training needs ?	I & D	KWA Report Resolutions of Board ORG Report MS,Director Co-ordinator between ORG and GWSSB
How was/is being generally the whole training programme and each different course designed ? What types of documentary and other support was/is being used in design of whole programme and each course ?	I & D	Co-ordinator between ORG and GWSSB, ORG Report
Have you been using ORG's report ? Do you still use it? For what purposes?	I	Director, course coordinator Trainers
Did you observed any drawbacks in consultant's report ? Would you mention some related to training needs ? How it could have been eliminated in your opinion ?	I	MS,Director course coordinator Trainers ORG
Did GJTI adopt ORG'S report in the beginning as it was prepared by ORG ? If not , did GJTI modify it ? Why ? Up to what extent ?	I	Director, Course coordinator Trainers
Report was prepared in Feb'85 and GJTI started its operations in Aug'88 why so late ? (3.5 years gap between Feb'85 and Aug'88)	D	Status note
It is important for me to know what is the present approach to do TNA.I have some questions on that. a How do you assess the needs of different staff positions and personnel on that position ? b How often ? c What are the advantages and disadvantages in that approach? d Are you satisfied with present approach ? If not why? e. Do trainers assess the needs of trainees in advance ? Is the trainers training given at Madras sufficient, so that they can do needs assessment ? What approaches they know about needs assessment ? f. Is there any training given to newly promoted? What type of training ? g What amount of temporary staff work at GJTI/ GWSSB ? Is there any provision for their training ? h What is the policy and procedure of GWSSB / GJTI to send the trainees in other centres for some training ? strategy/ policy of developing of training programme ? Developing some and not those which are catered by others ? If GWSSB/ GJTI know that this person or group of persons need that training , then what will they do ? Will it send to other centres or design a special course ? Is there any system like this to know ? Did GJTI referred experiences of other institutions of India or abroad to take decisions ? Do GJTI assess the individual needs before nominating them ?Do GJTI keep itself up to date about other courses and centres of similar training in India ?Can you compare GJTI with other institutes like Metrowater or VJTI ?	I & D	MS,Director, Course coordinator Trainers Curricula of Trainer's Training Library Register of GJTI Board Resolutions Personnel Statistics EE, O & M DE, O & M AE(Trainees)

<p>What @ courses like MIS/EDP/MDP at other institutes like IIM ? Do you see any need ? If yes , do you send those who really need that course ?</p>	I	MS,Director
<p>I may be 100 % wrong and I would be happy if I am wrong , but I personally feel that GJTI Training has done no more than increase in the general levels of knowledge on P.H.Engg. within GWSSB and awareness in some villages .It has satisfied only little amount of real training needs of GWSSB and almost negligible needs of other organisations . What is your opinion ? If you are agreeable , then what may be the reasons for that ? If you are not agreeable , please clarify , why ?</p> <p>Would you be agree that some problems are not solved even after training. What is your opinion about present training in context of solution of performance problems ?</p>	I	MS,Director CEs SEs EEs Des AEs Course coordinator Trainers ORG Coordinator between GWSSB & ORG
<p>It is common experience of GWSSB that some schemes are going well and some have problems. Do GJTI have practice to arrange training for that particular scheme for those who are involved with that scheme ?</p>	I	Director, Course coordinator Trainers
<p>What is your idea about training ? what is the perception about TNA ? Do you consider that it is the most critical stage and hence most important step for effective training ?</p>	I	Chairman, MS Ces,Ees,Des Director, Course coordinator Trainers
<p>NWW, UK , consultant of TNA for KWA have suggested that there should be 6 months intensive training course for new recruited AE. What do you say about it ? What do you suggest ?</p> <p>What is your opinion about present 11 day course ? Is it enough ? why ? What is the approach to assess the needs of a fresh recruited ?</p>	I & D	Course coordinator Training Material for AEs
<p>Do you feel or see the need of TNA now ?</p> <p>What is your opinion about TNA done before 5 years by ORG ?</p> <p>What is your experience about training function in these 5 years ?</p>	I & D	Director
<p>What are the hurdles in doing needs assessment in more effective and efficient way ?</p> <ul style="list-style-type: none"> -remuneration to trainers ? -lack of staff / staff oriented towards training ? -Is GJTI equipped properly to do needs assessment ? -Is there any personal record of personnel of GWSSB at GJTI ? -Is there any record available about needs except ORG's report ? 	I & D	MS Director Board Resolutions Job Descriptions of GJTI personnel
<p>What are the staff positions at GJTI ? is there any specific post which can look after such dynamic TNA process</p>	D	Personnel statistics

<p>Do you agree that ,present approach of TNA needs improvement ?</p> <p>If yes ,then would you tell me something about possible interfering factors to do TNA now ?</p> <p>(Some out of following factors can be mentioned to help respondent if required)</p> <ul style="list-style-type: none"> - Not enough time :Mgmt. may be interested to have course within very short time - Not enough resources:To do the desired level of analysis. - Management does not share the notion that training should improve performance.They may be wanting training activity and not the training results. - Mgmt. is not sure -it do not wants some special staff folks poking around very deep in each operations. They would prefer a superficial look at alleged training needs. 	I	GJTI All related to training
<p>let us talk about influence of global discussions in this area on the operation of GJTI. You may be aware of Delft Declaration , which is the most and the latest Global resolution You may be having that along with the annexure in your library. I found following recommendation which are mentioned in the annexure , as quite relevant to Operations of GJTI. (Mention only if need arise)</p> <p><i>No.30.If possible and suitable , training should be given simultaneously at all levels. A pronounced need exists for novel training methods in integrated water resources management and planning, as well as to further promote training on community participation approaches for water supply & sanitation and irrigation institutions These concepts should be included as well in the training and education curricula for related professions in the water sector specifically at the level of university and polytechnic education.</i></p> <p><i>No.31.Management skills training should be extended to the levels of local institutions and communities.</i></p> <p><i>No.32.Training activities should be better geared toward function and objectives of the institutions in the sector.</i></p> <p><i>No.33.Universities and training and education institutes as well as the ITN (International Training Network for water and waste Management) should be mobilised wherever possible , and used as instruments to implement CB in water resources planning and management.</i></p> <p>Looking to these recommendations , which reflects training needs, I have some questions.</p> <ul style="list-style-type: none"> - What levels of personnel of GWSSB are targeted for imparting training ? Do each level amongst those participate according to target ? Why all levels are not targeted ? - Is the concept of Integrated Water Resource Management (IWRM) is familiar to all ? Do GWSSB concern about it ? Do it coordinate with other water sector organisation ? - Up to what extent Community Participation (CP) approach is being used in mass awareness training ? - Do the curricula of training courses include IWRM & CP as important themes. - What is the present state in other areas as recommended ? 	I & D	Director GJTI ORG Top Mgmt

Do GJTI/GWSSB keep itself up to date by referring the latest development in the areas of Training and Development ? Do you know about the similar studies on TNA done by others in Gujarat ,India or abroad , which may be useful to me ?	I	ORG Director GJTI
Now I would like to ask some questions on development & Evaluation of Training Programme How do you design the year package ?	I	GJTI Decision makers
How do you design the individual course ?	I	GJTI Decision makers
How do you design the each session of course ?	I	GJTI Decision makers
Is this way of design is from very beginning or any change ?	I	GJTI Decision makers
What is the amount of case studies and workshops in courses related to O & M ?	D & I	GJTI Decision makers
Once the session is finalised , what trainer do ? Do they go to field to reveal the related problems ? Is there any provision in day to day procedures ?	I	GJTI Decision makers Trainers
Is the present programme cover the whole working group of one office or to all who has similar needs ? Is any of the course is designed to solve a particular problem ? Which ? Did it really solve after the training ? why ?	I	Do
If you come to know that there is a problem , which can be solved by training , then do you prepare the tailormade course to solve it ? How often ? Please give some examples and explain me .	I	Do
Do GJTI has any reference books on training design aspects which are equally important as other operational aspects.	D	Library
Very recently Mr.Sopar came from The Netherlands to help in solving the problems of leakages. What GJTI has done in the past to solve such problem ? Did GJTI take his services to design a course , which can be helpful in future ?	D & I	Do
Do you get proper support of GWSSB in designing a course ? What support you expect and get ?	I	Director
What is your experience about participants reflection in the course ? Is it true that courses are being enjoyed but it did not make any effective contributions in improvement of their performance ?	I	Trainer

Group-4

What about development of new sources of water , as the sources are reducing or being polluted ?	I	All levels of Mgmt
What about R & D ? What are the priorities ? Is there areas like water transport and sustainability of scheme have priority ?	I	Top Mgmt,
What type of special training will be required to implement totally novel programme like khambhat pipeline , Narmada based WS Scheme ?	I	Top Mgmt CE-Narmada cell

What type of management training should be given to senior people to cope with the changes like new technology, New thinking on water resources management ?	I	All levels
These days there is global discussion on how to involve people , how to develop client relationship , and community management. Do you see any problem to put this in to practice ? Day by day public is becoming more and more aware about their needs and capacity to fulfil the needs New problem will arise in dealing with the people , NGOs and political leaders. Is there any provision for such issues ? What type of training you would suggest ? How you are going to assess the needs for such training	I	Top Mgmt Director GJTI Incharge of awareness programme
What about appropriate , low cost technology / energy and cost savings ?	I	Incharge of Worldbank aided low cost schemes
What type of software available to meet with the challenges ? is there any software to keep records of trainees or individual training needs ?	I	Computer group
Would you continue the same approach of TNA or are you developing something new ?	I	Decision makers at GJTI

Group-5

- 1 I have this model to assess the needs Would you give some comments on its applicability ?
- 2 My model looks at micro level also like job descriptions.
What is the status of Job descriptions ? -duties and responsibilities ?Is it clear for each staff position ?
- 3 Do you see GWSSB as a SYSTEM according to standard system concept?
- 4 According to your view what is the most critical function of GWSSB?
5. Please give your comments on this TNA model
- 4 How is the concept of model ?
- 5 Merits and Demerits ?
- 6 Do you feel that it is applicable to water sector in general , or to GWSSB in particular ?
- 7 Please suggest improvement , changes if any
- 10 Would you like to adopt this approach ?

List of Authorities and Resources Persons.

Section A

List of the persons interviewed formally to know the TNA Approach of GWSSB as well as to check applicability of Model Delft for GWSSB.

*	Secretary [water supply] Gujarat State.	:Mr.Ashok Bhatiya
*	Chairman, GWSSB.	:Mr.C.R.Samajpati
*	Ex-Chairman, GWSSB	:Mr.Harisingh Chavda
*	Ex-Member secretary, GWSSB Ex-Director GJTI Ex-Chief Engineer	:Mr.Y.N.Nanzundiah
*	Ex-Director GJTI, Ex-Chief Engineer	:Mr.K.G.Dave
*	Joint Director, GJTI	:Mr.J.M.Barot
*	Chief Engineer,	:Mr.D.C.Shah
*	Chief Engineer	:Mr.Vadher
*	Training Officer,GJTI	:Mr.S.N.Bhatnagar
*	Ex-Chief Engineer, Civil	:Mr.C.H.Bhatt
*	Superintending Engineer Monitoring & Planning	:Mr.N.V.Pathak
*	Superintending Engineer Design Circle	:Mr.C.M.Christi
*	Executive Engineer, The Netherlands Assisted Project, Lathi-liliya scheme	:Mr.D.K.Mehta
*	Executive Engineer, The Netherlands Assisted Project, Santalpur scheme	:Mr.C.C.Shah
*	Legal officer Administration	:Mr.S.S.Pujar
*	Dy.Engineer, Monitoring Cell	:Mr.Darji

- * Secretary &
Dy.Executive Enginner,
Office of MS,GWSSB :Mr.Savadhariya
- * Programmer & Asst.Engineer
Computer cell :Mr.Atul Raval
- * Addl.Assistant Engineer,
Office of MS :Mr.Rabara
- * Superintending Engineer
vigilance cell :Mr.D.N.Mehta
- * Dy.Executive Enginner,
vigilance cell :Mr.J.K.Patel
- * Dy.Executive Enginner,
Worldbank zone office :Mr.Pradhan
- * Dy.Executive Enginner,
Worldbank zone office :Mr.Burve
- * Dy.Executive Enginner,
Worldbank zone office :Mr.Kanani
- * Dy.Executive Enginner,
Worldbank zone office :Mr.D.R.Patel
- * Dy.Executive Enginner,
Worldbank zone office :Mr.A.H.Bidiwala
- * Dy.Manager,
Worldbank zone office :Mr.A.D.Patel
- * Executive Enginner,
vigilance cell :Mr.K.K.Jadeja
- * Executive engineer,
Design Circle. :Mr.Pandya
- * Dy.Executive engineer,
Design Circle. :Mr.B.K.Patel
- * Dy.Executive engineer,
Design Circle. :Mr.J.P.Shah
- * Dy.Executive engineer,
Design Circle. :Mr.S.B.Shah
- * Executive Enginner,

- Jamnagar Dn.
Ex-Secretary To MS :Mr.B.J.Vasavada
- * Dy. Manager,
Personnel :Mr.S.P.Patel
- * Asst. Trg. Officer,GJTI :Mr.R.M.Kabariya
- * Asst. Trg. Officer,GJTI :Mr.V.S.Kathrani
- * Asst. Trg. Officer,GJTI :Mr.A.S.Pandit
- * Asst. Trg. Officer,GJTI :Mr.C.Valand

Section-B

List of the persons interviewed formally to check applicability of Delft Model for other water sector organisations of India.

In India.

- * Dy. Advisor,
Ministry of Rural Development,
Government of India :Mr.A.K.Sengupta
- * Consulting Engineer,
Multi Media Consultants Pvt. Ltd.
Director General,
National Sanitation
Improvement Foundation :Mr.Y.N.Nanzundiah
- * Chief Engineer,
State of Mizoram :Mr.Dungala
- * Member of parliament,
Member of parliamentary
consultative committee,
Ministry of HRD :Mr.Harisinh Chavda
- * Environmental Engineer,
Regional Water & Sanitation
Group-SouthAsia,
UNDP/World Bank W & S Program : Ir.L.Panneer Selvam.
- * Director & Principal,
Environmental Sanitation Institute,
Ahmedabad.
Advisor (Sanitation),
Ministry of Rural Development,

Govt. of India.New Delhi.
Winner of Awards, like
Bazaz,Phillips,Goenka

:Padmashri Iswarbhai Patel

In The Netherlands.

- * Senior Programme Officer,
IRC
(International Water &
Sanitation Centre),
The Hague. :Mr.Han Heijnen
- * Senior Programme Officer
IRC,
The Hague. :Mr. Visccher J.T.
- * Research Officer
IRC,
The Hague. :Mrs. Christine van Wijk
- * Associate Professor,
IHE, Delft
Mission Leader for
Dutch Aided Projects,
Kerala ,India. :lr.Maarten W. Blokland
- * Consulting Enginner,
Haskoning
Mission Leader of RSM for
Dutch Aided Projects,
Gujarat ,India. :Drs. J.H. De Goede
- * Water Co-ordinator,
ETC Foundation
Mission Leader of RSM for
Dutch Aided Projects,
Andhrapradesh ,India. :lr. Sjef Gussenhoven
- * Educational Consultant,
University of Utrecht,
Ex-Head Educational Affairs,
IHE-Delft :Drs. F.T.M. Buskermolen
- * Anthropologist,
Ex-IHE Faculty,
Delft : Ms.Tineke Murre
- * Public Information Officer
IRC,
The Hague. :Mr. Dick de Jong

Section-C

List of the leading participants (All from water sector organisations) in policy Maker's Meeting on HRD Programme held in GJTI, Gandhinagar on 10-11, February, 1993 sponsored by MRD, Government of India.

[Model Delft was presented to check its applicability to Indian Water Sector Organisations at this National level Meeting of high level authorities of water sector organisations of India.]

1. Jt. Secretary,
Ministry of Rural Development,
New Delhi. :Mr.P.K.Sivanandan
2. Dy. Secretary,
Ministry of Rural Development,
New Delhi. :Mr.V.Anand
3. Dy. Advisor,
Ministry of Rural Development,
New Delhi. :Mr.A.K.Sengupta
1. Engineer in Chief,
Andrapradesh :Mr. Kondal Rao
2. Managing Director,
T.Water A.D.
Tamilnadu :Mr.V.K.Subbaraj
3. Special Secretary,
H.& U.Development Authority,
Uttar Pradesh. :Mr. Noor Mohammad
4. Addl.Chief Secretary,
Health & Family Welfare Deptt.,
Gujarat. :Mr.Ashok Bhatia.
5. Member Secretary,
GWSSB, Gujarat. :Mr.A.J.Shah
6. Dy. Secretary,
Water Supply,
Gujarat. :Mr.J.V.Mankad.
7. National Consultant,
WHO Representative,New Delhi. :Mr.M.M.Datta
8. Consultant,
Ministry of Rural Development,
New Delhi. :Prof. Ramchandran
9. Project Officer,
UNICEF,New Delhi. :Ms.A.Dixit
10. Engineer in Chief,

- | | | |
|-----|--|---------------------|
| | Madhya Pradesh | :Mr. I.S.Baweja |
| 11. | Chief Engineer,
Haryana. | :Mr.Gurdeep Singh. |
| 12. | Chief Engineer,
GWSSB,Gujarat. | :Mr.P.M.Modha |
| 13. | Addl.Chief Engineer
Rajasthan | :Mr.O.P.Goyal |
| 14. | Managing Director,
K.Water Authority,
kerala. | :Mr. M.P.Mohan |
| 15. | Director,
Gandhigram Rural Institute,
Gandhigram. | :Dr.S.Ponnuraj |
| 16. | Director,
Environmental Sanitation Inst.
Gujarat. | :Mr.I.Patel |
| 17. | Director,
Cental Ground Water Board,
Ahmedabad,Gujarat. | :Mr.G.R.M.Rao |
| 18. | Director,
GJTI,GWSSB,Gujarat. | :Mr.Davda |
| 19. | Jt.Director,
GJTI,GWSSB,Gujarat. | :Mr.J.M.Barot |
| 20. | Jt.Director,
GJTI,GWSSB,Gujarat. | :Mr.J.R.Virani |
| 21. | Dean, Research & Development,
IERT,Allahabad. | :Mr.H.C.Srivastava. |
| 22. | Consultant,
Environmental Sanitation Inst.
Gujarat. | :Dr.P.P.Oza |
| 23. | Superintending Engineer
Madhya Pradesh. | : Mr.P.S.Arora |
| 24. | Superintending Engineer,
Haryana. | :Mr.P.D.Gupta |
| 25. | Superintending Engineer,
N. Research & Training Centre,
Maharashtra, | : Mr.N.R.Pauniker |
| 26. | Superintending Engineer, | |

- Panjab :Mr.J.R.Kanwel
27. Superintending Engineer,
Karnataka :Mr.B.Somnath
28. Professor & Head,
Civil Engg. Deptt.,
MNRE Collage, Allahabad. :Dr. I.C.Agarwal
29. Officer on Spl.Duty,
(WorldBank projects),
GWSSB. Gujarat :Mr.H.D.Nagrecha
30. Financial Controller,
GWSSB,Gujarat :Mr.K.M.Shah
31. Asst.Training Officer,
GJTI.
At present doing Research
Studies on Training Needs
Assessment in M.Sc.Programme
at IHE,Delft,The Netherlands. :Mr.S.M.Patel.

**Indicators of performance problems
(Indicators of Training Needs)**

- *A1 The GJTI , being at present formally established , started to offer courses in the fields related to water supply and sanitation such as the Health care courses developed by CHETNA. Jalseva should further strengthen its capacity to offer training on the integrated approach including community organisation and management , operation and maintenance and women's participation.
- *A2 However , in general the works in the Santalpur scheme are progressing rather slow , mainly due to long administrative procedures , rejection of tenders and low interest of contractors. GWSSB is urgently requested to pay more attention to the expedition of works in this scheme.
- *A3 A renewed efforts from GWSSB is necessary in order to bring down the water losses.
- *A4 The following activities are proposed in order to reduce leakage and spillage , and to study the consumption for better management of the distribution of the water.(out of 6 ,only one is mentioned here which is related to study)--Training of staff in leakage repair methods and procedures on the job.
- *A5 New schemes for Dutch assistance: Since these reports did not follow completely the criteria applied for ongoing Dutch assisted schemes as well as the draft framework for collaboration issued by RNA,..... The project formulation Documents , had to be directed towards an integrated approach , including subjects as sanitation , improvements of environmental conditions, health education , community development and institutional development.
- *A6 A number of leakages and leaking valves were observed along the mains. Leakage are not only spillage of water demonstrating a insufficient management but create also unhygienic conditions and allow the population to use the water for other purposes , GWSSB is to repair the leakages and leaking valves immediately.
- *A7 The rsm expresses great concern about the lengthy administrative procedures with regard to different essential tenders e.g.....The rsm recommends that the top management of gwssb looks into this matter & formulates measures for improvements e.g. a direct administrative link with the " worldbank or bilateral cell"
- *B1 The prevailing maintenance of the distribution system does not meet the standards necessary to ensure adequate watersupply to the villages , and to maintain the design pressure. During the field visit, several major leaks were detected which existed already for a long period. Furthermore , sluice valves and air valves are often leaking.
- *B2 This leads to the conclusion that a considerable amount of water is lost due to leakage.
- *B3 The reason for the present poor state of maintenance are not of a technical nature but the absence of clear job descriptions and responsibilities. Furthermore , the recording & reporting system for maintenance activities is not well established ,

irregular and unformatted.

- *C1 Principal reasons for delay (most of these are equally applicable to water supply schemes)
 - high water problem
 - delay in tendering
 - contractor left
 - delay for oxidation pond or other component
 - ground strata problem
 - REJECTION , REINVITING OF TENDER
 - lack of material
 - forest department's permission
 - lack of finance
 - delayed tender

Thus, these examples suggest that, in the past, some of the "existing" training needs were not addressed properly. Also some other constraints may not have been eliminated.

Now let us see some of the "existing & future" challenges which indicate the needs of the present and future.

- *A8 The mission notes that it is important that it has to be made clear that health education is part of the overall water supply scheme together with the income generating activities.
- *A9 From the outset it has been clear that health education is a prerequisite for meeting the overall objectives of the RWS/S.
- *A10 With the responsibility for an increasing number of schemes GWSSB's O & M Tasks will increase as well. The tasks of GWSSB can be reduced considerably by sharing the O & M tasks at village level with the pani -panchayats.

The Jalseva Training Institute of GWSSB will play a key role for training requirements, keeping in view their exposure to integrated projects. This will be realised in close co-operation with the relevant field-based NGOs.
- *A11 The EE responsible for the semi-harij scheme has submitted a staffing pattern for O & M of the schemeGJTI has to take up training of the staff whenever required.
- *A12 Works should as much as possible be directed to water conservation including watershed management and the maintenance of the created assets.
- *A13 It is further recommended that after operationalisation of the SEU, priority attention is given to (a) establishment and functioning of pani Panchayats in all schemes ..(d) consultation with the Jalseva Institute on curriculum development covering socio-economic and health aspects of water supply and sanitation .
- *A14 The scarcity relief works should be as much as possible related to water harvesting and watershed management including the O & M OF THE CREATED ASSETS.

- *D1 Recurrence of drinking water problem. Despite covering villages with watersupply schemes under rural watersupply programme , it is observed that if rains fail , the villages need to be attended once again under crash programmes.This is mainly due to the fact the sources of watersupply are highly susceptible to the rainfall and therefore failure of monsoon immediately creates problems.
- *D2 Quality problems in drinking watersupply in areas like salinity ingress , problems of excessive fluoride , chloride and nitrate are now appearing in many rural areas as more & more exploitation of underground resources is done.
- *E1 The state has to face the following issues in the implementation of the watersupply programme
 - increase rate of population is 2.5 % .The steps taken are found inadequate in the context of increasing population.
 - Highest urbanisation rate. State government need to take co-operation of the local bodies to supply D.W. to urban areas.
 - Overall increase of 'no source' village due to several reasons.
- *F1 A trained GWSSB member (AE/AAE) of the committee should assist the community in developing management and other skills. This AAE or AE should be trained for the following social aspects of the community managed ws system through GJTI of GWSSB.(List of task is given with this remark is on pg.67 of this thesis)
- *G1 This brochure has listed following .(I have mentioned one in each for information)
 - Aims : Meet the urgent need for trained personnel
 - Objectives : Achieve the target implicit in the water supply and sanitation decade programme
Improve the performance of ws & sani. sectors
 - Philosophy : Enhance knowledge & sharpens skills
 - Policy : Setting clear goals.

This list appears very nice , but looking to the individual course objectives , nowhere it is mentioned about expected performance at the end of the course. Now, what about the targets of IDWSS Decade-which are yet to be achieved ? So still it is the challenge to achieve the targets of decade and also new targets set for 1990s.

- *H1 The paper concludes that at present , O & M is not optimal and that system performance of the first completed schemes is substandard, both in service and population coverage.
- *H2 Problems with O & M and O & M are likely to increase in future when more and more water supplies are completed. Longer-term reliability of a number of schemes is further threatened by a declining water table, due to insufficient water resources management and control
- *H3 Main areas for development are organisational adaptations for O & M, improvement of scheme operation and a greater role for communities in local O & M and financing, including the evaluation of cost effectiveness of the various forms of community participation for maintenance and use of completed water supplies.
- *H4 The various reports list several organisational constraints to the optimal execution of O & M of completed water supplies,including:

- little appreciation for O & M in the organisational culture
 - over-representation of staff for design and construction and a shortage of staff for O & M.
 - staffing according to set standards rather than to actual O & M requirements in the field.
 - field staff combining O & M and construction work without definition of O & M tasks and = d schedules
 - no registration of time, manpower and costs actually spent on O & M.
 - absence of scheme-specific o & M procedures, standards and manuals.
 - preference to curative over preventive maintenance.
 - if field records are kept, no condensation, analysis and use of data at higher levels
 - lack of recording of O & M activities and monitoring of the frequency, scope and duration of breakdowns
- *11 Proper Operation & Maintenance procedure will have to be established in order to reduce losses through leakage and spillage
- *12 There is serious concern about the sustainability of the source. Careful monitoring is required to see how the condition of the well-field in terms of water levels and water quality, will develop.
- *13 Despite the leakage repair campaign the mission noticed another 61 visible leakages in the rising main. Some leakages are that important that in number of places the population has started irrigation with the spill-water
- *14 The RSM concludes that uncontrolled ground water development for irrigation seriously threatens the basic need of supplying the population in Gujarat with safe drinking water.
- *15 In order to prevent that the situation gets worse the leakages have to be repaired as soon as possible.
- *J1 Proper Operation & Maintenance procedure will have to be established in order to reduce losses through leakage and spillage
- *J2 there is a need for supporting activities of income generation, community development and health education.
- *J3 In view of the gradual expansion of the indo-dutch water supply programme in Gujarat ,the RSM states that an overall institutional and human resources study of GWSSB is needed in order to further improve the strength and operational procedures of the Board. In this respect the RSM fully supports the pre-requisite put forward by the worldbank to carry out the study as part of the preparatory studies for the proposed Mehsana Water supply scheme. As referred to in earlier mission reports training of technical staff of the GWSSB in the context of the adapted integrated approach should receive more attention through an active role of the Jal Seva Training Institute.
- *J4 In the near future GWSSB should develop a realistic approach to address the important issue of cost recovery.
- *J5 Concerning the kamlivada well-field it was at length discussed during GU-26 that monitoring of water levels in the tubewells and regular sampling for chemical analysis was absolutely necessary in order to control the rapid decline of the watertable and quality of the water. The RSM is very disappointed that this practice still has not been established despite the very critical situation of the well field.

- *J6 Five months after the scarcity period it was observed that in many cases water is still supplied under absolutely unacceptable public health conditions. According to the RSM ,the quality of the village level facilities is far from being normal standard and needs to be improved urgently. Connection of the new villages to the system is to be postponed until the upgrading is completed.
- *J7 the study that the GWSSB planned to undertake for investigation of its structure of operation & Maintenance and the related costs has not been materialised and will not be undertaken in the near future.
- *J8 As part of the necessary institutional development the mission stresses the importance of training and recommends that the Jalseva Training Institute develops a course on the integrated approach making use of the santalpur RWS/S as practical case. In addition RSM recommends that the special course for linesman will be repeated for the concerned field staff engaged in the second generation projects.
- *J9 The RSM recommends that the GWSSB to study the administrative structure and related cost of operation and maintenance in all schemes under its O & M responsibility.
- *J10 From the repair records it is concluded that the majority of the leakages is caused by defective joints, pipe breaks and badly closing air valves.
- *J11 Leaking joints are most likely the result of wrong jointing practices.
- *K1 The lessons learnt from Indian rural water supply and sanitation (RWSS) projects implemented so far reveal poor operation and maintenance. Lack of preventive maintenance, failures in monitoring and above all a series of failures of management in solving day to day problems and overall lack of application and motivation.

Sources of information:

- (A) Draft Aide Memoir , and Report of Review and Support Mission , GU-26, Dutch-Mission to Gujarat. June 15 th ,1992. By RSM ,HASKONING ,The Netherlands.
- (B) Evaluation on existing O & M of SRWS Scheme of Gujarat , June 1990 ,by Haskoning .The Netherlands.
- (C) Details of progressive drainage scheme dt:18 -8-92 by Monitoring Cell OF GWSSB.
- (D) Note on status & problems of Drinking water supply in rural areas in the state ,by GWSSB.
- (E) 'Coastal area development'-a status paper on sub-sector water supply and sanitation upto 1991-92 ,by GWSSB.
- (F) IHE ,M.SC.Thesis EE. 80, by Mr.Mehta , April 92.
- (G) GJTI Training brochure 1991-92.
- (H) " O & M of Rural Water supply in the Indo-Dutch Rural Water Supply & Sanitation Programme." Discussion Paper, January 1992, By Haskoning, The Netherlands.
- (I) Report on Mission 26 to Gujarat (GU-26), Rural WS & Sanitation Progress Evaluation & Review, Regional Water Supply Schemes Gujarat State, July 1992, By Haskoning, The Netherlands.
- (J) Report on Mission 27 to Gujarat (GU-27), Rural WS & Sanitation Progress Evaluation & Review, Regional Water Supply Schemes Gujarat State,

- January 1993, By Haskoning, The Netherlands.
- (K) HRD in the Rural Water Supply & Sanitation Sector. Concept paper prepared by DRD.

These all indicators lead to following performance problems in broad terms.

1. Lack of full coverage for drinking water supply.
2. Supply of less quantity than designed.
3. Irregular supply and quality problems.
4. Often breaking of pipes and lot of leakages.
5. Inability of cost recovery from public.
6. Nonworking of R.O & ED plants.
7. Lack of managerial capabilities.

GUJARAT JALSEVA TRAINING INSTITUTE
(GUJARAT WATER SUPPLY AND SEWERAGE BOARD)
SECTOR 15 GANDHINAGAR 382 015 GUJARAT (INDIA)

CALENDAR OF TRAINING COURSES FOR 1992-93

SR NO	COURSE	DURATION IN DAYS	1992												ELIGIBILITY	
			APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH		
(A) PROJECT FORMULATION																
1	HYDROLOGY APPLICATION OF REMOTE SENSING FOR GW EXPLORATION	2										11-18			GEOLOGISTS HYDROLOGISTS ENGINEERS	
2	EVALUATION OF AQUIFER PARAMETERS BY PUMPING TESTS	3										15-17			DO	
3	SCIENTIFIC SOURCE PROTECTIVE CIVIL	3											15-17	23-25	DO	
4	DESIGN OF WATER TREATMENT PLANT	4						17-20							CIVIL ENGINEERS	
5	PROJECT PLANNING & MANAGEMENT ADMINISTRATION AND FINANCE	3												20-22	ENGINEERS	
6	FIELD SERVICE TRAINING	12												1-8	JUNIOR CLERKS PEONS	
(B) PROJECT IMPLEMENTATION																
7	HYDROLOGY REFRESHER COURSE ON GW PROSPECTING	3						17-18 INSTRUMENTATION WORK SHOP							GEOLOGISTS HYDROLOGISTS ENGINEERS	
8	WATER HARVESTING STRUCTURE	3										15-17			DO	
9	WELL LOGGING TECHNIQUE MECHANICAL	3											15-31		DO	
10	INTRODUCTORY COURSE FOR AE AAE ENGINEERING DRAWING	10										21-30			MECHANICAL ENGINEERS	
11	REFRESHER COURSE FOR DRAFTSMEN CIVIL	4		2-4			16-17					22-25		16-18	DRAFTSMEN ASSIST DRAFTSMEN TRACERS	
12	INTRODUCTORY COURSE FOR AE AAE CIVIL	11												16-27	CIVIL ENGINEERS	
13	LOW COST SANITATION	3												6-16	SANITARY INSPECTORS ENGINEERS/CIVIL	
14	DESALINATION	3												19-21	ENGINEERS SCIENTISTS	
15	PUMPING MAINS	3												15-17	CIVIL ENGINEERS	
16	TRANSMISSION AND DISTRIBUTION OF WATER	3												5-7	DO	
17	LOW COST SEWAGE TREATMENT PLANTS CIVIL	4												3-6	DO	
18	COMPUTER APPLICATIONS	5												18-22 23-28	ENGINEERS SCIENTISTS FOR TECH COURSES AND NON TECH STAFF FOR NON TECH COURSES	
ADMINISTRATIVE FINANCE																
19	REFRESHER COURSE FIELD	3	5-10	18-22	18-20							7-9			CLERKS	
20	REFRESHER COURSE FOR GW PROSPECTING	3										29-30 RAJGOT		17-18 BARODA	GEOLOGISTS HYDROLOGISTS CIVIL ENGINEERS	
(C) PROJECT O & M																
HYDROLOGY																
21	GROUND WATER MONITORING	3												5-7	DO	
SCIENTIST																
22	WATER QUALITY SURVEILLANCE	4	21-23												19-18	SCIENTISTS GEOLOGISTS SCIENTISTS CHEMISTS ENGINEERS
23	DRAWING WATER QUALITY STANDARDS & INTERPRETATION MECHANICAL	2												6-9	MECHANICS	
24	HAND PUMP MECHANIC	3												16-18	MECH SUPERVISORY STAFF FITTER DRILLERS	
25	MAINTENANCE OF PDS & COMPRESSORS CIVIL	3												2-4	MS TRIMS	
26	METRY	4		26-29								2-6		5-11 NON-TECH	RECHARGE OF STORES	
27	STORES MANAGEMENT	4	27-30 NON-TECH											5-8 DRAE AND		
ADMINISTRATIVE FINANCE																
28	PREVENTIVE MAINTENANCE OF DWT SYSTEM	5				27-31	28-29	14-18				3-7	14-18		ENGINEERS	
29	COMMERCIAL ACCOUNTING SYSTEM ADMINISTRATIVE FINANCE	4			6-11		13-20						21-24		ACCOUNTS STAFF	
30	PERSONNEL MANAGEMENT	3											11-12		ADMINISTRATIVE STAFF	
31	TRAINING FOR DEPTAL EXAM (MOM) FIELD	1		1-29												
32	PUMP OPERATORS	3					27-28 DEBIA					15-20 JAMNAGAR	20-22 BHU	18-19 JAMNAGAR	PUMP OPERATORS	
33	HAND PUMP MECHANIC	2						29-30 BARODA				18-20 BARODA	24-25 RAJGOT		MECHANICS	
34	DRIVERS TRG COURSE	2											24-25 RAJGOT		DRIVERS	
35	DRAWING WATER ANALYSIS	4		11-15 BARODA										16-18 RAJGOT	CHEMISTS SCIENTISTS PLANT OPERATOR SUPERVISORS	
36	WASTE WATER ANALYSIS	4												2-6 BARODA	DO	
37	WATER QUALITY SURVEILLANCE	4							10-13 GODHARA			6-7 BHU	5-10 VALAD	2-6 BARODA	SCIENTISTS ENGINEERS HYDROLOGISTS	
38	COLORIMETRY OF WATER	3								14-16 PALANPUR			5-10 VALAD	2-6 JAMNAGAR	MS TRIMS OPERATOR SUPERVISORS	
39	VALVE MEN TRAINING	2					25-26 ANJAR			29-31 VERVAL			20-21 JAMNAGAR	20-21 BARODA	17-18 DEBIA	VALVE MEN TRAINING
(D) MASS AWARENESS & PEOPLE PARTICIPATION																
FIELD																
40	HAND PUMP CARETAKER	1	8-10 KALOL 21-23 BETHUNDA	20-21 DHRAMPUR 21 JAMNAGAR	19-19 ZASARA 2-3 VANDODRA	18-17 BALASOPUR 2 DHRAM	11-12 TARA 12-14	18-17 DEHGAM	14-15 VIRAMGAM	11-13 AMBALI	9-10 RANASABHA LA	20-21 BOPUR	19-11 JAL SETPUR	18-11 GONDAL	HAND PUMP CARETAKERS	
41	DEFOLIATION	1											18-20 BETHUNDA		ANALYSTS	
42	VILLAGE WATER SUPPLY CARETAKER	2				2-3 GODHARA	11-12 BAYALA	22-23 MARNELI	2-3 DHRAM DHRAM	4-6 BHU MARNELI	1-2 BONDAL	6-7 REBHO	2-3 DHRAM	5-6 JAMNAGAR	VILLAGE SUPERVISOR TALATS	
43	WATER AWARENESS AMONG RURAL WOMEN	1						29 DAR		24 GANDHI MARNELI	28 DANTA				VILLAGE WOMEN	
44	MASS AWARENESS & PEOPLE PARTICIPATION	1											2 BETHUNDA		VILLAGE	
45	WATER & HEALTH	1											18-19 BETHUNDA	13-24 GANDHI	PARAMEDICAL STAFF OF PANCHAYATS HEALTH DEPT	

Other Organisational Issues.

(NOTE: These issues were identified by the majority of respondents while interviews, for which no documentary support was found)

1. At Head office, there are Monitoring cell, Vigilance cell, Technical cell and Computer cell. These cells are engaged mostly in collection of various raw data and some readily available information from all offices of GWSSB. It is a feeling of several offices that monitoring cell issue different proforma periodically and asks to fill it within very short time. It always ask for quick reply in order to send the same information to top management or central government or ESAs. Out of huge raw data only part of it is being converted in usable information. For example, Monitoring cell prepares different types of plan like annual outlay, state plan, tribal plan, special component plan, 20-pt. programme. But it monitors only some schemes and not all the schemes. They also prepare yearly progress report to be sent to either central Govt. or to some ESAs. When progress is observed poor, they ask the causes to concerned offices but they do not forward any feed-back about such issues or its causes to GJTI. Same way Vigilance cell also works. It investigates only when complaint is raised for poor functioning or mal-functioning. They also do not give any feed-back to GJTI.
2. No systematic database exist at all inspite of having lot of data in the shelves. No analysis is being done except socio-political interference for some issue. Normally writing instructive demi-official letter is the tendency of action in several matters.
3. It is found that implementation of Action plan of the year is scheduled to be started at beginning of March, but sometime plan was prepared very late in December. And it was also prepared based on expenses made earlier plus some extra provision. Financial outlay is not prepared by Planning cell but it is prepared by financial controller. No evaluation of extent of achievement of last year or analysis of bottlenecks is made.
4. There is one audit every year by Accountant General of Gujarat State. Operations are audited in the terms of used resources with financial implications. This audit has concern for efficiency, but in practice, it is not specially targeted to evaluate efficiency.
5. Personnel office is doing general administrative work and do not keep perfect record of individual. They do the job of transferring people only on the basis of information given by subordinates or instruction of superiors or influences of political leaders. Placement of person is not being done, looking to his aptitude. Even most efficient and sincere worker get transferred due to the traditional rule of "Transfer at every 3 years". Non-working people never get transferred if they have political backings. Rules followed by this office are very old (since 1950). Systematic Database is also not available. For example, no statistical data available about quantum of temporary, work-charged and daily wagers employees. Temporary employees are even working at some offices since 5 years. Training is considered as one of the personnel matter but no linkage exist between GJTI & Personnel Office.
6. GJTI has no system of continuous referring development on global scale in

the sector of training and development. No system to refer global development in water sector. It is true that GJTI library has good amounts books on training and also regular national and international Journals in water sector, but a few trainers use it. Author did not find Delft declaration in its library. Except one IHE Alumni, nobody was knowing about it. Even New Delhi statement was not known to many. Except one, nobody has referred TNA study of other organisations of India. Some of the trainers are found favouring individual needs assessment but they were afraid that they may not get required support for such assessment.

7. Need assessment for training is never considered so important due to the two wrong belief.

- a. Training is the easiest activity.
- b. Water supply and sanitation is very simple, which requires only little training.

As a result of first belief, it was surprise of the author that word TNA was not familiar to most of the training staff. Result of the second belief is the poor quality of service due to lack of proper attention.

8. No system exist to monitor, evaluate and upgrade the activities of GWSSB in the light of objectives of GWSSB or current targets of GWSSB.

9. It is also true that if GJTI know about specific need then definitely they can design the course to satisfy that need. GJTI has also the capability to run the tailor-made course for a specific need. Course on "Critical evaluation of Rural Water Supply Management" was organised once successfully, but nobody knows the outcome of that course. No specific evaluation was done of such evaluator course. No system exist to monitor the courses at other centres in order to avoid duplication of efforts. No records are kept ready about the courses at other centres. Thus, GJTI do not keep itself update about developments in the field of training in water sector.

10. Recently Mr. Sopar, an expert from the netherlands visited Gujarat for the problems of leakages. He has spent his time specially on training for repairing of leakages. Nobody from GJTI has accompanied him to see and learn the methodology. This could have been helpful for designing courses. There are several such events took place in organisation, but there is no system to know about it and to make use of it for betterment of training function.

11. GWSSB put zero efforts in selection of trainers. Trainers are those who get placed at GJTI by their transfer from other office. Many of them have no willing to serve at GJTI and they do not have aptitude for training. Even after this, it is good if they also get trainer's training. But it is found that, out of all 30 trainers only 2 has taken trainers' training. And also trainers training given to them was not sufficient.

12. There are some problems which could be solved partially with training. Root of such problems are not always of technical nature, hence it require totally different type of training. Find below some of such roots.

- a. Lack of
-seriousness & awareness for quality

- motivation and commitment towards works
- discipline and sincerity
- punctuality and concern for duties
- vigilant eye for effective supervision
- strict actions against the person who is at fault.
- evaluation after action
- control and also of will of control
- responsibility due to frequent transfers
- incentive to sincere & hard workers
- punishment to non-sincere worker
- stability of management due to frequent transfers
- appreciation for merits and moral values
- dynamism
- effective leadership at all levels
- political will
- importance to human element
- national character
- any accountability due to job-security

- b. Delay is observed almost in every process. But loss of time is never considered as loss of most valuable resource. Delay is also due to old and long procedures as well as long chain of communication.
 - c. Promotions are given on the basis of seniority cum merit. As seniority has more priority than merit, almost all promotions and decisions are made on seniority bases. This and all other factors like bureaucracy, Nepotism, favouritism and inertia have resulted in frustration of talented personnel.
 - d. Sometimes a person has served almost all time in urban centres. When he gets placement in rural office, it becomes very difficult for him to manage the project without proper orientation and training.
 - e. Established vicious cycle: Poor rates-bad quality-not satisfaction of public-more demand-more works-more execution-more corruption-more poor rates etc.
 - f. Established tendency to solve the problem in traditional way which results in only short-term solution, so the same problem may arise again or similar problem may arise elsewhere.
 - g. Established tendency to become happy with the achievement of any targets in quantitative terms and therefore no attention is paid to qualitative terms. The reason is that more importance is given to physical capital than human capital. In spite of the fact that water service is the essential service, it is not considered as service to the humanity. Hurry to commission the project even before its full completion results in poor quality of such important service.
13. Operations at all offices have some common features mentioned as under.
- a. Complaints about insufficient funds and simultaneously inefficient use of available funds

- b. Objectives are mostly financial and physical.
- c. Meetings are for review but no execution of effective control afterwards
- d. Lack of linkage between planning and implementation
- e. Heads are engineers who work as either engineer or district manager or office manager but not as the project manager. They are technocrats but they work as bureaucrats.
- f. Lack of policy and strategy about operations.
- g. No job description is officially given to new appointed person
- h. Existing norms are not followed nor upgraded
- i. Non-equitable distribution of work to personnel.
- j. Quality of work is mostly dependent upon contractor's skills and not on the GWSSB supervisor's skills. The reason behind this is most of the schemes are executed by contractors and only supervised by GWSSB.
- k. Projects are hardly cost effective.
- l. Even after supply, people's complaints are coming regularly.

14. Non-equitable distribution of work load and manpower to offices

15. Some specific issues on main functions.

Planning:

- Lack of long term planning.
- Planning for budget only. No plan for sources of water and technology.
- Component of sustainability is usually missing in planning of a scheme.
- Some time no planning at all
- Planning and targets in terms of quantity and not in quality as well.
- Projects are prepared in stereotype fashion. For example according to normal directives, need of water is to be considered as 40 LPCD which also includes the need for cattle. In some villages, population of cattle is far more higher than expected which should be considered for designing capacity of tanks or service facility. Normally such things are ignored.
- Demand variation is very high in different villages, which is usually not being considered. Needs of people in terms of their existing living standard and possibility of their involvement in execution as well as O&M is not being checked. Negligible communication is made with the people who are concerned. It has been observed that some time projects are prepared by totally unexperienced staff who do not think for local availability of material, labour, necessary skills to construct that project etc. It is also the tendency to prepare projects on the ground of possible approval and therefore earlier approved documents are refereed for the preparation of new document.
- Designs are made considering economy and availability of material but ignoring O&M. For example, Gravity main or pumping main is suggested as 1 line for 22/16 hour run. In reality, when failure occurs, due to only 1 line 100% supply is

stopped. Therefore two lines are recommended for Gravity or pumping main.

2. Implementation:

- Criteria for tendering is improper. Works less than Rs.0.1 Million can be executed by non-engineer contractors, so even uneducated persons come for tendering and also get work-order just due to their lowest rates, even though it may be unrealistic.
- Confusing financial matters like rate of items. Rates mentioned in SOR are considered, but SOR references are also different, like Original, Current and Districtwise. Other rates are also applicable. They are the rates approved by Tender Purchase Committee, rates available as the lowest in the market etc. At some rates it is impossible to achieve quality.
- Allocation of fund is done in order to create assets. Therefore sometime insufficient amount of fund is allocated to other activities like O & M, Planning, R & D etc. There are several examples of creation of assets but not used for public. More assets creation is appreciated.

3. O & M

- O & M is usually ignored during planning and implementation phase, which usually results in chronic problems.
- Sustainability of asset or its useful life is also usually ignored.
- No system exists to co-ordinate O & M activity of different schemes to get advantage of good experiences and learned lessons.
- Leakage is the most crucial problem. It is not always due to wilful negligence, but it is due to carelessness of contractor as well as GWSSB staff. Specification of works are hardly observed in some tasks like compaction of concrete with vibrators etc.
- No policy or strategy exists on O & M. At present O & M is being done according to traditional transfer of practice. O&M is considered as equivalent to new construction and PWD manual is referred for both.
- For most of the O & M tasks, SOR is the Bible, which have been prepared looking to the approved tenders/rates of previous year. But tenders are some time very lower than realistic or rational rates. This results in very poor rates at which quality of works can never be achieved. The persons who are preparing SOR have very less time available to analyze the rate, therefore they continue the established practice. Most of the time carting at remote site and wastage of material has the big contribution in the rates, which may have been ignored, underestimated or considered same for different quantity. These may result in non-realistic rates. Therefore rate for different quantity should be different. Rates for rural areas should also be relatively higher than urban areas.
- Tampering of line or valves by public are quite often, for that pani-panchayats can be the solution. But unfortunately such panchayats are limited to Dutch assisted schemes. Department has not enough time or manpower for repairing of

leakages. Lineman visits once in a 24 hour period at one point. Lack of preventive maintenance. Tendency of repairing only after deterioration.

- O & M activity has much dependence on daily wagers or work-charged staff who are not nominated for training. For example, O & M of one filterplant is being done by daily wagers who do not know how to decide alum dose.

16. Overall picture of personnel suggests that GWSSB is giving more stress on civil construction and less on water profession. Personnel are therefore perform as engineers and not as managers.

Conclusions on GWSSB.

Approach of Training Needs Assessment :

1. No assessment is being done at present. Also, no system exist to know the existing training needs or coming up developmental needs. In order to design the training programme, an old report dating February 1985 made by external consultant is used since the beginning of the training programme. TNA approach used by that consultant is job specific and only targeted to lower level operatives.
2. Titles of Present Training courses directs that the courses are either function specific or job specific but not problem-specific. Some titles indicates towards problem, but in reality its training curricula do not reflect the present training needs fully. Developmental needs are hardly addressed in present training programme.
3. As the approach was directed towards jobs, training courses are rather academic and therefore designed to transfer some knowledge on PH. Engg. Therefore it consists of mostly lectures and few exercises and real case studies. Field visits are also limited to only nicely working treatment plants which are not being run by GWSSB. Real life problems are hardly addressed in any manner.
4. Approach is based on wrong assumption that higher level personnel have opportunities of training elsewhere. Therefore overall Training programme is targeted to only operatives and personnel of lower level management.
5. No other actions were identified in addition to training. Therefore training is given in isolation only and no supportive measures are taken in addition to training.
6. Call of nomination (Letter of invitation for training) is being issued every month, which only mentions the title of the course and eligible staff position. Nothing is mentioned about the objectives of course or its contents. Nominations, are made according to wish of applicant and not according to the needs realised by organisation.
7. No policy and strategy exist for training. Medium for Engg. Training is English, inspite of the fact that some trainees could not follow it fully. No uniformity exist in designing a course and preparing individual session.
8. Courses are of two types, In-house and Field. But field courses do not mean the course at the field situations, but it is the shift of the class-room from GJTI to remote rural areas.
9. No database exist for training profile of each trainee with respect to his service carrier. It is very difficult to organise the training to address the developmental needs according to carrier plan. No database exist to keep constant touch with development in the field of training and development and also in the water sector.
10. At GJTI, only some trainers has will, interest and skill for training activities. Trainers are changing very often due to transfer and placement of punished staff. Trainers training is not given to all who work now and it is not policy to give when a new person placed in the position of a trainer. Out of all trainers staff only 2 person has taken trainer's training once.

Thus, GJTI is an excellent hardware for training, but lot of things in addition to TNA are lacking to make it a good software.

Associated Issues of Organisational Performance:

As suggested in Delft Model, TNA process ends with identification of non-training actions also. These other non-training actions are directed towards certain supportive performance of organisation. Therefore it is equally important to conclude for the issues associated with training, directly and indirectly.

At GWSSB, there is no formal system exist to evaluate the overall performance of organisation. No overall review has or is being made of the existing organisation either in the light of the existing situation or in view of the anticipated increase in workload. But performance appears poor, according to issues raised in legislative assembly of state, frequent complaints in newspapers, reports of Public undertaking Committee, reports of review mission of ESAs etc. Concept of capacity building is not yet familiar to most of the staff of GWSSB. Major issues involved for poor performance can be summarised as under.

1. Lack of clear job-description in the light of present working of water sector. Reference is always made to BCSR which is very old and prepared for general public works and not specially for water sector organisation.
2. Placement of personnel irrespective of their aptitude, attitude, base knowledge and skills.
3. Lack of proper database and Management Information System.
4. Absence of evaluation system for evaluation of each project, evaluation of each function and evaluation of individual performer. What exist today in the name of evaluation is actually only data collection system.
5. R & D is limited upto laboratories to test the quality of drinking water supply and to find out the possible sources.
6. Lack of seriousness due to wrong belief that WS & S is very simple and easy. Importance of training is not realised fully.
7. Lack of constant leadership at top level and hence lack of consistent policy.
8. Uneven distribution of workload in terms of complexity of project and availability of resources.
9. Engineers, already working and new entrant are mostly civil engineers. Very rare of them are sanitary / PH / Environmental engineers. Approach at engineering collages neglects those things which appear very simple, like Handpump or low cost sanitation. Aspects on community participation, communication and management are given very less attention during study. Trainers at GJTI also selected from this cadre of engineers who possess very limited knowledge about all such aspects. They all needs special training .

Policy of Training.
(Possible points).

- a. Training should be given simultaneously at all levels of GWSSB and also beneficiaries. Persons from local bodies like panchayats should also be targeted. As, at present, top level management is not targeted, it will be good to start with short duration courses of 2 days with more frequency say 10 times a year, instead of 20 days course at a time.
- b. Concepts in the training curricula should include integrated water resources management and planning, community management and community participation approaches, playing role of facilitator and not always supervisor, communication internal & external, decision making and motivational aspects. To design and to run such non-technical courses, help of the external persons who have expertise and experience should be invited. Only lecture of an external expert may not be sufficient always.
- c. Management skills training should be extended to the levels of local bodies and beneficiary communities.
- d. Training activities should not be only geared toward function and objectives of the GWSSB, but also targeted to remove hurdles in performance of these function and achievement of objectives. Thus, it should be tuned towards solving the performance problems.
- e. Training function should be viewed and used as an instrument to build the Capacity in water resources planning and management. And therefore due importance should be given to training while taking strategic decisions on organisational matters.
- f. Induction training should be given to all new recruited and that should be oriented towards day to day performance.
- g. Trainer's training should be compulsory and it should include all current issues being faced by GWSSB. They should be encouraged to visit field offices and also other training institutes in order to enable them do develop necessary expertise.
- h. As all courses can not be run at GJTI due to lack of expertise, trainees should be sent at IIM for some courses on Management. But selection should be done only on need base and not the willing base.
- i. R & D should be also part of training. Or R & D should have responsibility to give necessary input to training function. R & D on organisational matters as well as technical matters can be highly useful for training. For example R & D on rates for different quantity of different materials at different locations, feasibility of introducing two lines for Gravity or pumping main, instead of one in order to ensure continuous supply in case of failure, revision of Power of purchase, possibility of quitting the tendency to operate on no source base and shifting to conservation of source, recharging or recycling of source. Leakage is the most crucial issue. we can find better and easy solution of it. Someone have suggested to put joint only on supportive column and if possible open. It is matter of R & D to see

how effective it will be ? And result of R& D should be not only on paper but also presented in operational form so that it can be implemented when needed. R&D is also required for issues like inventory of maintenance, preparation of manuals for O & M, Design, methods for conservation of sources and recycling of used water, performance evaluation of defluoridation plants, possibility of using solar pumps etc.

- j. Use adult learning theory while designing the training sessions. Use mathematics and statistics to inform in shocking and amazing way about things which appears to be negligible but in reality very important. For example to give idea of quantum of leakage we can say few drops per second or litres per second, which do not give any seriousness of problem but if we say the rate of leakage in MLD it will be more impressive.
- k. Orientation Training should be given when one get promotion to next cadre.
- l. Incorporate the values in the staff by giving input of following during each & every training at each level.
 - 1. Programme of WS&S is not contractor's programme but it is of the public
 - 2. Corruption is not at all good for anybody. Those who do it are not bold but those who do not do it as well as fight against it are really bold.
 - 3. It is not true that job of water is thankless. Instead it lies the essential service and therefore most valuable service to humanity.
 - 4. Servants can do usual tasks but miraculous results can only achieved by devotees. GWSSB now do not needs only servants in normal words but needs devotees for thirsty public.
 - 5. Awareness about responsibility and honesty is the best policy of working.
 - 6. Training is not punishment, it is an opportunity for growth and development
- m. Certain training should be compulsory.
- n. Methodology of training should be different for different type of course and different target group. Street play, drama and other communication technique can be used for courses on Mass awareness. In such courses, use of posters, pamphlets, films is recommended in addition. Special attention should be paid in the design of such materials.
- o. Training strategy: Top-to-down approach, Use of local language wherever required.
- p. Involvement of GJTI in establishing pani panchayats.
- q. Trainee should submit the detailed report on what he learned after completion of training - at GJTI or at other institutions.
- r. Person who is going to be retired within very short time should not be sent for training.
- s. Trainers once selected and placed at GJTI should not be transferred at least 5 years. Every transfers and placement regarding staff of GJTI should be done after consulting Chief of GJTI.

Recommendations for Supportive organisational actions

1. Establish comprehensive M.I.S. to take Right decision at right time. M.I.S. should be developed in due regards to each village's information system, continuous evaluation of existing and working water supply projects, continuous evaluation of O&M in terms of lpcd, cost per person etc.
2. Place only interested staff at GJT1.
3. Promotion should be given on merit cum seniority base
4. New job description should be prepared and it should include the responsibility of community involvement and other socio-economic work in addition to their normal work.
5. A clear policy should be devised for placement of trainee after training.
6. At India level, not a single state department do their need assessment in continuous basis. Either they are incompetent or they are not serious about it. Top level management from each state should be called for a workshop on TNA, Management concepts and manpower planning so that they can appreciate the importance of it.
7. Specifically for O & M, which has more stress these days, following recommendations are made.
 - a. Collect information on O & M in older schemes which are running well.
 - b. Establish & review the standards & procedures for O& M.
 - c. Establish the enhancement of the status & authority for O & M at the executive level
 - d. Establish the organisational & policy developments required for a grater community role in O & M.
 - e. A policy should be formulated on the priority of developing and improving O & M capacities for existing water supplies in relation to the undertaking of new construction projects.
8. Every year, 3 persons are being sent to IHE, Delft for P.G. Studies in Sanitary Engineering. Looking to the views of all Alumni, working at GWSSB, the course is more beneficial to Assistant Engineers, and also can be appreciated more by them who has to do the basic operations. Therefore it is recommended to send Assistant Engineers for this course.
9. Enhance the operationalisation of Existing policy and new policies by using more funds for institutional development and training.



