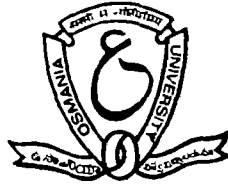


**REGIONAL CENTRE FOR URBAN AND ENVIRONMENTAL STUDIES
OSMANIA UNIVERSITY, HYDERABAD.**

**DIAGNOSTIC STUDY OF TRAINING NEEDS
IN
PANCHAYATI RAJ ENGINEERING DEPARTMENT
GOVERNMENT OF ANDHRA PRADESH
A NETHERLANDS ASSISTED PROJECT — A.P.-III**

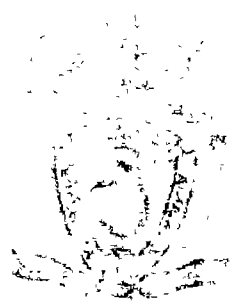
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NATIONAL CENTRE FOR DISEASE CONTROL AND PREVENTION
DEPARTMENT OF HEALTH AND HUMAN SERVICES

DIAGNOSTIC STUDY OF TUBERCULOSIS

IN

THE TROPICAL AND SUBTROPICAL AREAS OF THE
WORLD
A REPORT OF THE INTERNATIONAL TUBERCULOSIS
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The Department of Health and Human Services
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DIAGNOSTIC STUDY OF TRAINING NEEDS
IN
PANCHAYATI RAJ ENGINEERING DEPARTMENT
GOVERNMENT OF ANDHRA PRADESH

A NETHERLANDS ASSISTED PROJECT (AP-III)

REGIONAL CENTRE FOR URBAN AND ENVIRONMENTAL STUDIES
OSMANIA UNIVERSITY, HYDERABAD

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PREFACE

Employee training is not akin to fire fighting. It is a development function of extreme importance especially in the context of limited resources, whose application need to be carefully planned. Scientific methodology should, therefore, be the basis of any training need analysis and this is what the study has sought to achieve in respect of the Panchayati Raj Engineering Department, Government of Andhra Pradesh. The study was carried out by Dr V LAKSHMIPATHY and Dr D RAVINDRA PRASAD at the Regional Centre for Urban and Environmental Studies, Osmania University. We hope the findings of this study would facilitate proper perspectives on various dimensions of employee training in the Panchayati Raj Engineering Department (PRED).

We are grateful Sri.R Kondal Rao, Engineer-in-Chief, PRED and Sri I Naram, Advisor, NAP for the trust reposed in the Centre, for carrying out the study.

The study involved whirlwind field visits. But for the support extended by Sri G Narayana Reddy and Sri K Tirupathaiah, Superintending Engineers, NAP - Circles, we could not have succeeded in achieving the field study objectives at Medak and Ongole. We wish to convey our appreciation of their efforts and thank them.

Sri Rangam Chetty, Executive Engineer at Ongole and his able team of engineers at Ongole and Sri Bakka Reddy, Executive Engineer, Medak, accompanied the team during the field visits in their respective areas and readily provided the relevant literature and documents. Their contribution is gratefully acknowledged.

We are grateful to Mr.Guessenhoven from the NAP - ETC Foundation, for his valuable contribution before and during the diagnostic workshops.

We have drawn abundant support from our research colleagues and administrative staff. All of them had to put in extra efforts in meeting the date line. We thank them.

The Computer analysis and presentation were specifically the contribution of our colleagues Sri.V Ravi Sankar and Sri T Veerendar. We are thankful to them.

25-08-1993
Hyderabad

D RAVINDRA PRASAD
Director

SUMMARY OF FINDINGS

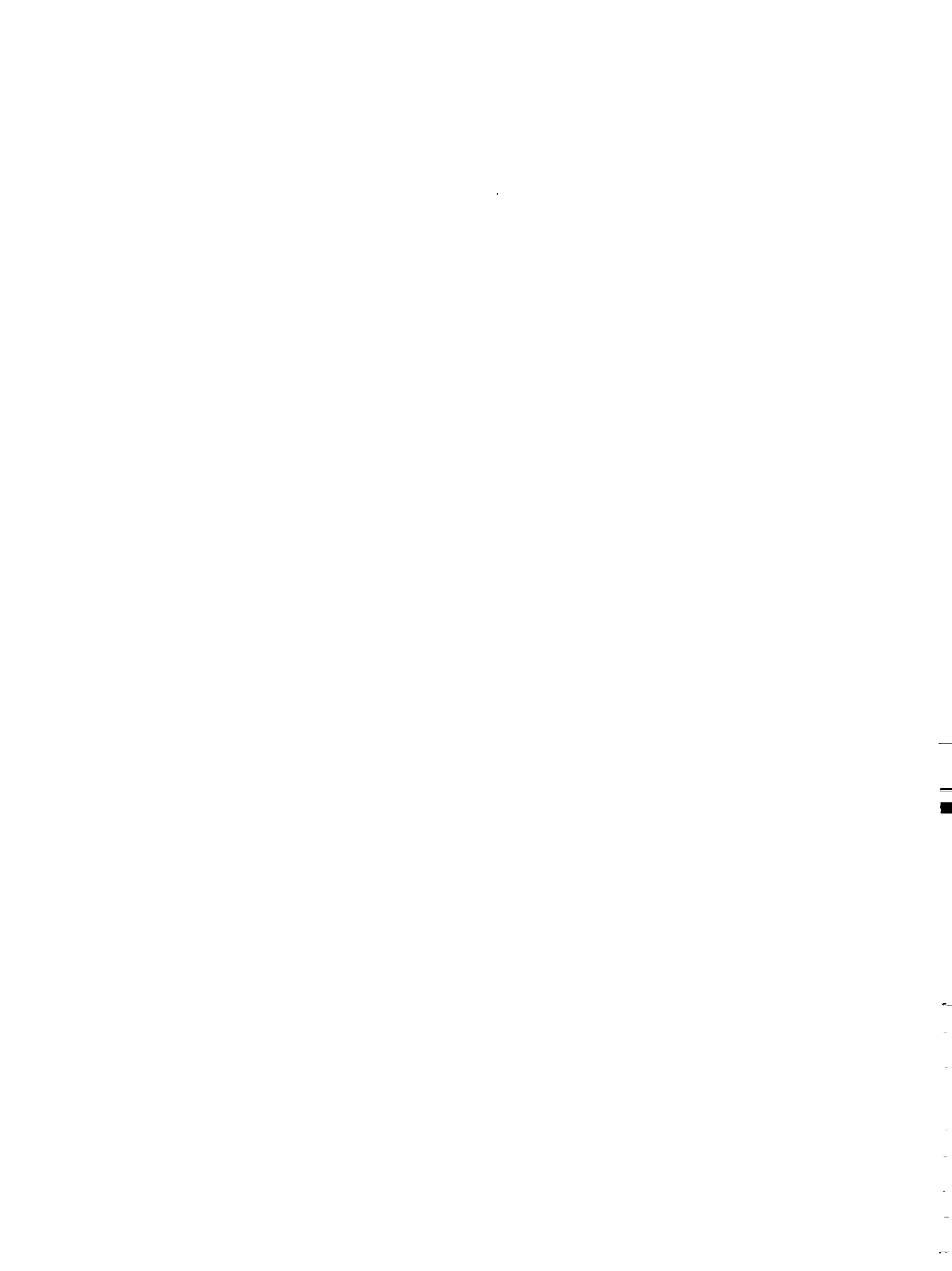
- 1) The PRED has an excellent stock of management competence in individual terms. But there appears to be certain blockades to team performance. A short term training program on Team Building, Resolution of blockades to team performance in the context of organisational Design, Mission and Goals may be taken up immediately. The entire segment of Senior level employees need the management development exposure.
- 2) The management cadres of EE and Dy.EEs have revealed a high level of training need on Organisational Development to include strategy analysis Mission Formulation, Goal Setting, and Role Clarification as well as Consumer Orientation.
- 3) The entire supervisory segment of the employees require training in effective supervision.
- 4) All technical, plant/field level personnel from the AEE/AE Cadres need to be trained in basic Operations and Maintenance (O&M) and water treatment processes on a priority. The need for skill training was very clearly visible.
- 5) Work Inspectors, Fitters, Pump Operators and other technicians need training in preventive as well as break-down maintenance.
- 6) Training in process control is needed for the Chemists and Plant Operators. This will have to be staged over into basic, intermediate, and advanced levels. The group also needs supervisory training.
- 7) A series of job aids for plant operators and maintenance personnel need to be developed.
- 8) The field level personnel revealed a need for orientation programs on public relations.
- 9) A new management information system to support the decision needs of implementing comprehensive Water Supply Schemes and project demands may have to be developed.
- 10) The training effort should be launched immediately, first to cover the NAP-III segment of the employees, to be followed by others.

- 11) The Research, Development and Training Centre (RDTC) has adequate infrastructure to service the training needs of the PRED. However, the software aspect - faculty, resources and technology for preparation of training material and skills in management of training are in short supply. The PRED may obtain external technical assistance for identifying training potential from within and arrange for appropriate training as per the needs identified.

- 12) As an interim measure, the PRED may seek external technical assistance for organising the Management Development Programmes and training the trainers, on a short term basis.

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1. INTRODUCTION

Provisioning and improving the access to safe drinking water and sanitation facilities in the rural regions of the state of Andhra Pradesh (AP), is one of the primary objectives of the Panchayati Raj Engineering Department (PRED). The resource support for servicing the objectives in general, is provided by the Government of Andhra Pradesh (GOAP), as part of its regular development budget and the Royal Netherlands Government (RNG), have provided financial and technical assistance for certain area specific projects.

The policy approach for the implementation of water supply & sanitation projects accords, high importance to the element of community participation, in all the phases of project cycle as well as the day to day operations.

The key institutions in the schema of providing safe drinking water in rural areas are

- i) The PRED - the nodal agency for implementation of the RWSS projects
- ii) The Royal Netherlands Government - The External Support Agency
- iii) The user/beneficiary community in the target area - represented by respective Gram Panchayati (GP)

The job content of the WSS projects in the rural areas, involve the following primary activities

- a) Designing of protected water supply systems compatible with local needs, covering the detailed planning of the physical components such as infrastructure facilities, filtration and treatment plants, distribution network and the institutional and management structures to ensure effective operation, maintenance, supervision and monitoring of the systems
- b) Construction and installation of buildings and facilities, laying, testing and commissioning of the feeder/distribution systems
- c) Repairs and rectification distinct from preventive maintenance, covering fault detection, repair, rectification or replacement of damaged or worn-out components of the systems

The PRED has emerged as the principal implementing agency on all the three dimensions of the work content of the rural protected water supply projects. However, the performance effectiveness of the PRED, in developing and managing the systems has been susceptible to a wide variety of situational determinants. Salient amongst them are.

1. **The capability and the capacity of the user communities as represented by their respective Gram Panchayats (GP)**

The schemes for extension of protected water supply in rural areas envisage the GPs as the primary responsible agencies for the operations, maintenance and management of protected water supply and sanitation systems in their respective constituencies. The GPs enjoy statutory status in the schema of local-self-government and as such are vested with adequate fiscal, financial and legal authority to manage civic services including water supply, in their respective jurisdiction. But, plagued with less than satisfactory financial balances, most of the GPs find it easier to avoid even the minimum responsibility of day to day management of the local water distribution systems-let alone, the planning and management of source/capital structures. The quality and scale of service tend to be the resultant of the inter-play between the physical environment, demand level and the resource availability, which in turn make heavy demand on the technical and managerial capability of the PRED.

The growing indifference on the part of local leadership to marshal user participation or financial contribution, adds to the burden of the already over-stretched resources of the PRED leading to a state of sub-optimality in sustaining services, standards and management.

2. **The Paucity of technical and complementary skills in the local area:**

Even the simplest of the systemic alternatives for supplying protected water, requires a specific level of operator competence, which may be a combination of basic literacy, technical aptitude and complementary skills. The stock of the combination in rural areas perpetually runs short of the demand. The 'Economic Pull' effect of urban settlements in the region, simply accentuate the consequences and in the absence of even a marginal level of skill stock, the supply systems deteriorate rapidly. The community leadership under the circumstances, tends to avoid any direct responsibility for the operation and maintenance of the system, compelling the community to revert to the former sources which could either be contaminated or inadequate to meet the demand. Thus, the very concept of improving water supply through people's participation suffers a setback.

The PRED - again has no alternative other than assuming the direct responsibility of operating and maintaining the system, which is distinctively different from the development function - the main objective of the PRED (RWS) projects

The PRED staff, saddled with the dual responsibility of development and maintenance, perforce allocate increasing share of time and other resources to address the immediate maintenance problems rather than to planning and development of new sources. Thus the scientific rigour of the pre-project phase leading to identification and exploration of new sources, suffers a setback in terms of slippage in the project cycle or dilution of standards

3. Community Participation - Specifically Women:

Traditionally, it is the women members in poor and middle class communities, who shoulder the responsibility of procuring water for domestic use, which should automatically earn them a greater voice in the decision making process, at least pertaining to location of PSPs and supply timing of water distribution. The project approach recognises the need and the benefits likely to flow through women participation.

The new development paradigm on women participation, coupled with the exigencies of introducing new but user friendly technologies, require the PRED to perform the role of a value or social catalyst, for which the staff is not adequately equipped

4 Cost recovery In general, a policy on cost recovery may have to service the following objectives

- i) to require the beneficiaries to pay for the benefits they receive, in order to make the system - at least partly if not totally self supportive, thus increasing the scope for extension of the service to other areas eventually, and
- ii) to ensure that the beneficiaries gain a sense of ownership and pride and thereby to elicit greater community concern and participation in preserving the system in good order

Even the O & M costs of protected water supply systems however appear to be beyond the affordability threshold of the beneficiary communities. The state government, based on the philosophy that the state revenues are to be applied for eliciting maximum good to maximum number of people (especially the economically backward communities) and for improving rural health and living standards,

provides a wide range of subsidies - direct and indirect, towards rural community water supply systems. Yet, the gap between the demand and availability of funds, even to meet the cost of operation and maintenance let alone replacement or capital works, is perpetually increasing.

In the absence of a clear Principle, Policy or Strategy for cost recovery, the PRED continues to shoulder the dual responsibility of taking up capital projects for extension of benefits to new areas and also the operation and maintenance of the installed facilities. The resultant crunch in resources and stretch in application of man power adversely affects the institutional performance eventually.

Sustaining the Institutional Effectiveness, thus, assumes critical importance. However, Institutional effectiveness is a direct function of the fit between the organisational design and the performance capacity of the staff - from the top to the lowest of the echelons. Success in achieving the objectives especially in the context of the barriers and contradictions inherent in the rural water supply sector, calls for premium level of ability in management and leadership, and technical competence.

The PRED, as part of the Netherlands Assisted Projects had launched a series of efforts to upgrade the institutional capacity, to shoulder the emergent objectives and goals in the RWS sector.

The initiatives were based on the "concept document" on Institution Development conceived by the PRED, which included the component of Human Resource Development.

The Royal Netherlands Government (RNG), accorded recognition to the approach and the concept and approach to Institutional Development, and this became integral component of the Netherlands Assisted Project proposals.

The RNG extended substantial financial support to the PRED, GOAP, for seeking an external consultancy in formulating a comprehensive Human Resource Development plan (RSM 12 p 55) and the Centre for Development, Research and Training - a Madras based Organisation, was commissioned to undertake the formulation of the H R D Project proposals. The CFDRT study made a number of recommendations on institutional development vis-a-vis training and management in the PRED.

In due course of time, the CFDRT study and its recommendations were appraised by a Review and Support Mission (RSM) AP-III and the Mission's observations are presented below:

"Although considerable effort has been devoted to its (study/proposals) development, it still has major gaps and weaknesses. It lacks any clear strategic statement of overall Institutional Development for PRED. These needs should be addressed together with other barriers to effective performance,

which include organisational factors, lack of resources and motivation. There is little in the proposal about how HRD should be related to personnel management, manpower planning, performance review, placement and transfers, career planning etc"

The R S.M however felt that the proposals can provide a constructive starting point from which HRD for both the AP-III project and PRED in general may be considered. In summation, the AP-III appraisal mission recommended the following

- i) to reformulate the HRD proposal;
- ii) to develop an inventory of training faculties and facilities in the state of A P, and
- iii) to form a Training Advisory Committee

The RSM while advising the PRED, to seek and obtain external technical assistance afresh for reformulation of the HRD proposal, agreed to support study proposals on the following issues

- a) to carry out a quick survey of training needs of the PRED, with special focus on AP-III
- b) to develop a short term coherent training action plan;
- c) to organise training which makes maximum use of existing facilities and faculties,
- d) to plan and organise appropriate training the trainers programmes specifically focusing on creative training methodologies, for upgrading the Training capacity of the RDTC

It was against this background, that the Engineer-in-Chief, PRED, and the Advisor of NAP, initiated a proposal for consultancy to the Regional Centre for Urban and Environmental Studies (RCUES), Osmania University. The RCUES in tune with the sector mandate assigned by the government of India, agreed to assist the PRED in the preparation training action plan by taking up a short diagnostic study of the training needs in the PRED

The Objectives of the Study:

1. To develop a scientifically identified inventory of training needs of the employees in PRED specifically the AP-III segment, and
2. to develop a coherent action plan for imparting appropriate training to the employees



The Approach:

The design of the diagnostic cum action planning study was conceived in three distinctive phases

- i) A field study of the AP-III divisions to gain insight into the activities and operations. Towards this end, short field visits to Ongole and Medak, were undertaken by the faculty of the Centre. The opportunity was utilised to study day to day operations and to interview the field personnel - technical, semi as well as non-technical, the beneficiaries/user communities and the local leaders.

The field study yielded rich information which was useful in the development of the diagnostic instruments for the participatory workshops, planned as part of the study.

- ii) Literature Survey A large number of documents, workshop/study reports and the policy papers issued from time to time by the Government of India, the PRED, the NAPO and the Review and Support Missions were made available to the study team. The literature survey helped in gaining proper orientation and insight into the perspectives, policies, problems, projects and programmes on the external supported rural water supply projects. (A list of the documents surveyed is presented in Annexure-5)
- iii) Diagnostic Workshops These workshops were designed to provide opportunities to select personnel for assessing their own organisation, on a wide band of performance parameters. The process of organisational assessment by its own employees, is conceived to provide and achieve the following
 - a) opportunity to the participating personnel for carrying out a deliberate and unbiased introspection, free of the constraints in a hierarchical situation,
 - b) to promote personal participation and involvement in identifying the performance/training needs, and
 - c) to facilitate attitudinal conditioning, compatible to training/development interventions likely to follow.

The one day work shop modules consisting of eleven separate diagnostic instruments, were conducted in three batches. Over 50 personnel right from the Engineer-in-Chief to Asst Engineer - the first level supervisory position, participated in the workshops. In addition to the staff of the PRED

especially from the N.A.P Divisions, the Advisor and the CD Specialist from the NAPO and the external specialist from the ETC Foundation, participated in the workshop. The profile of the participant group provides a fair sample of all the supervisory positions in the PRED/NAP

The participant profile by position, is presented below

<u>Participant Group by Designation</u>	<u>No of Participants</u>
1. Engineer-in-Chief	1
2. Chief Engineers	2
3. Superintending Engineers	4
4. Executive Engineers	8
5. Dy.Executive Engineers	14
6. Asst Executive Engineers/Asst Engineers	17
7. Geologists	3
8. External Support Agency	3

	52

Workshop Design:

The training need identification was carried through "array analysis" of 4 performance vectors - Each designed to bring out the gap between the intended and actual dimensions of performance

1. Organisational Climate	- Interpretative diagnosis - Performance Vector -I
2. Organisational Autonomy	
3. Leadership	
4. Management & Administration	
5. Consumer Orientation	
6. Technical Capability	
7. Developing & Maintaining Staff	
8. Organisation Culture	
9. Interaction with Key External Institutions	
10. Skill deficiency	
11. Personal Competence in Management	- Self diagnosis - Performance Vector-IV

The first of the vector group was designed to facilitate interpretative assessment of the fit between the objectives, the strategies and the individual employee - thus opening a window on the structural and the personnel capacity deficiencies

The second group of the vectors was designed to facilitate interpretative assessment of the status of effectiveness on performance - thus opening a window on the operant pattern of performance standards, profiled by category and scale of effectiveness

The third group of the vectors was designed to facilitate self diagnosis of skill needs, for developing a comprehensive list of topics to be targeted for coverage in the MDP design

The fourth group of the vectors was designed to facilitate self diagnosis on blockades to learning or propensity towards training

Role of Discussants The study approach was also discussed with the CD specialist and the Advisor, NAP, and the expert from the E T C, during their participation in the workshop and the emerging trends in broad terms were presented during workshop meeting

Post workshop Discussions The workshop out put in broad terms was presented to Engineer-in-Chief and other senior officers of the PRED The Engineer-in-Chief expressed satisfaction at the methodology adopted for identifying the training needs as well as the emergent pattern of training need

2. SUMMARY ANALYSIS

i) ORGANISATIONAL CLIMATE

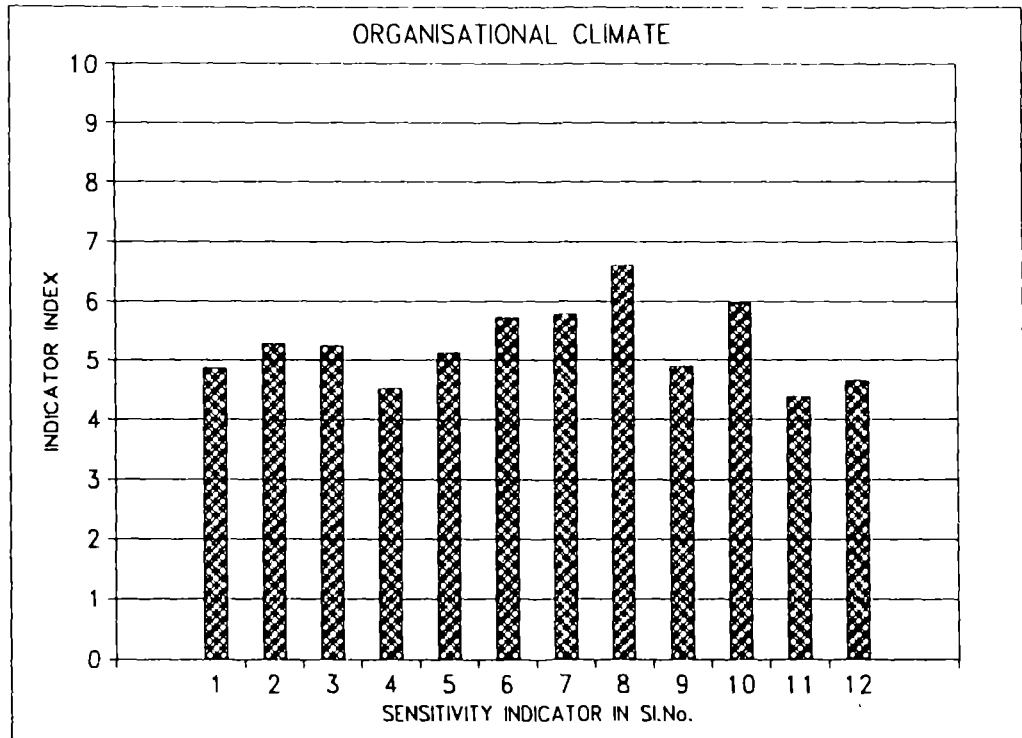
The first of the performance vector to be taken up for participant assessment was related to identification organisational climate. The term connotes the situational compatibility to performance latent in an organisation. The contemporary performance paradigm conceives the following eight interlocking factors in the management of any enterprise and the quality of interlock becomes indicative of the organisations health and effectiveness. Conversely any gaps in the interlock indicate deficiencies - personal as well as structural, which could be bridged by designing and implementing appropriate correctives

- a) Objectives
- b) Strategies
- c) Systems
- d) Structures
- e) Resources
- f) Staff
- g) Supervisory Styles
- h) Value sharing

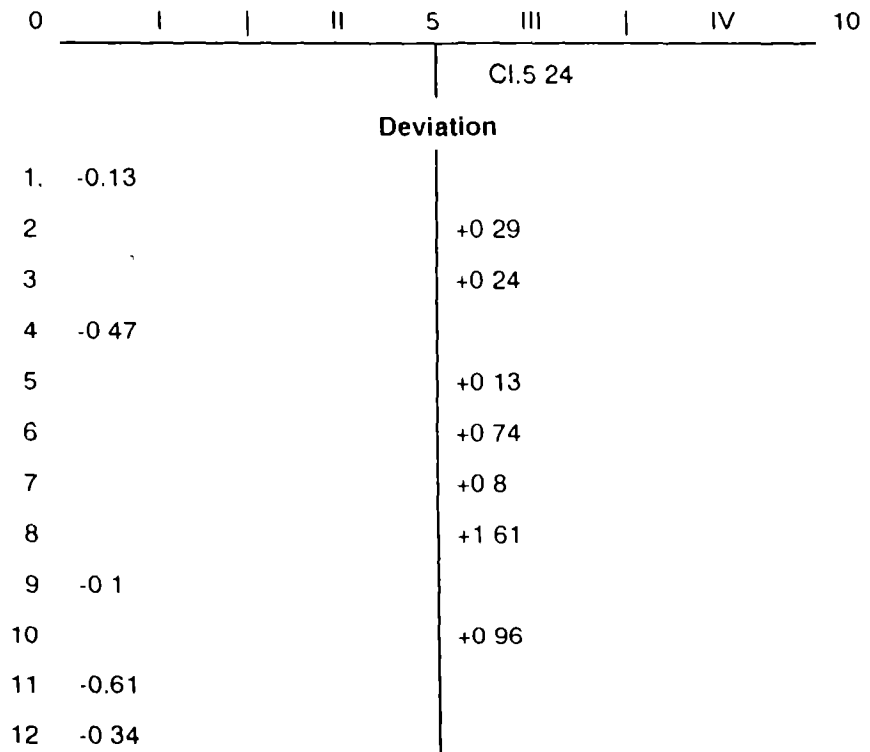
These 8 vectors were arrayed into 12 indicators each on a 10 point scale for assessment. The responses were statistically processed and the individual indicator indices are profiled below.

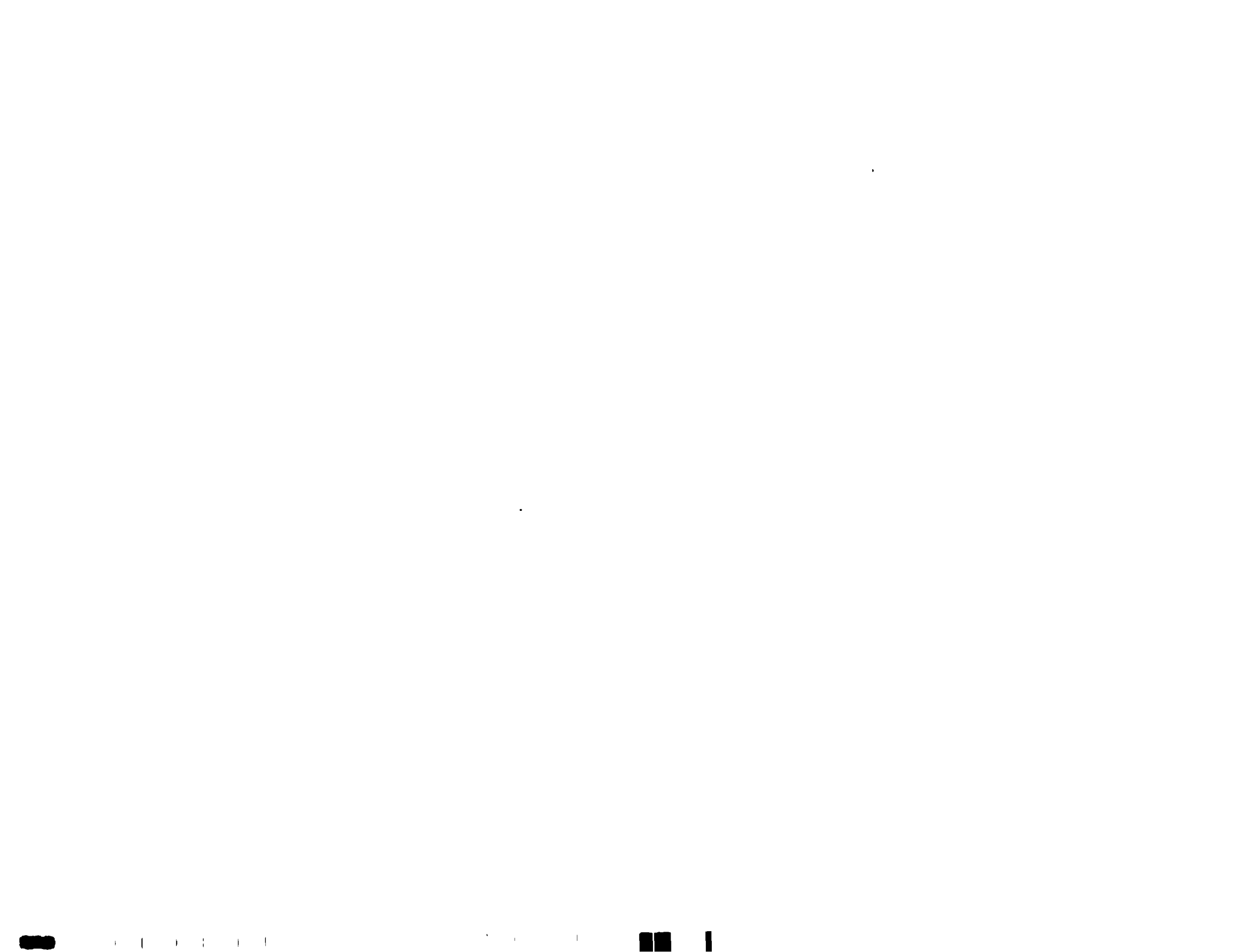
Sl. No.	SENSITIVITY INDICATOR	N:46 INDICATOR INDEX
1.	Clarity in the enunciated Objectives/Goals of the Organisation	4.87
2.	Acceptance of the targets	5.29
3.	Clarity on the stated strategy for achieving results	5.24
4.	Sensitivity to the need for achieving results	4.53
5.	Status on updating the activity plans	5.13
6.	Sensitivity to the need for programming (Scheduling) the activities.	5.74
7.	Acceptance of the planned schedules	5.8
8.	Sensitivity to the need for resource planning	6.61
9.	Sensitivity to the need for project/ program evaluation	4.9
10.	Sensitivity to the need for optimisation of resource application	5.96
11.	Sensitivity to the need for standardisation of procedures/operations	4.39
12.	Congruence between the policy, strategy and consideration for employees expectations	4.66
<u>Category Index (CI)</u>		<u>5.24</u>





FORCE-FIELD ANALYSIS:





WEAKNESSES:**STRENGTHS:**

1	Lack of Standardisation	1	Resource Planning (budgeting)
2.	Lack of Result orientation	2	Resource Application
3.	Gap between policies and consideration for employees' needs	3	Work scheduling

Inference:

The data returns reveal the interlock efficiency at a stage marginally higher than normal average Category Index (CI) 5.24

The implications are. lack of cohesiveness and convergence in the operation of the management vectors. To begin with, it can be seen that on the indicator of clarity in the enunciated goals and objectives, the sample index stands at 4.87 which hypothetically implies that at least 6 out of a possible 10 statements on objectives are not clear to the employees. The reasons for the lack of clarity may be latent in the employees or the system itself. And without clarity of purpose or objective or what needs to be achieved, organisational efforts can never be cost effective.

An immediate intervention should be directed towards improving the clarity. Possibly up-gradation of management skills in objective/goal setting or improving the effectiveness of communication down the line. As can be seen both the elements can be the areas for training. It can also be seen that the vector of clarity on objectives, performs the role of a catalyst in improving the operant efficiency of other vectors for example task targeting - standards as well as evaluation, becomes easier, once the objectives become clear, so also the strategy formulation, which involves identification and analysis of alternatives, selection of the most suitable from amongst the potential range and adoption, which again shows up its links with objectives.

The statistical analysis was followed by a force field analysis of all the 12 indicator indices. For the purpose, the same 10 point scale was used for each of the indicator - the mid point of the scale '5', to represent the neutral point on the synergy equilibrium. The indicator indices above the point being considered as pro-synergic - were ranged on one side and the indicators below the point being considered non-synergic - were ranged on the other side. The net differential on the synergy equilibrium reveals the PRED as a pro-synergic organisation, strong (though marginal) on 7 of the 12 climate indicators and weak (again marginal) on 5 of 12 indicators. The major strength being the organisational ability on resource planning (budgeting) followed by resource application and work scheduling in that



order. The performance scenario is confirmative of a traditional and healthy government department with emphasis on procedures and methods tailored to comply with the traditional annual budget systems. Financial resource inputs are viewed as heads of expenditure and the progress of expenditure is monitored through a detailed system of checks and balances.

Glaring amongst the indicators on the side of weakness were, lack of standardisation lack of result orientation and lack of congruence between the organisational policies and the employee needs, thus revealing an impersonal and routine oriented organisation where work standards are set more by precedents rather than by deliberate efforts.

As against the passive organisational image implementation of the RWS projects demand result orientation, innovation, scouting and securing state art technology and management and proactive public relations.

An Integrated management development programme designed to improve the employee ability on all the 12 Climate Indicators, should be launched on priority. The programme may comprise of a series of modules starting from basic to advanced levels of skill transfer. Every employee from the supervisory cadre, should receive the exposure in totality. The modular design should be conceived to facilitate exposures of short duration to overcome the barrier of employee reluctance to stay away from families for longer duration and to obviate the need for substitutes at work spots.

The training infrastructure and the facilities available at the RCUES can be marshalled to service the program in the initial stages progressively increasing the involvement of the RDTC.



ii) **PERFORMANCE ASSESSMENT BY CATEGORY**

The second group of the performance vectors, taken up for assessment comprised of the following performance categories in the order of listing

- a) Organisational Autonomy
- b) Leadership
- c) Management & Administration
- d) Consumer Orientation
- e) Technical Capability
- f) Developing and Maintaining Staff
- g) Organisational Culture
- h) Interactions with key external institutions

A performance category is a set of related skills, procedures and capabilities, which define a specific area of organisational function or performance. The term 'Organisation' stipulates presence of all the eight performance categories mentioned.

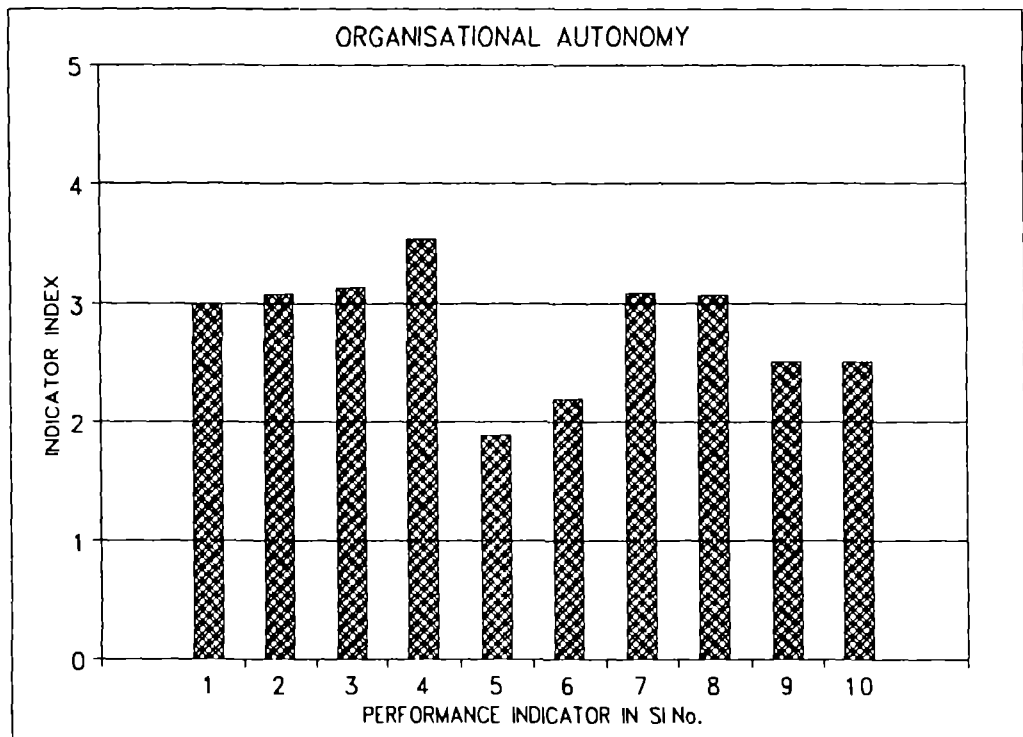
Each of the performance category was constituted into distinct sets of indicators for facilitating interpretative analysis of performance, which may reveal the training needs in each area. The term 'indicator' reflects a specific set of measurable behaviours or procedures related to a performance category which when analyzed together, indicate the level of employee competence in the respective performance category. Constituting each category of performance into several indicators, was done to facilitate objective assessment by the participants. The data analysis is carried out as was done in respect of 'Organisational Climate'. The data analysis is profiled in seriatim.

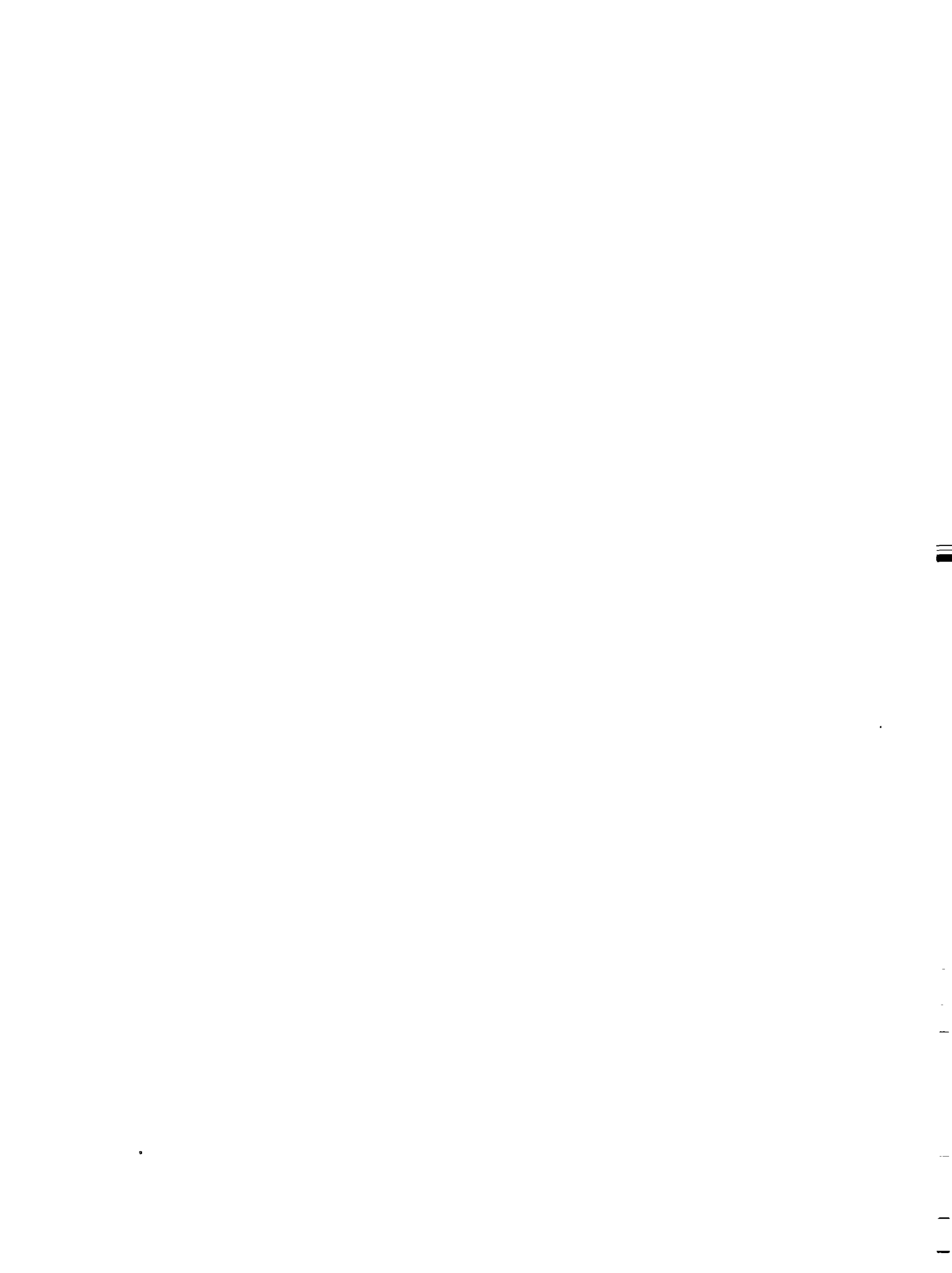
A) **ORGANISATIONAL AUTONOMY**

The first of the performance categories taken up for the participant assessment 'Organisational autonomy', connotes the level of independence in operations from the state government, regulatory bodies or external support agencies, latent in the organisation. While not unrestrained, the component of independence becomes essential to the extent that the institution is able to conduct its activities and meet its responsibilities in an effective manner with minimum interference and controls by other entities.

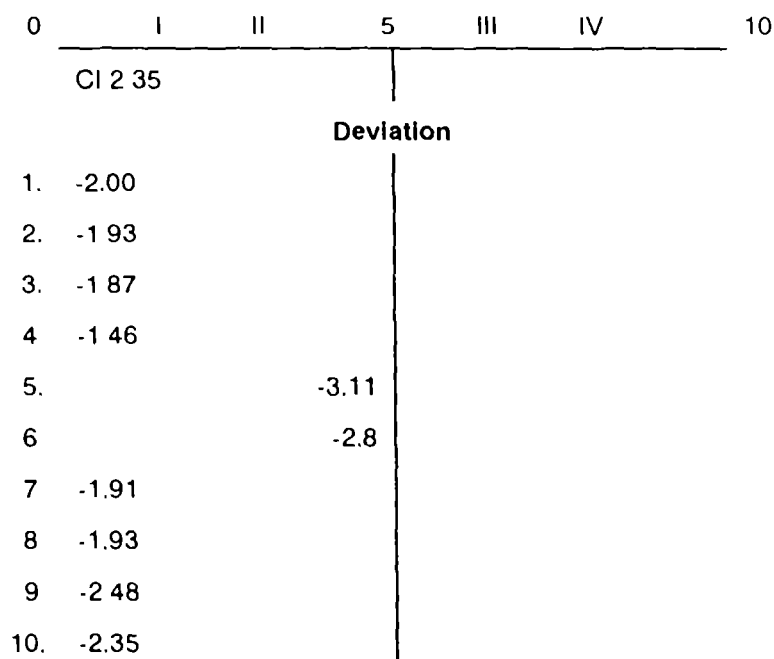
Effective organisational autonomy is characterised by the power to make decisions about budget, recruitment, pay and incentives, control on personnel, institutional policies, planning and construction and organisational goals. The performance category was diffused into 10 indicators for the purposes of assessment and the data analysis is profiled below.

Sl. No	PERFORMANCE INDICATOR	N:46 INDICATOR INDEX
1	Scope for Policy Formulation, Review and Modification	3 00
2.	Scope for strategic and tactical planning.	3 07
3	Scope for long term planning	3 13
4.	Scope for Resource Budgeting	3 54
5.	Scope for Determination, Review and Implementation of Tariff structures	1 89
6.	Scope for Revenue generation and Management.	2 2
7	Scope for Planning, Acquisition and Management of Manpower	3 09
8.	Scope for Personnel Control	3 07
9	Scope for Determination and Review of Wage and Salary Structures	2 52
10.	Scope for Organisation Review and changes in job classification	2 52
Category Index (CI)		2.35





FORCE-FIELD ANALYSIS:



TARGET AREAS FOR IMPROVEMENT INTERVENTION:

1. Determination, Structuring, Implementation and Review of Water Tariff
2. Revenue Management In Water Supply Systems
3. Personnel Management-Incentive Structuring
4. Organisation Development.

Inference:

The assessment arrived through the first group of performance vectors stands totally corroborated. It can be seen that the category index being at 2.35 covering 10 indicators falls within the first quartile on a 10 point scale indicative of low level of independence - the primary feature of any government department. The implications are elongated lead time on policy formulation, review and modification, as a result of the need to conform to the 'due process' prescribed by the statutes, rules and regulations from time to time. While the PRED is shouldered with what essentially is a development function, the organisation's reactive ability in addressing the problems encountered in the course of project implementation is highly restricted. The very sense of 'being restricted', causes a chain of dysfunctional tendencies in the staff, curbs creativity and innovativeness and encourages 'play safe' attitudes. It is absolutely essential for the PRED to carry out an organisational analysis and review

Concurrently, a strategic intervention to minimise the dys-functionalism, through a balanced blend of administrative and training interventions can pay rich dividends. For example the level of independence may not find any correlation with the organisational capacity in respect of strategic and tactical planning, job analysis and audit, decentralisation of personnel control, resource budgeting etc. Quite often, the apparent restrictions on autonomy are used to camouflage personnel morbidity.

The PRED may be well advised to initiate training interventions to contain and to dispel the consequences of skill deficiencies in strategy formulation, tactical planning, man power planning, project resourcing etc.

The corrective interventions other than Training are profiled below

<u>Performance Category</u>	<u>Potential Impact Activities</u>	<u>Level of Difficulty in Making Improvements</u>
Autonomy	Change legal charter to delegate operating authority down the line	High
	Obtain authority for implementing cost recovery policies.	High

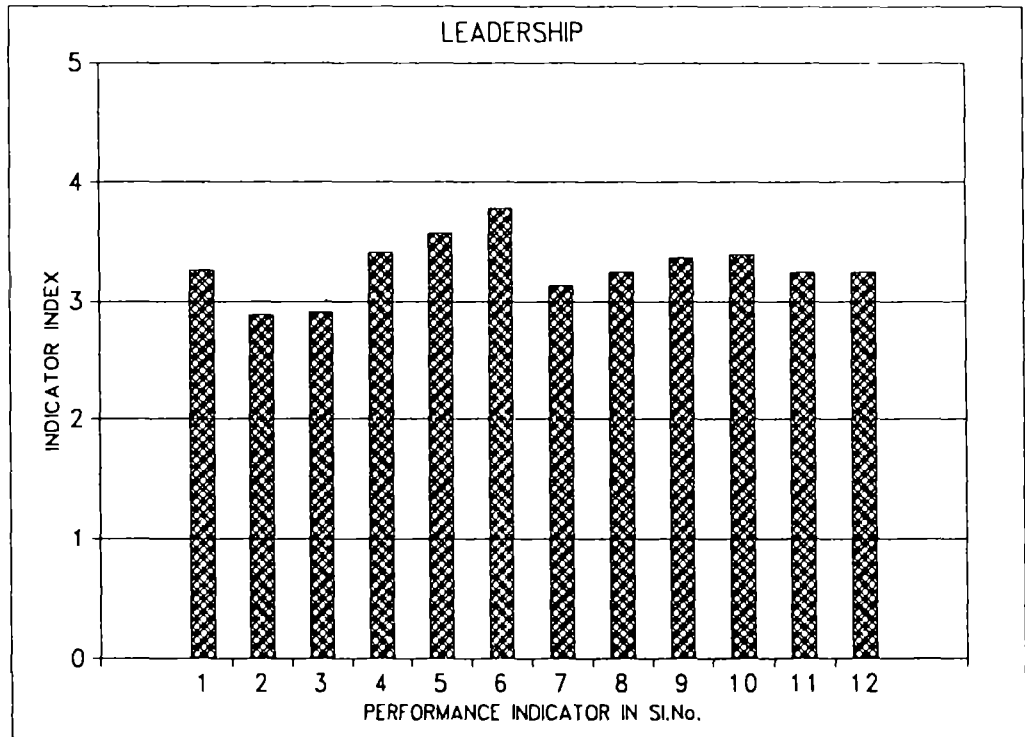
B) LEADERSHIP

Development efforts require strong Organisational support and leadership. If an organisation has weak leadership with few prospects for change, each step it takes will be fraught with confusion, it will become dependent on outside consultants, and ultimately will not be able to sustain change. Institutional improvement efforts may be perceived as a threat by insecure leaders and be subverted. In this situation, the development strategy needs to start at the supervisory positions before major investments are made to improve the entire institution.

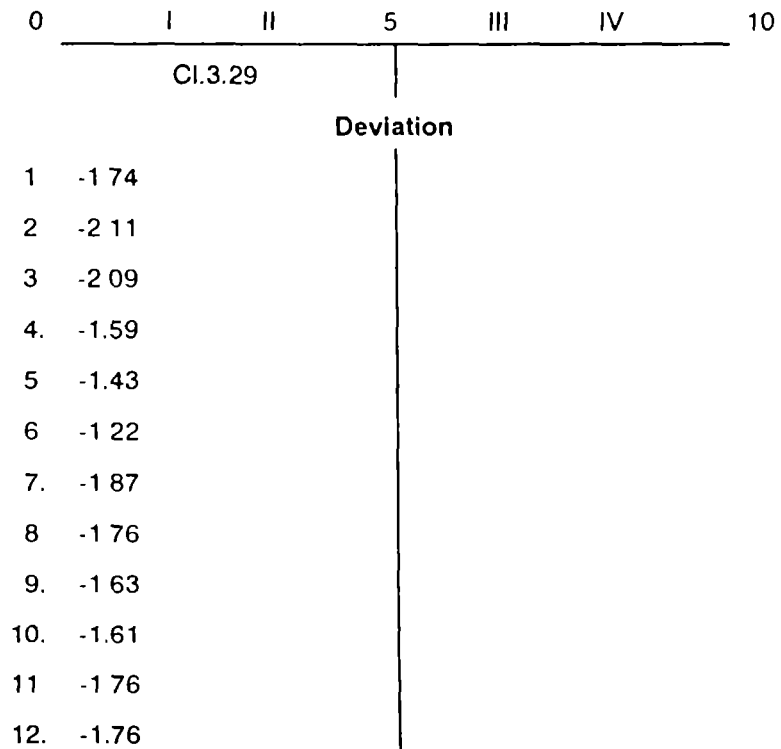
Leadership is the ability to inspire others to understand the institution's mission, to commit themselves to that mission and to work toward its fulfilment. It goes well beyond proficiency in management skills. Effective leaders serve as positive role models. Given sufficient autonomy and good leadership, the relative importance of the other categories becomes less critical. If an institution has strong leadership (or the potential for developing it) and the capacity to make decisions affecting its future in critical areas, then its strengths and weakness, shown in the assessment, become the basis for serious consideration for project design.

The performance category of leadership was diffused into 12 indicators for the purpose of assessment and the data is profiled below.

Sl. No.	PERFORMANCE INDICATOR	N:46 INDICATOR INDEX
1.	Ability on Setting Objectives and Action plans.	3.26
2.	Level of Role modelling (honesty, enthusiasm and balancing Organisational and employee needs).	2.89
3.	Adequacy of expertise on operations to inspire trust	2.91
4.	Consistency in hard work and support to the rank and file	3.41
5.	Demonstrated competence and interest in the work	3.57
6.	Orientation to Goals and Results	3.78
7.	Demonstrated ability to define Standards, Fairness in adherence, Feed back and Enforcing Discipline	3.13
8.	Effectiveness in Communication	3.24
9.	Team Orientation	3.37
10.	Creativity and Futuristic Orientation	3.39
11.	Demonstrated personal integrity and ability to install the same in others.	3.24
12.	Ability at resolving Problems and guidance to staff on technology and Management	3.24
Category Index (CI)		3.29



FORCE-FIELD ANALYSIS:



TARGET AREAS FOR IMPROVEMENT INTERVENTION:

1. Organisation Development
2. Operations and Maintenance
3. Standardisation in Operations, Procedures and Quality Control

Inference:

On the category of leadership the PRED scores low. The category index of 3.29 comprising of 12 performance indicators falls in the first quartile of the 10 point scale. Leadership effectiveness need not be exclusive to any specific level or group of employees. The thread of leadership should run through every position in the organisation. This apart, effective leadership stipulates effective followership. The PRED personnel have revealed (through their own assessment) a need for training in effective supervision and leadership. Such a training module may cover the following areas of management science

1. Objective setting and action planning
2. Effective communication.
3. Team building.
4. Problem identification and strategy planning.

The PRED will need to develop its own rationale to develop an order of importance within the context of the information. In setting these priorities, it is useful to consider which indicators should be improved to net the highest potential impact on the problem areas

C) **MANAGEMENT AND ADMINISTRATION**

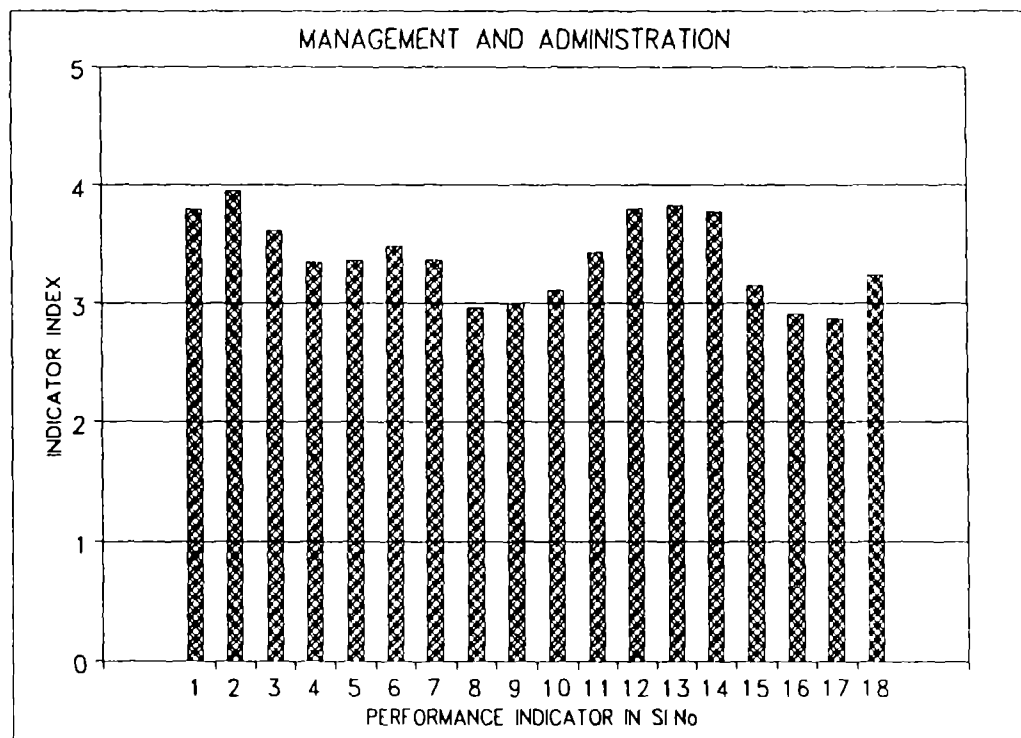
The term "Management" connotes, organising people and resources to accomplish the work of the institution. Good managers have a clear sense of goals and priorities, know how to optimise resources, identify reliability of subordinates and delegate consonant authority. The climate is characterised by team work, cooperation and good communication.

A sound base for management skills, implies the existence and use of pro-active administrative systems, policies and procedures which regulate and guide the actions of management. An effective organisation would have designed or evolved pro-purposive sub-systems such as personnel, budget, accounting, financial management, material procurement, and management information systems.

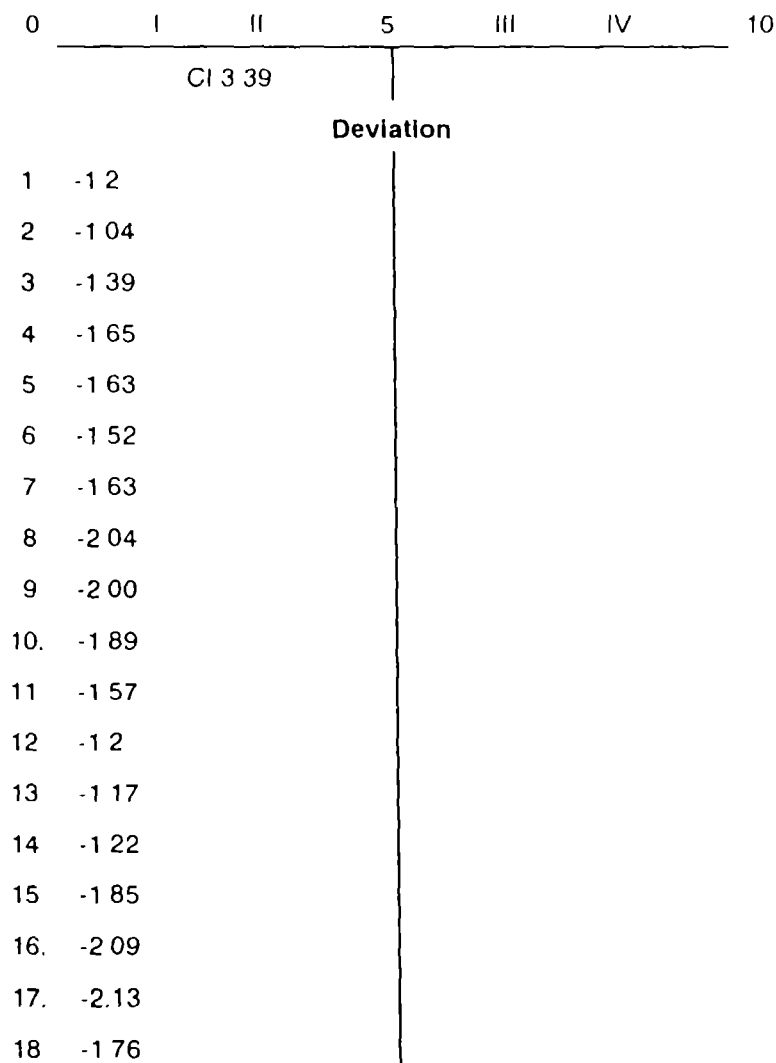
The performance category was diffused into 18 indicators for the purpose of assessment and the data is profiled below.

Sl No	PERFORMANCE INDICATOR	N:46 INDICATOR INDEX
1	Clarity on Roles and Responsibility.	3.8
2	Clarity on the purpose of the project	3.96
3	Clarity on job content	3.61
4.	Clarity on delegation of Authority.	3.35
5	Clarity on the Bench marks for Monitoring and Review.	3.37
6	Clarity on the function specific objectives	3.48
7	Clarity on Accountability	3.37
8.	Consistency on follow through on tasks	2.96
9.	Effectiveness in communication-Inter and Intra levels	3.00
10	Ability at setting Personnel Performance standards as well as evaluation	3.11
11.	Team spirit	3.43
12	Systematisation and level of conformity pertaining to Budgeting	3.8
13	Systematisation and level of conformity pertaining to Accounting.	3.83
14	Systematisation and level of conformity pertaining to Material Procurement.	3.78
15	Systematisation and level of conformity pertaining to Management Information	3.15

SI No	PERFORMANCE INDICATOR	N:46 INDICATOR INDEX
16	Systematisation and level of conformity pertaining to Personnel Management	2.91
17	Systematisation and level of conformity pertaining to Maintenance Management	2.87
18	Systematisation and level of conformity pertaining to Inventory Control	3.24
Category Index (CI)		3.39



FORCE-FIELD ANALYSIS:



TARGET AREAS FOR IMPROVEMENT INTERVENTIONS:

- 1 Personnel Management
- 2 Management Information System
- 3 Preparation and Implementation of standard Operating Procedures
4. Organisation Review and Redesign

Inference:

On the performance category of Management and Administration also the PRED has emerged in a less than satisfactory light. The category index at 3.39 covering the 18 indicators falls in the second quartile on the 10 point scale. The work shop participants have revealed training needs in the following areas

- 1 Personnel Management
- 2 Office Management in government
- 3 Materials Management
- 4 Maintenance Management
- 5 Standardisation and preparation of standard operating procedures
- 6 Documentation, Storage & Retrieval

The corrective interventions other than training are profiled below

<u>Performance Category</u>	<u>Potential Impact Activities</u>	<u>Level of Difficulty in Making Improvements</u>
Management & Administration	Improve management information systems	High
	Develop management skills	Medium
	Set-up modern accounting system	High
	Develop a manual on personnel management	Low

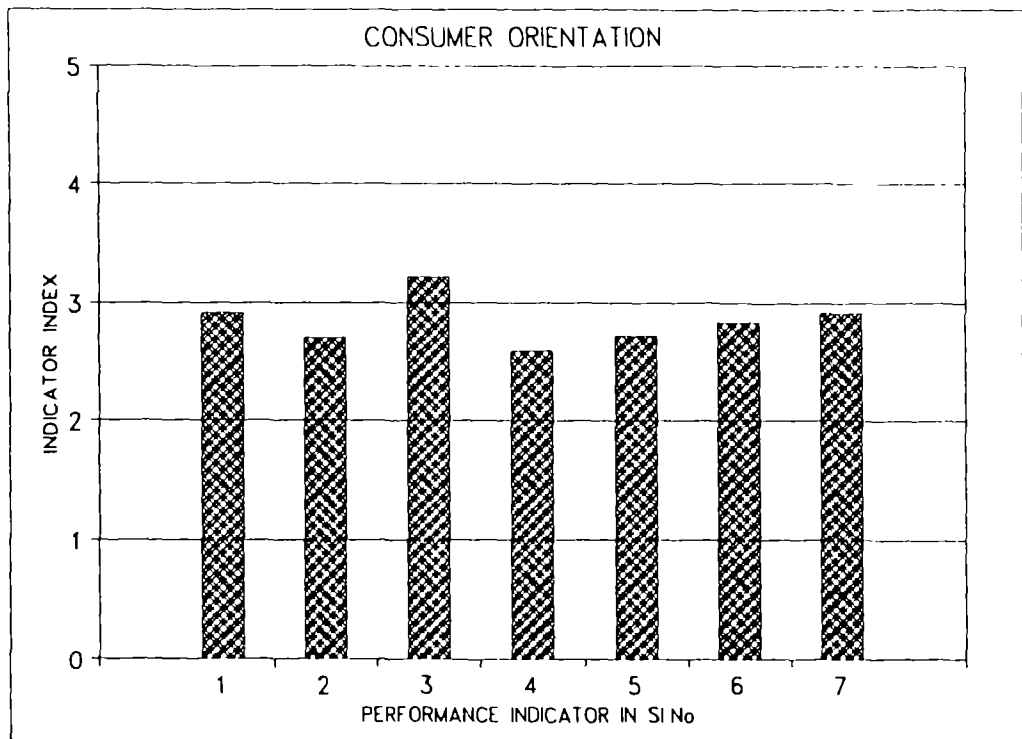
D) CONSUMER ORIENTATION

Consumer orientation is organising and directing the services of the institution, towards consumer's felt needs. Institutional effectiveness depends on the priority with which its staff views the function. All the work, the programmes, innovations towards greater efficiency, effectiveness and equity are to be tailored to achieve consumer satisfaction. Effective institutions have workable means wherein consumers can interact with them. These may include emergency outlets or 'hotlines' for immediate access when there are crises, clearly identified places where disputes about services can be arbitrated, systems which the interested consumers can make use for suggestions on overall policy, and so on. Creative and cost-effective ways are sought to inform and educate the public. Where consumerism is not present, political means are employed to attain an effective level of consumer protection. The consumer orientation of the Organisation will be most effective if understood and acted on by every employee and decisions at all levels would be consumer conscious. The budget formation process will become most effective, if employees at all levels try planning and operations with a healthy all around consensus to set priorities in line with organisational mission and goals.

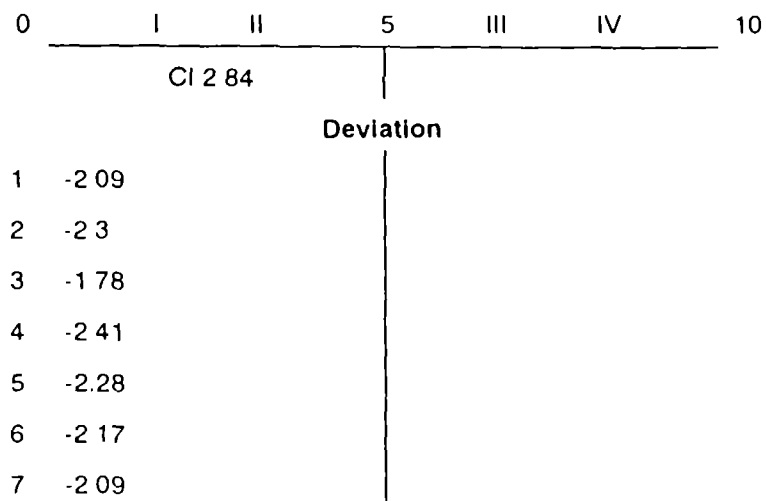
The performance category was diffused in to 7 indicators for the purpose of assessment and the data is profiled below

SI No	PERFORMANCE INDICATOR	N:46 INDICATOR INDEX
1	Level of Consumer Orientation	2.91
2	Clarity in systems and Procedures for Interaction with consumers	2.7
3	Sensitivity to Complaints, Emergencies and Suggestions from Consumers	3.22
4	Systems and their Effectiveness, for Educating consumers on Institutional Services and Requirements	2.59
5	Systems and their Effectiveness, for Encouraging Consumer Participation	2.72
6	Systems and their Effectiveness, for Projecting Positive Image of the Organisation	2.83
7	Level of Consumer Complaints	2.91
	<u>Category Index (CI)</u>	<u>2.84</u>



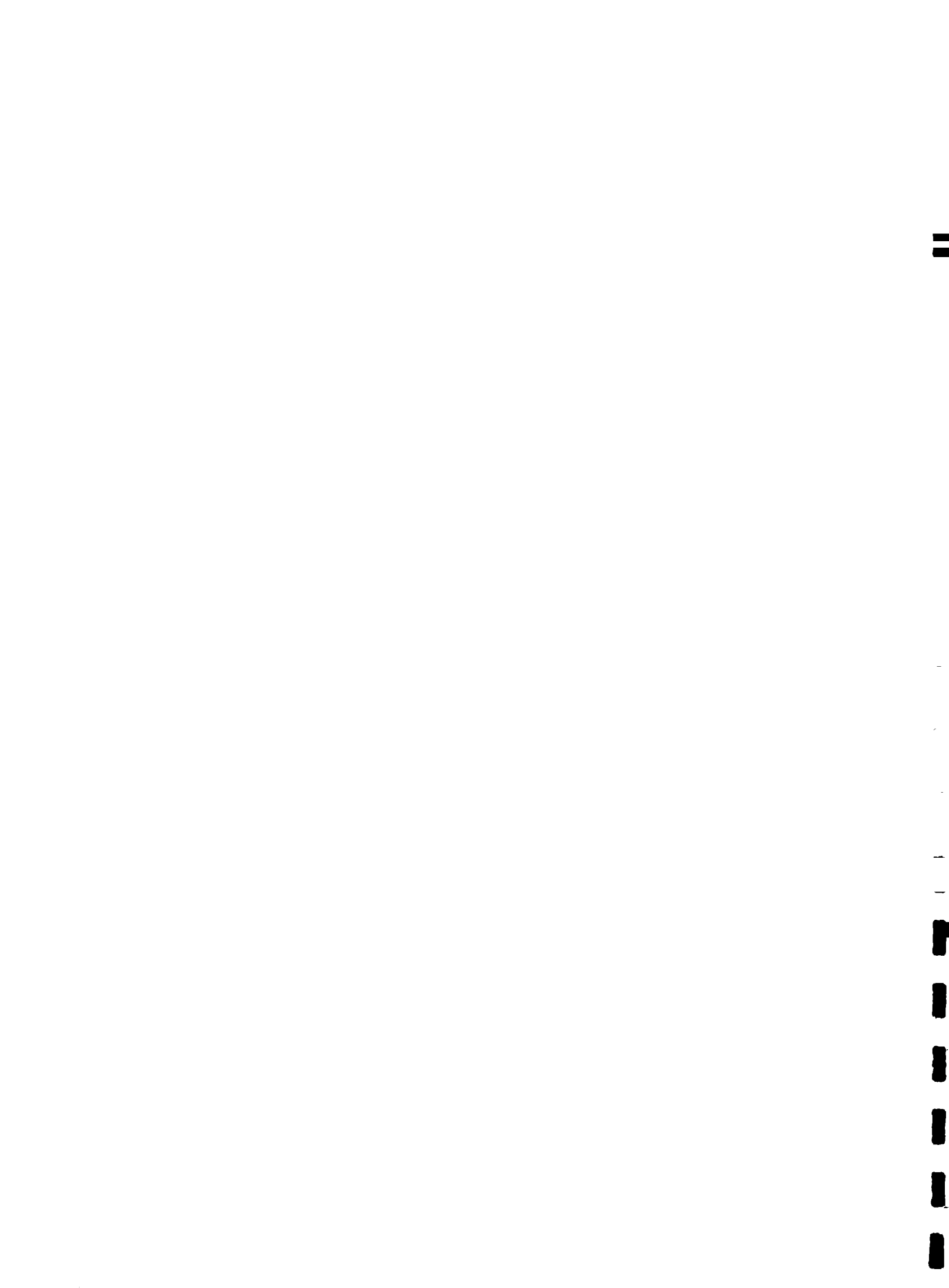


FORCE-FIELD ANALYSIS:



TARGET AREAS FOR IMPROVEMENT INTERVENTION:

- 1 Techniques/procedures for Improving Consumer Awareness.
- 2 Citizen-Administration Relationship.
- 3 Techniques/Procedures for Enhancing Consumer Participation



Inference:

On the performance category of consumer orientation, the image of the PRED, as assessed by the participants in the workshop, is equally unsatisfactory. The category index at 2.84, falls in the lower end of the second quartile on the 10 point scale. The term 'consumer orientation' was conceived in a restricted form i.e. limiting it to relationship with externals/user community only. In the science of management, the term has a wider meaning and implications. The participants have revealed the following training needs:

- 1 Quality assurance and management
- 2 Citizen - Administration relationship
- 3 Enhancing user participation - Techniques/procedures (Feed forward, Feedback, Communication networks etc.)

The corrective interventions other than training are profiled below:

<u>Performance Category</u>	<u>Potential Impact Activities</u>	<u>Level of Difficulty in Making Improvements</u>
Consumer Orientation	Develop Consumer complaint/intake capability integrated with rapid response repair teams	High
	Design computerized system for processing consumer requests	High
	Develop a project cost/benefit system & obtain staff commitment to it	High
	Develop unaccounted for water program	High

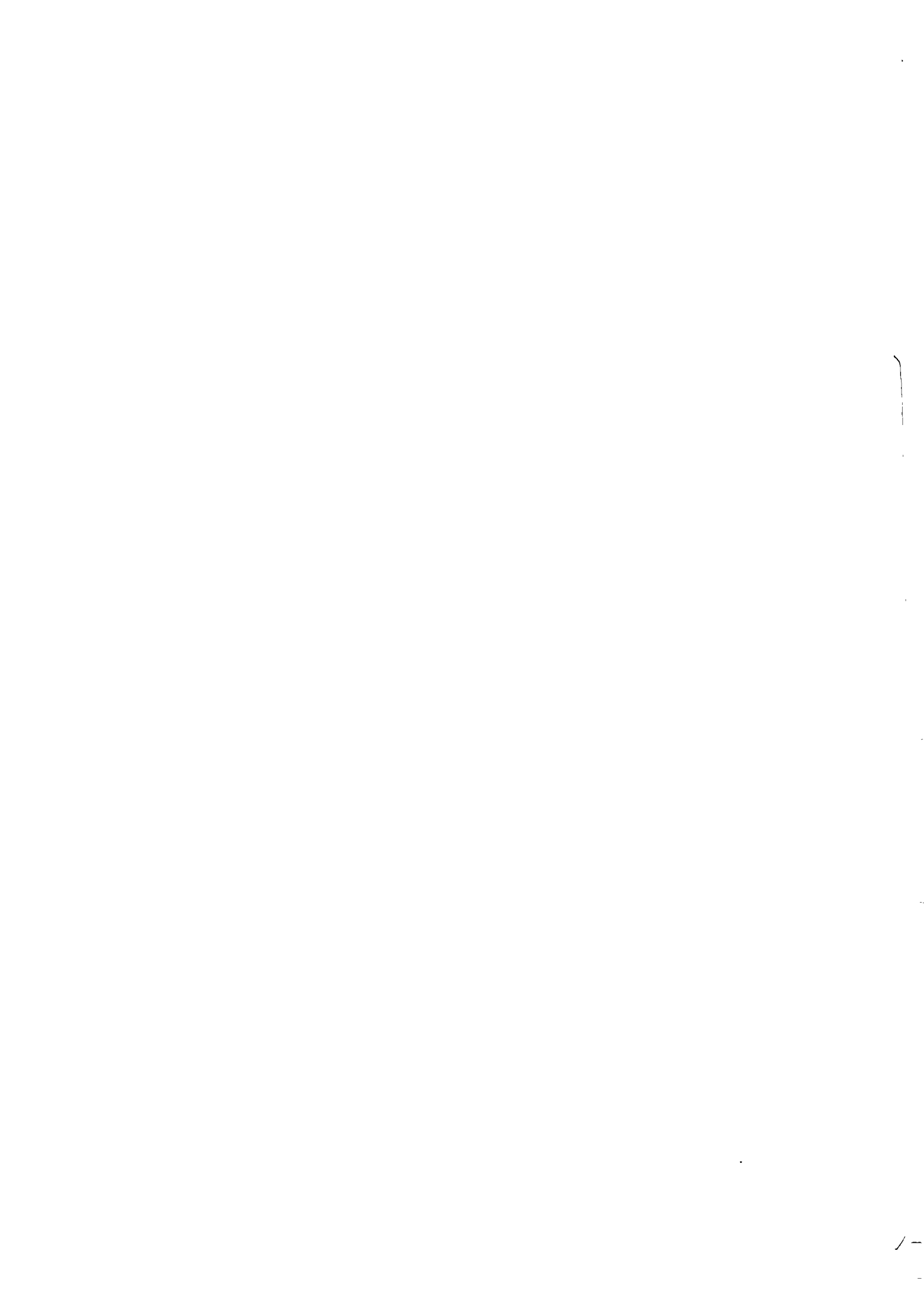
E) TECHNICAL CAPABILITY

Technical capability is the measure of the institution's competence in conducting the technical work required to carry out the responsibilities of the institution. Most of the technical work is performed directly by skilled and qualified employees. External specialists may also have a role to play but are always subject to supervision of the institution's staff.

The PRED, is essentially an Engineering organisation. The threshold qualification for entry at the first level of supervision (AE/AEE), is either a degree or diploma in Engineering. Though certain exceptions are provided, by way scope for elevation through promotion from ranks, the bulk of the personnel are qualified professionals in Civil Engineering. But, water supply and sanitation systems stipulate expertise more in public health engineering, which as a course of academic study is not available at the Graduate level of education in most of the Universities in India, even now. Thus, the PRED has to allow for the transition from civil engineer to Public Health Engineer. In the absence of formal vestibule training courses, the new entrants are left to their own resources in acquiring knowledge on public health engineering and the process of transition could be extremely slow and the personnel productivity during the period remains at its lowest. The second operant constraint in the area of technical capability, stems from the terminological confusion. For most of the participants the term technical capability, meant knowledge in their respective branches of Engineering or Sciences. However it should be noted that the term needs to be appreciated, with a wider than the perceived sense. While the participants owe their entry, to the technical qualifications, the post entry job situation can not be simply limited to application of the knowledge they had acquired as part of the course curriculum in the educational institutions. On job performance requires a combination of technical, conceptual and Management skills, of which on the last they had no formal exposure, but gained through informal methods such as advice or counselling from superiors/colleagues. While the informal learning might have been useful in a job context, its adequacy for carrying out a formal self assessment would be certainly marginal.

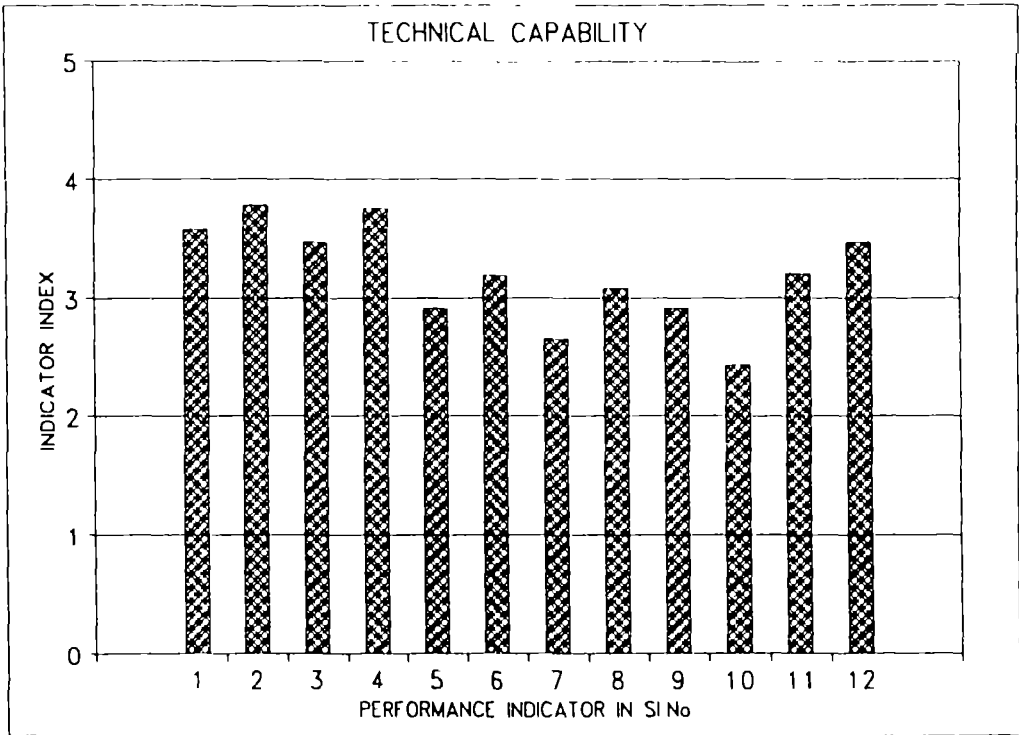
The participant assessment on the performance category of Technical capability needs to be viewed in the context

The performance category was diffused into 12 indicators for the purpose of assessment and the data is profiled in the next page

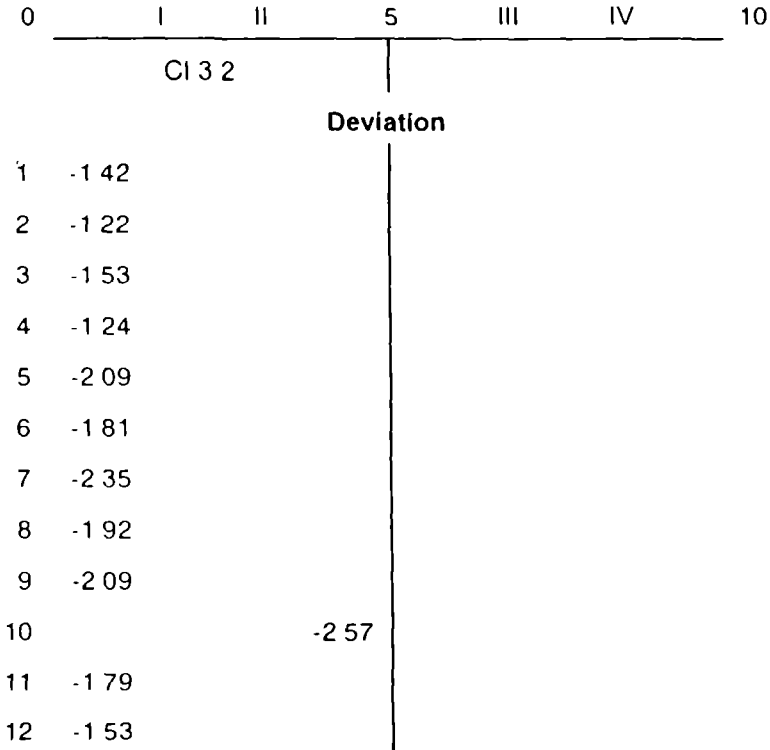


SI No	PERFORMANCE INDICATOR	N:46 INDICATOR INDEX
1	Consistency in making Sound and Effective Decisions on Assigning Responsibilities	3 58
2	Consistency and Effectiveness of Technical Operations for Quality Assurance	3 78
3	Consistency in completing Projects on Time.	3 47
4	Consistency in compliance with Technical Standards, Norms and Practices	3 76
5.	Systems and their Effectiveness for upgrading Technical Knowledge and Skills of the Staff	2 91
6	Level of Adaptation to Improved Technology	3 19
7.	Systems and the level of compliance, to validate Technology prior to effecting Transfer	2 65
8.	Level of Maintenance of in house Technical operations, for coping with the Routine	3 08
9	Readiness to seek and graft Technical Expertise from External Sources	2 91
10	Propensity to undertake in house research to improve existing procedures/methods	2 43
11.	Access to Technical Information on Planning, Design and Construction	3.21
12	Interest in learning and to keep abreast with the latest in the concerned Technical Subjects	3 47
	<u>Category Index (CI)</u>	<u>3.20</u>





FORCE-FIELD ANALYSIS:





TARGET AREAS FOR IMPROVEMENT INTERVENTION:

1. Systems and Methods on in house Research/Operations Research
2. Systems and Methods for Technology appraisal and Evaluation
3. Strengthening the existing in house Training Facility
4. Identification of External Training Resources
5. Identification and Training of Internal Trainers

Inference:

It was not surprising to find the assessment even on the performance category of technical capability, at a less than satisfactory position. The category index at 3.2, covering the 12 performance indicators, falls in the second quartile on the 10 point scale.

However, the participant assessment reveals the following training needs:

1. Operations Research - Methods
2. Technology appraisal & Evaluation - Methods
3. Training need Analysis - Methods
4. Decision support systems - Design & Applications.
5. Construction Management

The corrective interventions other than training are profiled below:

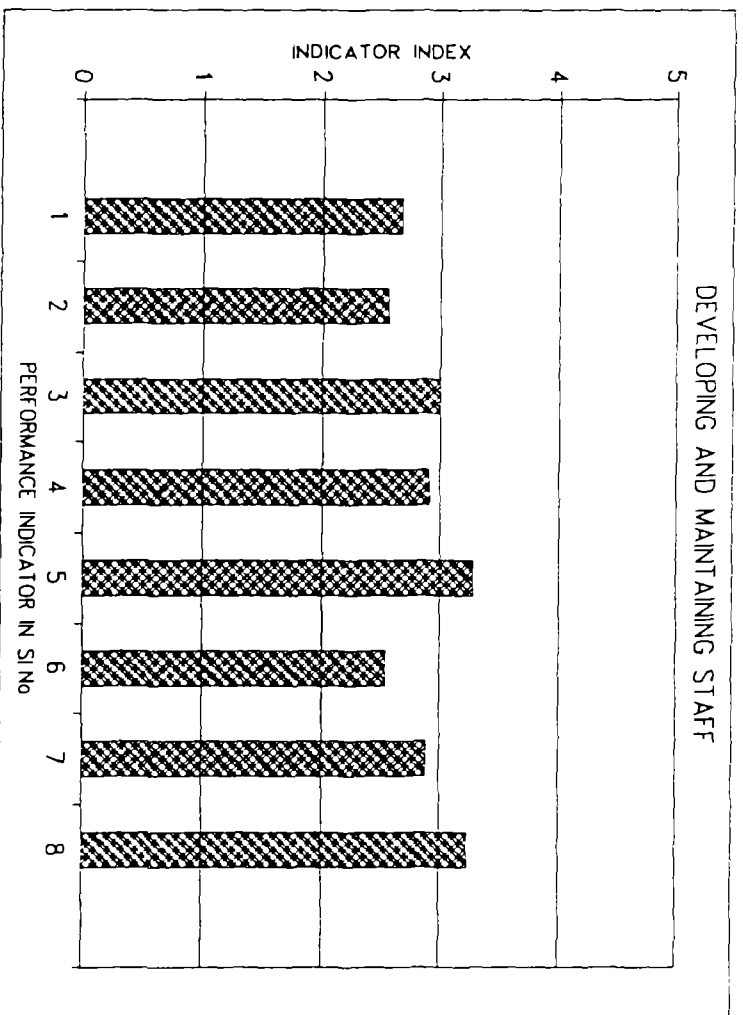
<u>Performance Category</u>	<u>Potential Impact Activities</u>	<u>Level of Difficulty in Making Improvements</u>
Technical Capability	Carry out a job analysis of all the positions	Medium
	Standardize plant designs	Medium
	Rehabilitate defunct systems	Medium
	Establish leak detection program	Medium

F) DEVELOPING AND MAINTAINING STAFF

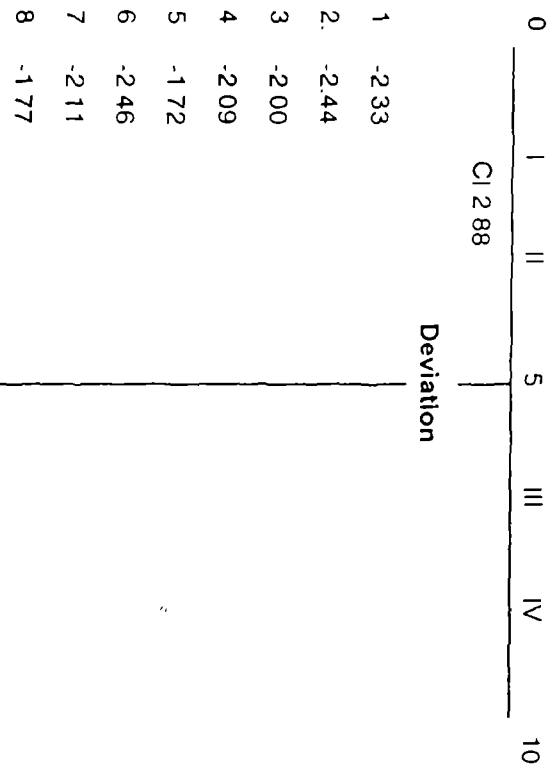
Developing and maintaining staff includes those activities directed toward recruiting staff, providing skills to perform the jobs and grow professionally and providing adequate job satisfaction and wages and benefits to retain competent personnel. Effective institutions develop and maintain their personnel which includes both formal training programmes and informal counselling that occurs through on-the-job training, apprenticeships and job rotation. In addition to a regular process of skill transfer, effectiveness stipulates provision of incentives, compensation, employee benefits and promotion opportunities. Institutions that are intent develop and maintain staff effectiveness consider that people are their most important asset. There is a constant emphasis on learning.

The performance category was diffused into 8 indicators for the purpose of assessment and the data is profiled below

SI No	PERFORMANCE INDICATOR	N.46 INDICATOR INDEX
1	Systems and their effectiveness to promote Skill transfer	2.67
2	Informal methods for the same	2.56
3	Systems and their effectiveness for developing skill needs Inventories to be used for designing Training Programmes	3.00
4	Level of involvement of Senior Executives in Training and Skill Transfer Programmes	2.91
5	Levels of interest among the staff to Learn/Upgrade current Skills.	3.28
6	Availability of a formal and organised System for developing staff competence	2.54
7	Level of employee Morale and Conviction in Organisational Membership	2.89
8	Level of Staff involvement in projecting a positive image of the organisation	3.23
	<u>Category Index (CI)</u>	<u>2.88</u>



FORCE-FIELD ANALYSIS:



TARGET AREAS FOR IMPROVEMENT INTERVENTION:

1. Planning for Employee Training and Career Development
2. Designing work relevant Training Modules
3. Employee Counselling Techniques
4. Developing the existing in house Training facility
5. Development of Operations and Maintenance Manuals including Standard Operating procedures
6. System Development to facilitate easy access and adherence to the Manuals

Inference:

The PRED personnel have revealed an acute need for instituting learning programmes on various aspects of personnel performance and development. In this context the present initiative for developing a short term action plan for training, appears to be well taken. A comprehensive study of the Human Resource Development (HRD) needs in the PRED, may be undertaken in due course of time.

The corrective interventions other than training are profiled below.

<u>Performance Category</u>	<u>Highest Potential Impact Activities</u>	<u>Level of Difficulty in Making Improvements</u>
Development and Maintaining Staff	Design & Develop a Human Resource Development (HRD) system	Medium



G) ORGANISATIONAL CULTURE

"Organisational Culture", is the set of values and norms which inform and guide every day actions and forms as a pattern of shared values, belief and assumptions which translate in to behaviour that can be observed

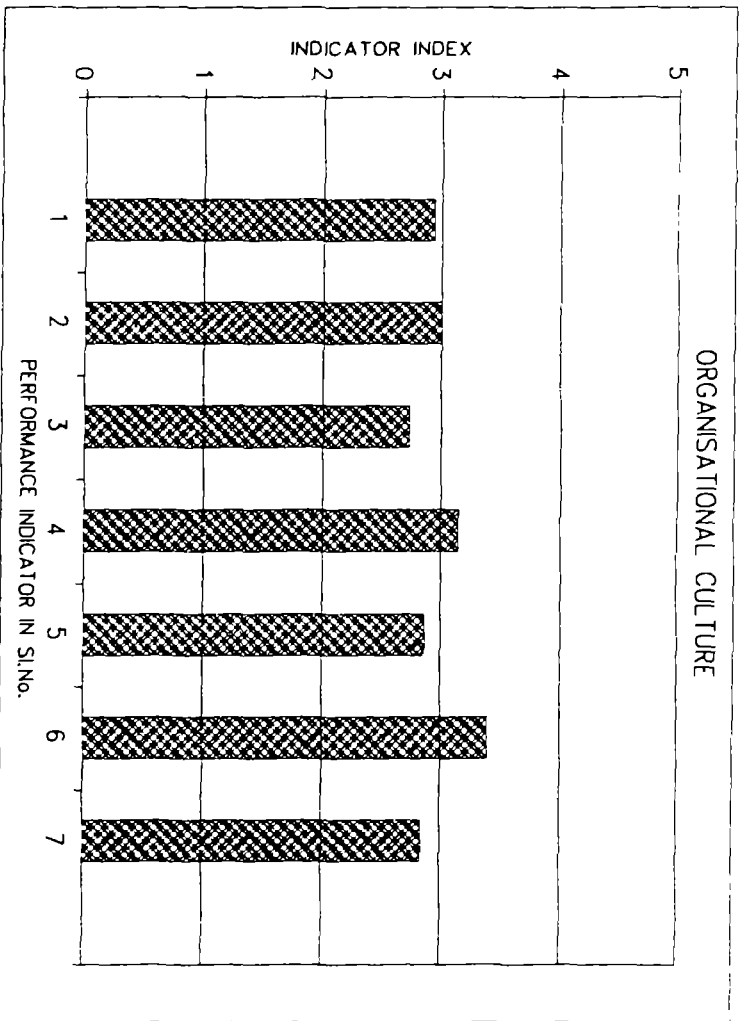
An organisation's culture is conveyed in a number of intended and unintended ways. Although often unstated, cultural beliefs, behaviours and assumptions serve as a powerful means for defining and justifying organisational operations either in positive or negative ways

Another factor in corporate culture is how the institution has dealt with change or crises. When a major change is introduced (new technology, organisational restructuring, new system of accounting, new leadership or influential staff), employees are often required to alter the way they operate. It thus becomes important to know how the organisation responds to the new systems or personnel. An unhealthy corporate culture will be highly resistant to any change. Forces will line up to protect narrow self interest at the cost of overall organisational health

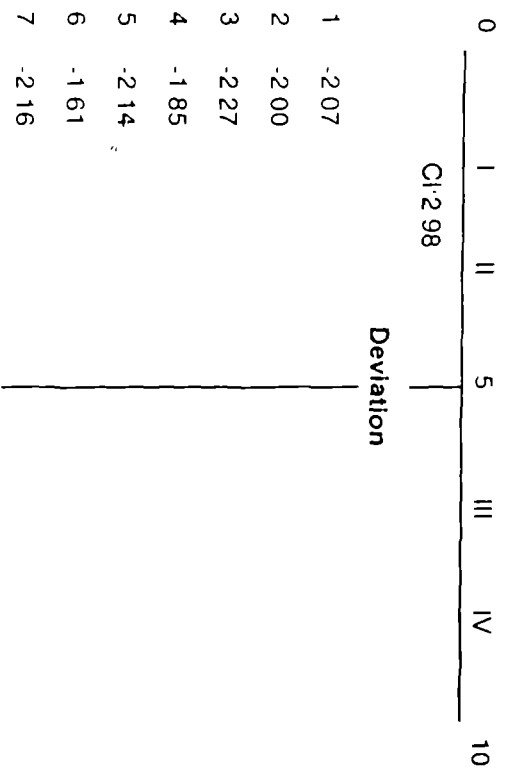
The organization with a positive culture has a clear sense of mission and identity. This is often expressed by a majority of the employees in the form of 'legends about the organizations' or messages about 'who we are'. In positive terms, this often takes the form of a sense of pride in belonging to the group and a sense of the history of the organization which is passed on from old to new employees.

The performance category was diffused into 7 indicators for the purpose of assessment and the data is profiled below.

Sl. No	PERFORMANCE INDICATOR	N:46 INDICATOR INDEX
1	Observable Team spirit among the staff	2.93
2.	Sense of Ownership and Pride among employees in the organisation	3.00
3	Propensity to articulate Achievements and Success Stories	2.73
4	Interest in maintaining a Positive Organisational Image	3.15
5	Commitment to maintain the Plant, Tools and Equipment in Serviceable Condition	2.86
6	Propensity to share Power and Status associated with good performance	3.39
7	Existence of informal groups to nurture positive inter group communication and to serve as nodes for rallying during crises	2.84
<u>Category Index (CI)</u>		<u>2.98</u>



FORCE-FIELD ANALYSIS:



TARGET AREAS FOR IMPROVEMENT INTERVENTION:

- 1 Development of Case studies on the completed projects as well as meritorious performance
- 2 Identification and Resolution of Personal Blockades to Inter Level Social Interaction

Inference:

Here again, the PRED appears to be a conservative, tradition bound, hierarchy riven organisation. The category index being 2.98, falls in the lower end of the second quartile and can positively be improved through formation of quality circles and team building exercises. The PRED also has to institute a system of recognition and rewards to motivate personnel who achieve high levels of performance effectiveness.

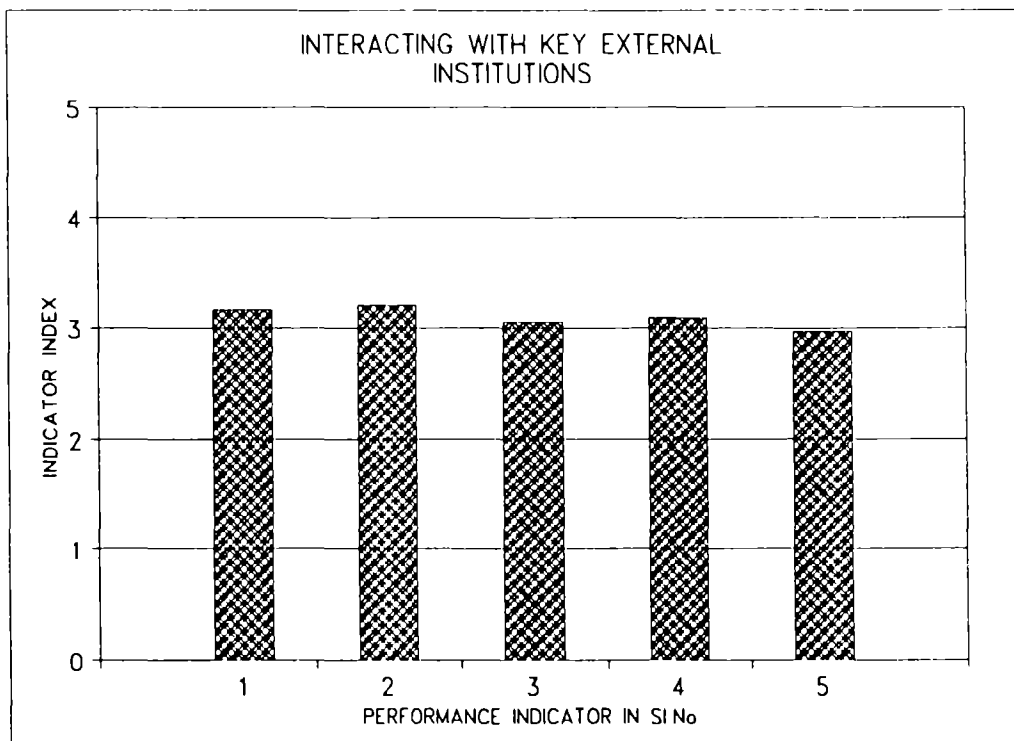
H) INTERACTIONS WITH KEY EXTERNAL INSTITUTIONS

The institution's capacity to influence positively and strategically those institutions which effect it's financial, political, and legal ability to perform, is the essential characteristic of this category

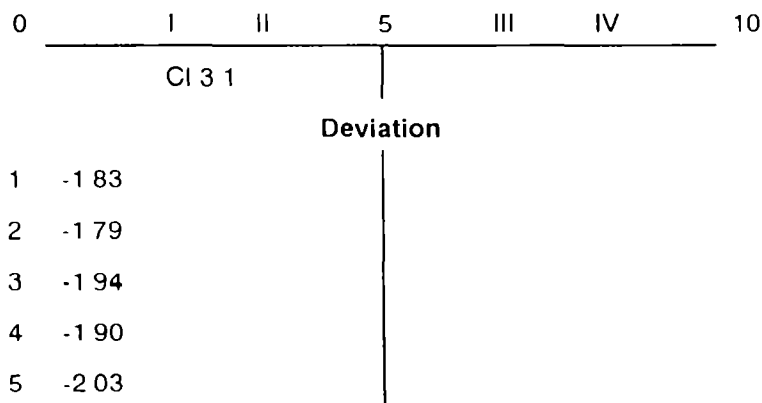
Many entities in the external environment affect the performance of a water institution. These include the political (parent ministry and legislative bodies), financial (lending sources and budget/finance ministry) and regulatory entities (local government, state government, health ministry) which wield considerable influence and the organisation has to adapt to these external entities to achieve its goals. This is usually accomplished by anticipating activities which might affect the institution and establishing strategies to deal with them.

The performance category was diffused into 5 indicators for the purpose of assessment and the data is profiled below

SI No	PERFORMANCE INDICATOR	N 46 INDICATOR INDEX
1	Level of resourcefulness of the top management, in acquiring state of art information on Policy, Financial and Regulatory Issues	3 17
2	Interest in developing and sustaining direct contact with Key individuals in the external Institutions	3 21
3	Resourcefulness in formulating and obtaining approval for policies, Legislative measures and other Determinants	3 06
4.	Ability to develop Programmes to Influence public support to the Institutional Goals	3 10
5.	Ability of the top Management to adapt creatively to Obstacles	2 97
<u>Category Index (CI)</u>		<u>3.10</u>



FORCE-FIELD ANALYSIS:



TARGET AREAS FOR IMPROVEMENT INTERVENTION:

- 1 Designing and Organising comprehensive Management Development Programmes in Corporate/Business Planning, Interpersonal Relations, Management in Government and Public Relations

Inference:

On the performance category of interactions with key external institutions, the PRED has emerged comparatively strong. The category index being 3.1 falls in the higher end of the second quartile. The PRED can certainly use the latent strength for improving its performance in the complementary components of the new integrated approach to Rural Water Supply and Sanitation.

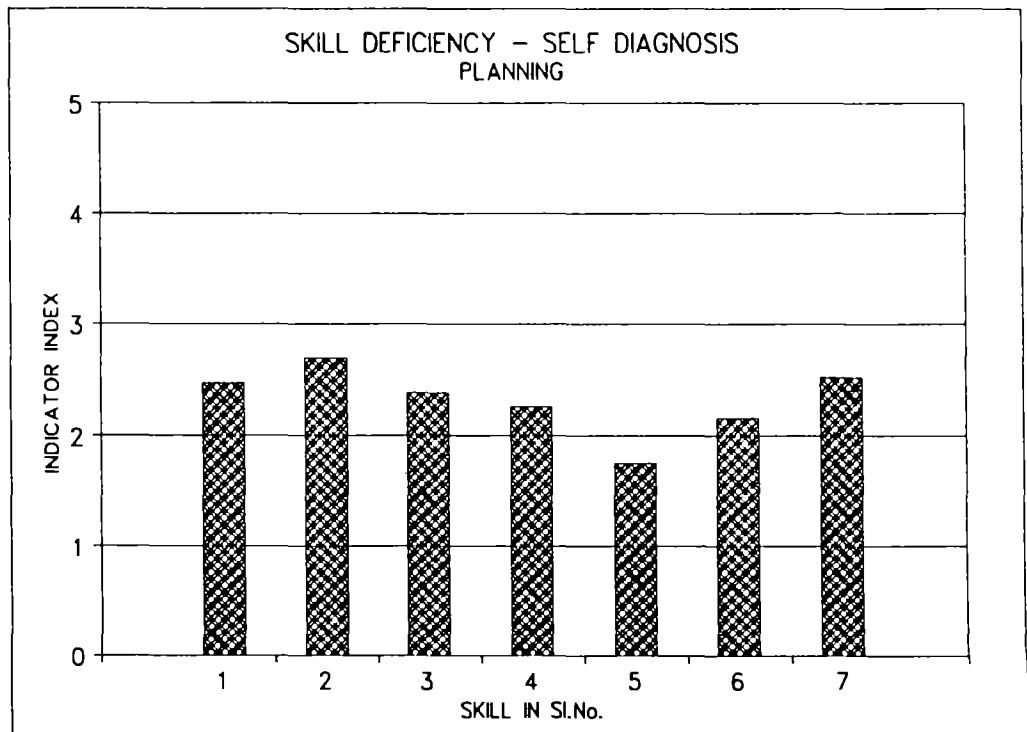
iii) **SKILL DEFICIENCY SELF DIAGNOSIS**

The third group of performance vector, comprised self diagnosis of Skill deficiency/Training needs in management. The following functions of management, each in turn diffused into specific skills were preferred for assessment

- 1 Planning
- 2. Organising
- 3 Directing
- 4 Controlling
- 5 Communication, and
- 6 Decision making

The data is profiled below

SI No.	SKILL	N:46 INDICATOR INDEX
CATEGORY: PLANNING		
1	Setting Goals	2.47
2	Daily Planning and employee needs)	2.69
3.	Prioritising.	2.39
4	Implementation of Tasks.	2.26
5	Fire Fighting/Crisis Management	1.76
6.	Imposing Datelines	2.16
7	Time Estimation Feed back and Enforcing Discipline	2.52
Category Index (CI)		<u>2.32</u>

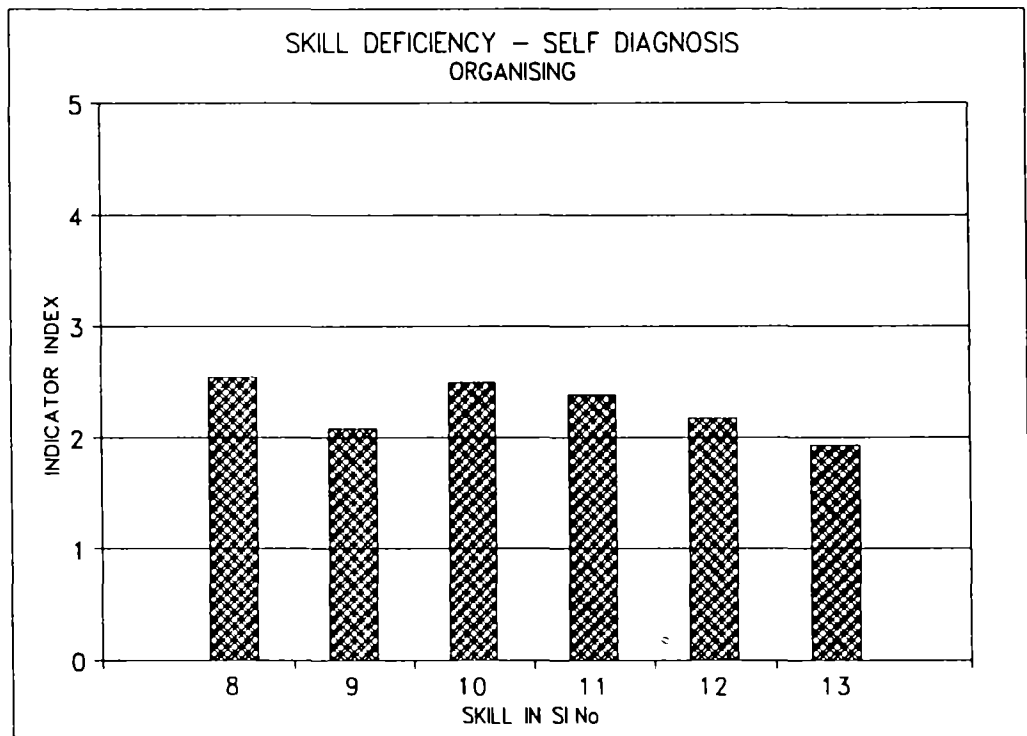


SI No	SKILL	N:46 INDICATOR INDEX
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CATEGORY: ORGANISING

8	Personnel Organisation	2.54
9.	Duplication of Efforts	2.08
10	Assigning Responsibility	2.50
11	Delegating Authority	2.39
12.	Enforcing Accountability.	2.17
13.	Responding to multiple Controls	1.93

Category Index (CI) 2.27

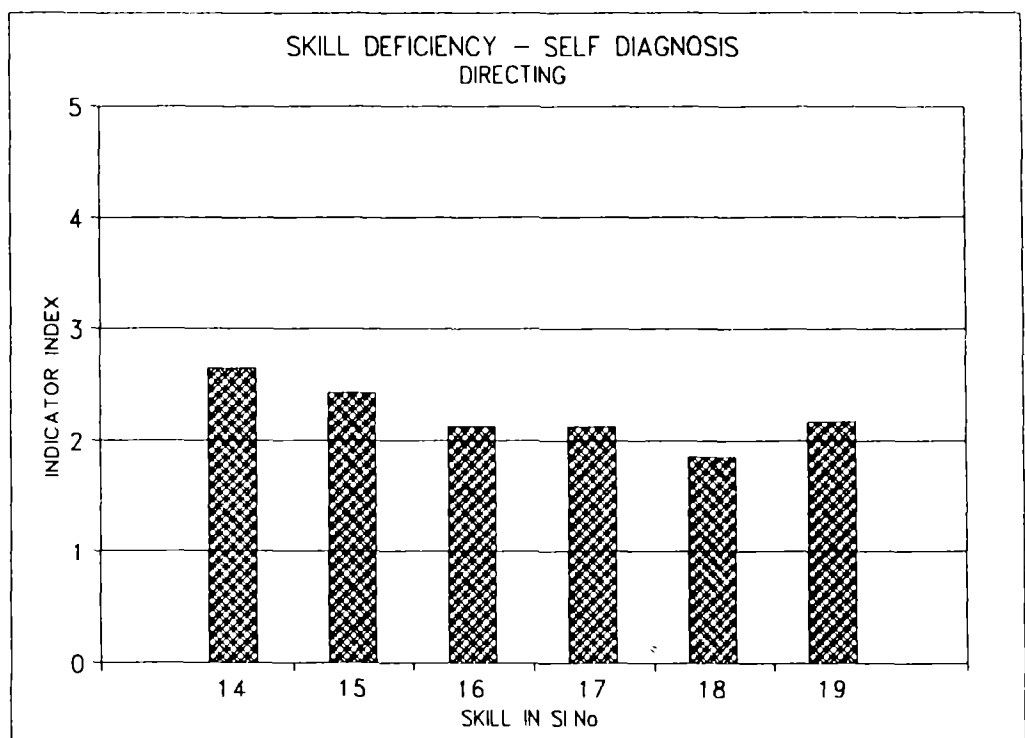


SI No	SKILL	N:46 INDICATOR INDEX
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CATEGORY: DIRECTING

14	Role Modelling	2.65
15	Programming	2.43
16	Task Division	2.13
17	Motivating	2.13
18.	Resolving Conflicts	1.86
19	Initiating Change from Routine	2.17

Category Index (CI) 2.22

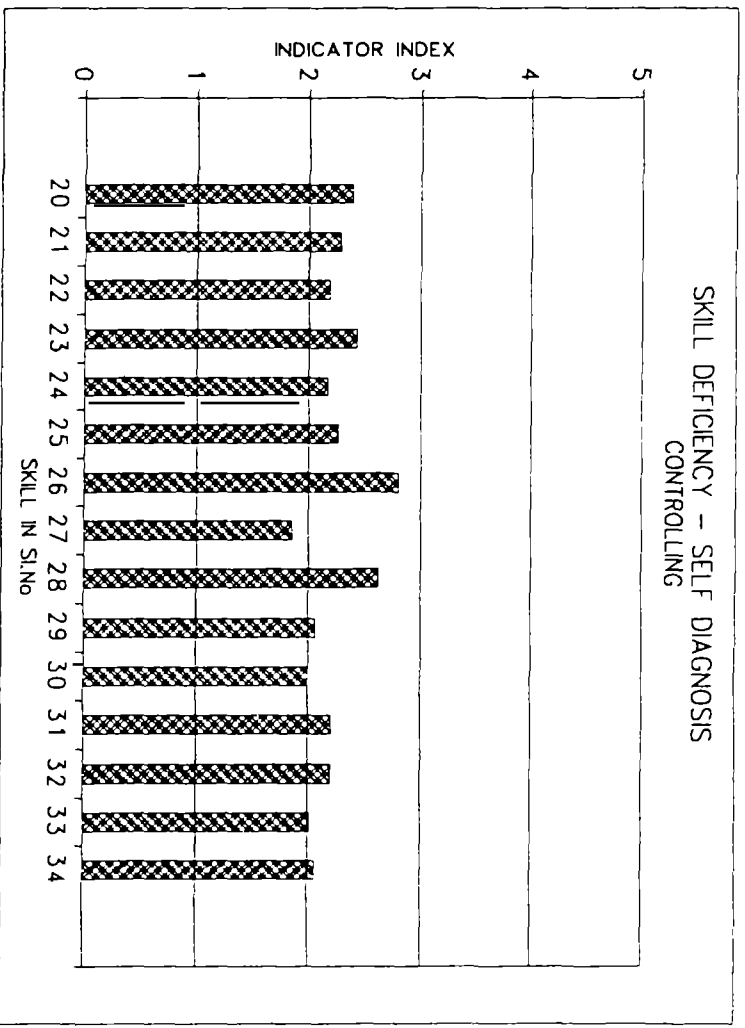


SI No	SKILL	N:46 INDICATOR INDEX
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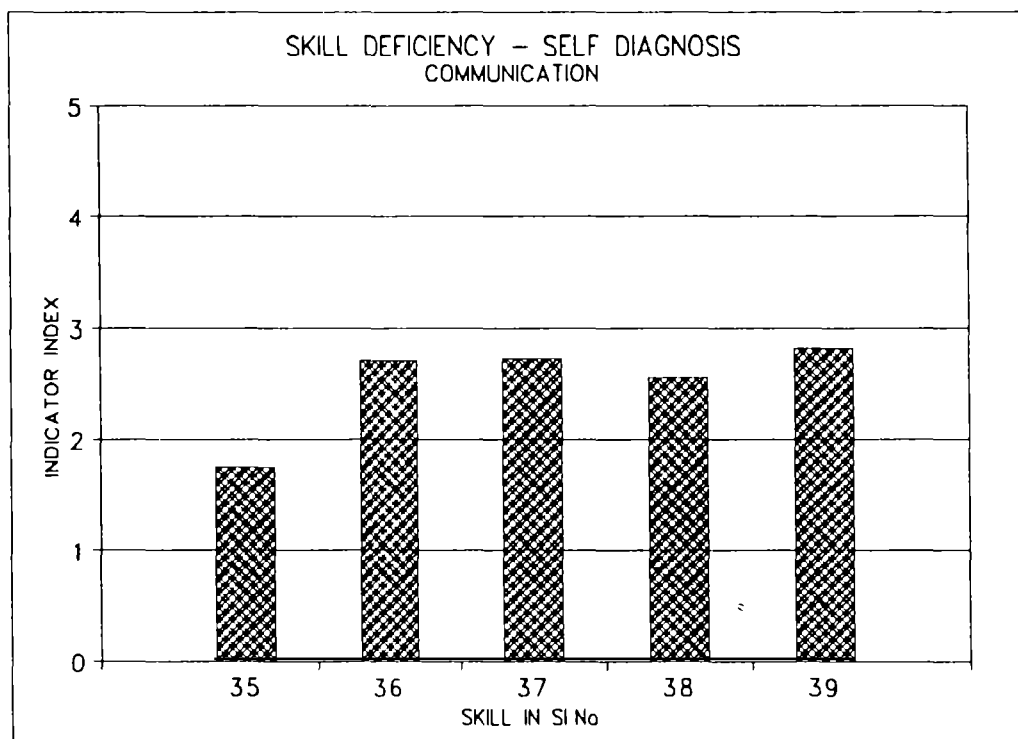
CATEGORY: CONTROLLING

20.	Sustaining the Change	2.39
21.	Telephone Interruptions	2.28
22	Un-anticipated Visitors	2 19
23.	Enforcing Staff Discipline	2 43
24	Enforcing Normative Performance	2 17
25	Minimising Errors	2 26
26.	Expression of Difference of Opinion	2 80
27	Quality of Output	1 86
28	Preparation of Progress Reports	2 62
29	Identification of Data Nodes for Monitoring	2 06
30	Data Generation	2 00
31	Documentation of Data	2.21
32.	Data Integration	2 21
33.	Data Retrieval	2 02
34	Data Analysis.	2 06

Category Index (CI) 2.23



SI No	SKILL	N:46 INDICATOR INDEX
CATEGORY: COMMUNICATION		
35	Conceptualisation	1 76
36	Interpersonal Communication	2 71
37	Effective Participation in meetings	2 73
38	Establishing Rapport with Colleagues	2 56
39	Socialising with Colleagues	2 82
<u>Category Index (CI)</u>		<u>2.51</u>

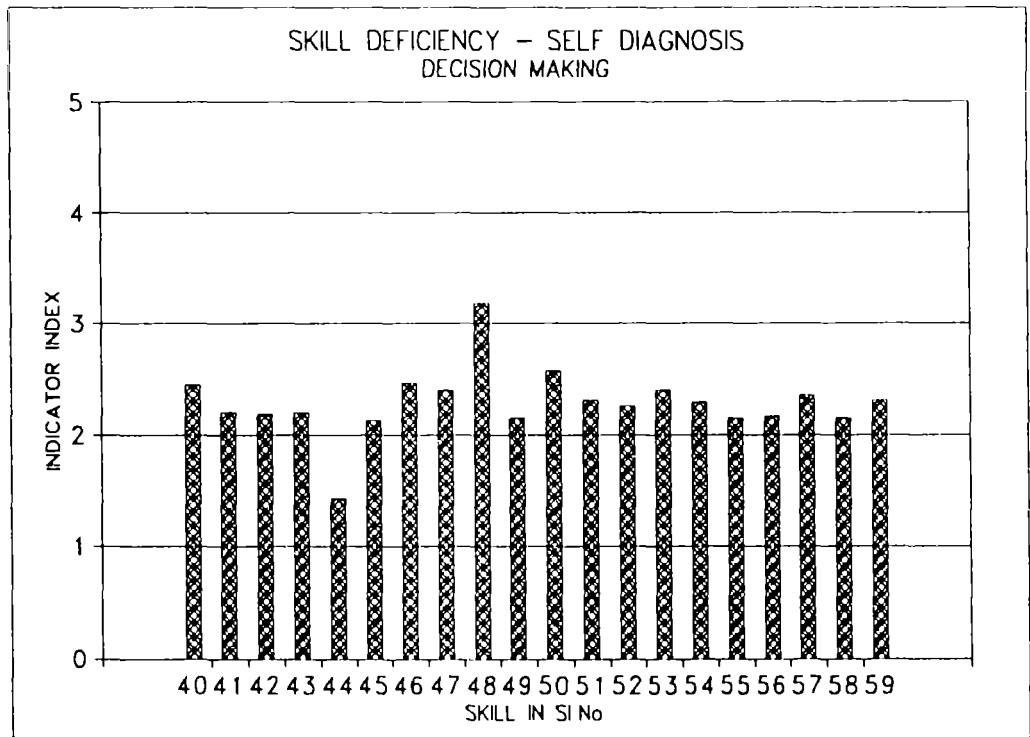


SI No	SKILL	N:46 INDICATOR INDEX
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CATEGORY: DECISION MAKING

40	Quick/Snap Decisions	2 45
41	Reliance on Existing Data	2 21
42	Involving others in decision making	2 19
43	Developing Consensus	2 21
44	Taking unpleasing Decisions	1 43
45	Situation Scanning for Decision	2 13
46	Being Firm on the Decision taken	2 47
47	Identification of Alternatives	2 41
48	Resource Estimation-Technical Functions	3 19
49	Resource Estimation-Financial Functions	2 15
50.	Resource Estimation-Personnel Functions	2 58
51	Resource Estimation-Material Functions	2 32
52	Resource Estimation-Tools & Plants	2 26
53	Resource Estimation-Quality Assurance	2 41
54.	Resource Estimation-Consumer Relations	2 30
55	Organising Continuity Training	2 15
56	Developing Rapport with Consumers	2 17
57	Development Rapport with other Departments	2 36
58.	Development Rapport with External Agencies	2 15
59	Development Rapport with Staff Unions	2 32

Category Index (CI) 2.29



Inference:

It is heartening to note that the participants were extremely judicious in their assessment of their own training needs

The assessment was quite useful in developing the training topic inventory and also the course specific objectives which are listed in Annexure-1 & 2 respectively. While the inventory provides a menu of topics, the actual curriculum and the level of exposure need to be further concretised, prior to actual mounting the program. It may be desirable to develop 2 levels of training - one limited to orientation to the subject and the second level to address the application skills in the relevant areas

IV) **PERSONAL COMPETENCE IN MANAGEMENT**

The last of the performance vector was aimed at assisting the participants to assess their own strengths on Management effectiveness. The Management effectiveness model conceives 11 dimensions, on which the individual effectiveness could be measured. Each of the dimension is arrayed into 10 pre-calibrated indicators. Thus instead of being ranged on a 10 point scale the pre-calibrated indicators were randomly dispersed in a canvas of 110 statements. The respondent's assessment was then limited to accept or reject the applicability of each of the descriptive statement as applied himself. The data returns are processed by the respondents themselves under the guidance of the analyst. The respondents were allowed to retain the assessment output but the data sheets were processed further for profiling latent levels of managerial competence in the Organisation.

The data is profiled below

SI No	PERFORMANCE INDICATOR	N:45 INDICATOR INDEX
1	Self management Competence	6.69
2	Clarity in Personal Values	7.02
3	Clarity in Personal Goals	7.13
4	Demonstrated Urge for sustaining Personal Development.	6.4
5.	Adequacy of Problem Solving Skills	7.04
6	Demonstrated Creativity	5.87
7	Demonstrated Ability to influence others	6.22
8	Managerial Insight	7.69
9	Adequacy of Supervisory Skills	7.44
10.	Trainer Capability.	6.31
11	Team-Building Capacity	6.78
<u>Category Index (CI)</u>		<u>6.76</u>

TARGET AREAS FOR IMPROVEMENT INTERVENTION:

- 1 Capitalise on the Strengths such as High Managerial Insight to enhance Project Planning and Implementation
2. Organise Management Development work shops to improve Creativity
- 3 Systems Development to facilitate high education in the related subject areas
- 4 Identify and Organise Trainers training

Inference:

The data analysis reveals an extremely interesting situation. As can be seen, the group competence index falls in the third quartile and the indicator indices are also fairly above the normal average. By all means this reflects a comfortable position on the Human Resource Component. The PRED should be able to devise ways and means for capitalizing on the demonstrated strengths to forge a dynamic group of top class professionals, through pro-active team building exercises and organisational interventions towards improving the current thresholds of Control Authority and Accountability.

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INVENTORY OF TRAINING TOPICS

TARGET GROUP

- 1 Chief Engineers
- 2 Superintending Engineers
- 3 Executive Engineers, Dy Executive Engineers
- 4 Asst Executive Engineers, Asst Engineers
- 5 Senior/Junior Geologists
- 6 Other Officers - Technical and Non-Technical

INVENTORY OF TRAINING TOPICS

SI No	SUBJECTS/PERFORMANCE AREAS IDENTIFIED FOR ORGANISING TRAINING INPUTS
1	Corporate Policy Planning and Management
2	Decision support systems - Application in rural utilities
3	Management Information System - Computerisation
4	Project Planning Management and Control - Systems Applications
5	Systems and Designs in Water Supply
6	Contracts - Application of specifications
7	Quality engineering
8	Material planning and control
9	Construction management
10	Personnel Management
11	Organisation Development
12.	Environmental assessment
13	Planning and Monitoring of Action Research
14	Programme planning and budgeting systems
15	Computer aided designing
16.	Standardisation of designs
17.	Quality circles
18	Problem identification, Objective setting and action planning
19	Productivity assessment
20	Preparation of manuals on procedures and operations
21.	Preparation of manuals on servicing repair and testing of Elect /Mech Equipment
22	Basic financial management
23.	Unaccounted for water management
24.	Job Analysis and Manpower planning
25	Management in Engineering Organisations.
26	Effective Supervision
27	Leadership and Motivation - issues
28	Water Audit
29.	Security and Safety of installations
30	Rehabilitation of Structures

- 14 Programme planning and budgeting systems
- 31 Leakage Rectification/Swabbing/cleaning of pipelines
- 32 Logistics Planning
- 33 Team Building
- 34 Planning for problem- solving relationships
- 35 Managing change
- 36 Public Relations
- 37 Public finance for Non-finance executives
- 38 Conference Management
- 39 Report writing
- 40 Maintenance Management
- 41 Office Management and Procedures - Automation
- 42 Project preparation - Feasibility studies
43. Project report writing
- 44 Condition monitoring and assessment
- 45 Capacity estimation of impounds
46. Updating of manuals, codes and standards
47. Updating of TORs
- 48 Material procurement procedures and vendor development
- 49 Management in Government - Inter Agency Coordination
- 50 Citizen - Administration relationships
51. Management of Vigilance/Watch & Ward
- 52 Laying, jointing, testing and commissioning of pipelines
- 53 Pipe Network Analysis
- 54 Tooling for operations, maintenance and repair
- 55 Civil structures - maintenance management
- 56 Pollution - detection, prevention and control - Techniques and applications
- 57 Basic instrumentation
- 58 Cost - benefit analysis
- 59 Project estimates - preparation and documentation
60. Fire fighting and first aid
- 61 Systems engineering - simulation/ modelling
- 62 Hydrographic survey techniques - applications
63. Material testing and certification
64. Preparation of cadastral maps/cartography.

- 42 Project preparation - Feasibility studies
- 65 Wage and Salary administration
- 66 Human resource accounting
- 67 Grid analysis - water supply/sewerage
- 68 Material (Stock) Accounting
- 69 Fundamentals of labour Laws
- 70 Budgeting - Principles & Applications
- 71 Management Accounting
- 72 Stores Accounting (for Staff in materials department and related areas)
- 73 Costing, Budgeting and Accounting
- 74 Social Audit
- 75. Inflation Accounting
- 76 Operation research
- 77 Internal Audit.
- 78. Work execution - measurement and recording.
- 79 Water quality testing and control
- 80. Preparation of estimates
- 81 Security, safety and watch and ward
- 82 Budgeting and Audit - Procedures
- 83 Capital budgeting - Procedures
- 84. Costing, cash flow and credit management - Procedures
- 85 General Management - Introduction
- 86 Scouring and cleaning techniques
- 87 Scrutiny and verification of data (related to the respective functions)
- 88 Maintenance of P Rs
- 89 Book Keeping and Accounts
- 90. Data collection and statistical analysis
- 91 Internal Auditing - Procedures
- 92 Rural Sanitation
- 93 Drilling & Hand pump technology
- 94 Water Treatment and Quality Monitoring
- 95 RWS-Systems Design



- viii) Government and private lands vacant and potentially suitable for locating, reservoirs, treatment plants and pumping stations,
- ix) Man power, requirements - availability deployment turnover, and workload,
- x) Location and status of serviceability of bore wells, Hand pumps, PSP's etc.,
- xi) Number of status of serviceability of tankers,
- xii) Inventories of mechanical/electrical equipment: availability status of serviceability, servicing schedules, scales of spares and consumerables operation voltages and energy requirements,
- xiii) Implementation of development plans of local Gram Panchayati,
- xiv) Spots vulnerable to fire hazards, accidents etc ,
- xv) Likely spots vulnerable to pollution and types of pollution,
- xvi) Areas/locations susceptible to low pressures,

2. Develop data records, type designing, compile and analyze, draw inference for decision making

3. Storage and retrieval of data on call.

4 Maintenance of Registers/Inspection notes

3. PIPE NETWORK ANALYSIS:

Target group:- Executive Engineers, Dy.Executive Engineers,
Asst Executive Engineers/Asst Engineers

Aims to familiarize the participants with

- i) design parameters of pipelines.
- ii) Calculation for deriving pipe size in case of dead-ends as well as loops and water connections
- iii) Methods of calculating systems capacity.

4 **STATISTICAL QUALITY CONTROL:**

Target group:- Executive Engineers, Dy Executive Engineers,
Asst.Executive Engineers/Asst Engineers, Geologists

Aims at familiarising the participant with

- i) Statistics, statistical methods, sampling, sampling techniques, statistical application in analysis, matrix analysis, forecasting trend analysis, rating
- ii) Methods of sample collection in water supply, soils, sewerage, concrete and building material, reliability analysis

5 **COMPUTERS IN ENGINEERING APPLICATIONS:**

Target group:- Executive Engineers, Dy.Executive Engineers,
Asst Executive Engineers/Asst Engineers

The objective of the programme is to familiarize the participants with

- i) Computer application in Engineering
- ii) CAD/CAM systems

6 **LAYING, JOINTING AND TESTING OF WATER SUPPLY AND SEWER LINES:**

Target group:- Executive Engineers, Dy Executive Engineers,
Asst Executive Engineers/Asst Engineers

Aims to develop skills in:

- i) Techniques of level detection
- ii) Assessment of soil characteristics
- iii) Bedding, Jacking of equipment and pipes usage
- iv) Usage of tripods, pulley blocks, clamps, Winches and Hooks
- v) Typology of joints, jointing media
- vi) Testing equipment, anchoring, test pumps, pressure ganges, valves

- vii) Tools, hand tools/machine tools assessment of scales, maintenance and servicing thereof
- viii) Trench refilling techniques
- ix) Thrust blocks, anchor blocks
- x) Testing for valve alignments, bedding techniques, rubber insert/gasket, lubrication
Use of forge wrench.
- xi) Flange alignments
- xii) Civil appurtenances
- xiii) Septum proofing against pollution
- xiv) Fixation of pipe levels with reference to scouring of pipelines
- xv) Welding techniques, filler material, blow torches, nozzles, fluxes, electrodes, compatibility, welding temperatures
- xvi) Anti-corrosive measures
- xvii) Centring techniques
- xviii) Rock cutting techniques, detonators drilling equipment, compressors

7 MATERIAL SPECIFICATION AND APPLICATIONS:

Target group:- Executive Engineers, Dy Executive Engineers,
Asst Executive Engineers/Asst Engineers

- i) Aims to develop familiarity with codes, T specification, and testing
- ii) Identification of material, classification, stocking

8 CIVIL ENGINEERING STRUCTURES, MAINTENANCE & REHABILITATION:

Target group:- Executive Engineers, Dy Executive Engineers,
Asst Executive Engineers

- i) Aims to develop familiarity with condition monitoring of roofs, foundation failures, preservation of wood work, electrical fixtures, sanitary, plastering, colouring, anti-termite treatment on Iron/Steel Structures etc
- ii) To prevent leakages from water tight structures, rehabilitation, of R C C against corrosion, Manhole frames and cover, expansion joints

9 **POLLUTION DETECTION, PREVENTION & CONTROL:**

Target group:- Executive Engineers, Dy.Executive Engineers,
Asst Executive Engineers/Asst Engineers, Geologists

- i) Aims to familiarize with tools/equipment for detection of pollution, and usage for tracking pollution points
- ii) Techniques for assessing magnitude of pollution
- iii) Methods of control X contingency planning for isolating polluted system and alternate supply routes, and
- iv) Fouling with storm water drains.

10 **PROJECT EXECUTION, MONITORING & CONTROL:**

Target group:- Executive Engineers, Dy Executive Engineers,
Asst Executive Engineers/Asst Engineers

- i) To familiarize with project perspectives, design parameters and interface with other agencies etc
- ii) To familiarize with techniques of mark out work for execution and to identify and fix, work flow, progress and review of schedules and activities
- iii) Schedule and measure the work, identify scope for modification, analyze rates, prepare estimates and bills and write reports

11 **MAINTENANCE OF MACHINES, TOOLS AND EQUIPMENT:**

Target group:- Executive Engineers, Dy Executive Engineers,
Asst Executive Engineers/Asst Engineers

- i) Aims to impart with working knowledge on Maintenance pattern, preventive, breakdown and regular maintenance, scheduling, specifications, standards
- ii) Basic instrumentation fitter media specifications, testing procedures, lubrication, industrial tribology, condition monitoring etc.

12 **OPERATIONS MANAGEMENT:**

Target group:- Executive Engineers, Dy Executive Engineers,
 Asst Executive Engineers/Asst Engineers

- i) Aims to familiarize with techniques of problems identification, respective setting and problem relaters
- ii) Decision free, analysis and interpretation.
- iii) Formulation of issues and report writing
- iv) Water Audit - Techniques

B. MANAGEMENT DEVELOPMENT PROGRAM

Target group:- Senior personnel from Engineering & Other functions

1) MIS and decision making In Rural Water Utilities:

Objectives:

- i) To expose the participants on the techniques of data collection, storage and retrieval
- ii) To provide an orientation to information systems.
- iii) To develop the ability and interest in creating administrative, technical and non-technical information for effective use for urban water supply.
- iv) To acquaint than with concept and techniques of decision making
- v) To acquire an integrated prospective of MIS and decision making methods and their inter relationship

Elements of the Program:

Setting the Scene:

Introductory sessions writing and presenting reports, interviewing skills A review of general management principles, behaviour patterns, perceptions and influencing skills aimed at promoting an understanding of the cultural and economic environment within which MIS operate effectively

Decision-Making Process - Functional Needs:

The information criteria of different functions - e g financial, personnel, supplies, etc. - and their influence on system design

Manual and Mechanical Systems:

A review of information resources ranging from simple records to highly mechanized systems marked by office equipment firms Micro-film applications.

Computer Technology and MIS:

Putting the computer in perspective Defining and meeting specific needs - an appreciation of systems analysis and computer programming The principles, technology and language of computing will be presented in lay terms with emphasis on the problems likely to confront management Delegates will be given sufficient knowledge to understand the implications, opportunities and constraints of new office technology Practical work will be used to demonstrate the ability to interact with technology

Micro-computers in MIS:

Participants would be expected to become conversant with practical applications of micro-computers and will be provided with a personal micro-computer and printer early in the course Time will be made available for them to make use of software packages and to design and develop their own programmes

Control Systems:

Performance measurement Manpower planning Cost effectiveness. Operational research and its application Critical path analysis Storage, stock control and security

MIS in Practice:

A review of MIS in central government, local government, the health service and a public corporation

Consolidation and Evaluation:

Studies the changing needs of management and the difficulty of transferring management and information concepts to different cultures



2) **Man Power Development, Planning, Budgeting and Staffing inspection:**

Objectives:

- i) To expose the participants to the modern concepts of Man Power Planning and Development
- ii) To discuss, learn and evolve the planning process for human resources and its development
- iii) to develop competence to apply the techniques of planning and development of Man Power
- iv) To familiarize the participants with analytical skills for planning human resource.

Elements of the Program:

Control of Manpower Resource:

The roles of central and departmental line management in the control and monitoring of manpower resources The interface with personnel management in general

Organizational and Structural Considerations:

The pay and grading structures and the organizational context in which work is done and their impact on the use of manpower resources

Budgetary Control of Manpower:

The techniques and practices in the broad control of manpower resources in the public service

Job Inspection and Job Evaluation:

General concepts and associations with other management techniques Critical consideration of what work needs to be done Job analysis, the preparation of job descriptions, grading methods, work measurement

Practical Aspects of Staffing Inspection:

Planning for an inspection, interviewing, report writing Implementation of changes proposed, the role of staff associations and trade unions

3) **Training for Trainers** Strategies and Techniques

Objectives:

- i) To provide an orientation to the concepts and skills of training
- ii) To develop training strategies and techniques
- iii) To identify problems and weaker in implementing training programmes
- iv) To enhance the ability of trainers performance and integrity
- v) To make the participants proficient in training in their own work situations.

Elements of the Program:

Basic Knowledge and Skills for Trainers:

Listening, asking, leading group discussions, effective speaking

Behavioural Aspects of Organizational Life:

Individual difference and effects, values, attitudes, perceptions, groups and leaders, conflict, roles, organizations, culture

Management and Financial Management:

The personnel management system, the importance of manpower planning, job analysis, selection, induction and performance appraisal.

Systems Approach to Training:

Identification of training needs, defining job-related objectives, designing training and assessing its effectiveness.

Training in Practice:

Learning and training, selection and training of trainers, training methods (open and distance learning), computers and training, formal methods (lectures, discussion groups, case studies, simulation, role play, films, video), audio-visual aids Visits to discuss training in practice with training staff

Training Exercise and Projects.

Revision and summary of the fundamental principles covered in the course by means of a final training exercise and projects, based on course members' own training situations and problems

4) Project Management:

Objectives:

- i) To impart knowledge skills about modern methods and techniques for effective and efficient implementation of power projects and programmes.
- ii) To acquire relevant techniques and capabilities in developing operating, monitoring and information system and skills to plan and control use of resources
- iii) To develop organisational base at various levels for functional and administrative integration and inter-departmental co-ordination.

Elements of the Program:

Managing People:

People are the most valuable of all resources This examines human behaviour, motivation, leadership and communication The process of negotiating with Trade Unions and employers is also examined

Management Information for Decisions:

The importance of relevant and timely management information in the planning and control of all aspects of project work cannot be over-emphasized The recording, analysis, evaluation and interpretation of data is fully covered, including relevant statistical methods and simulation techniques



Project Appraisal:

This reviews the various techniques available and considers all costs and benefits, however expressed. Financial criteria, cash flow analysis and cost benefit analysis are discussed through examples and case studies.

Project Planning and Control Systems:

This assesses demands on man, time, money and material and selects those techniques that are most effective in controlling the particular project. Such techniques form the basis of a logic planning system and an associated system for monitoring progress.

Resource Management:

This covers real-life difficulties faced by public authorities in the tendering process related to planning resources, project size and scale, cost-escalation and inflation. Also introduced are methods of reducing cost overruns and the evaluation of alternative resource-usage situations for more effective management performance.

Project Implementation:

Participants concentrate on planning and controlling work under conditions of uncertainty, thus developing their skills in cost management and tactical control. Micro-computers and dedicated programmes as aids to management are described and the underlying principles explained.

Maintenance:

Systems for maintenance planning and management are discussed with reference to the design and operating of maintenance systems, cost control and computer support.

Value of Management Services:

This explains the role and purpose of management services and illustrates the many methods and techniques used to assist the manager at each stage of the project cycle.



5) **FINANCIAL MANAGEMENT IN GOVERNMENT**

Objectives:

- 1) To define and achieve an understanding of the main financial elements in public administration
- 2) To compare the different systems of financial administration used by central governments in participants' own countries
- 3) To examine new developments in the planning and budgeting field and to consider their possible application in developing countries
- 4) To equip participants with a working knowledge of those aspects of commercial accounting which are most relevant to the work of senior civil servants
- 5) To provide participants with an understanding of the financial techniques used in the planning, evaluation and implementation of capital development projects
- 6) To give participants an awareness of when to use some of the more important skills and techniques available to them

Elements of the Program:

Systems of Financial Administration in Government:

The system of financial administration used in Government

Planning and Budgeting Systems:

Modern approaches to the planning and budgeting process with special reference to recent experience in India and several other countries. Financial relationships between the Ministry of Finance, departments and public corporations. Techniques and practices used in budgeting for manpower costs in central government

Commercial Accounting:

A comparison between government and commercial accounting Types of account, balance sheets, cash flow analysis and financial ratios. The role of the civil servant

Management Accounting and Management Information:

The basic concepts of management accounting and costing. Cost centres, delegated budgeting and the application of management accounting in the civil service Management information needs in government

Project Planning, Evaluation and Implementation:

An examination of the financial techniques used in the planning, evaluation and implementation of capital development projects Participants will undertake a practical case study exercise to illustrate the use of the various techniques

Use of Computers In Government:

An introduction to computers and their many applications in government Recent developments in micro-computers and reasons for their increasing use in developing countries

Financial Statistics:

A survey of some of the statistical techniques which are useful for civil servants in their normal work

6) **PERSONNEL MANAGEMENT**

Objectives:

- 1) To identify and define the role of the personnel manager.
- 2) To examine the procedures and practices governing the recruitment, selection, training, promotion, remuneration and working conditions of employees

- 3) To extend participants' own abilities through a comprehensive exchange of ideas and information about management and the personnel function
- 4) To show how the manpower potential of an organization can best be developed through a thorough understanding of the interdependence between the personnel function and other management functions
- 5) To take stock of the relationship between employer and employee in the context of *current industrial relations*

Elements of the Program:

General Management Principles:

Principles of management, corporate aims, individual management objectives, leadership, decision making, communication, motivation and group working

Staff Recruitment, Interviewing Techniques and Manpower Development:

Personnel development through training, devising a training system, and range of training techniques, the use of visual aids, the essentials of interviewing principles and practices, selection procedures and manpower development

Management Services, Job Analysis, Evaluation and Inspection and Manpower Budgeting:

Evaluation of manpower to meet the aims and objectives of organizations This is increasingly important in a cost-conscious world The range of these techniques and approaches to these important areas will be examined

Development of Organizations, Manpower Planning, Health and Safety:

The organization, its development, succession through manpower planning, implications of micro-technology for the personnel director, health and safety, selection of management and staff in the public sector

Industrial Relations, Negotiations, the Law and Industrial Tribunals

Field visits with appropriate practical exercises

7) RECORDS MANAGEMENT IN GOVERNMENT

Objectives:

- 1) To give participants an increased awareness of the range, scope and importance of records management in government
- 2) To develop participants' skills in analyzing, designing and maintaining records management systems
- 3) To enable participants to study at first hand records management systems in use with particular reference to the significant impact of new technology
- 4) To stimulate participants into planning ways of improving their records management systems

Elements of the Program:

Introduction to Records Management:

Definition of the range, scope and importance of records management in government
An overview of records management in government with particular reference to the wide range of record systems that are found throughout the public sector

Storage and Recording of Information:

This element focuses on the basic mechanics of record systems from storage, indexing and classification to retrieval, information distribution and cross-referencing. Special attention is given to registries and archives and issues connected with the centralization and decentralization of records.

Record System Maintenance:

The importance of maintaining record systems is stressed in this element. Apart from the standard control mechanisms and procedures the main emphasis here is on the human aspects of the maintenance problem - i.e. man-management, staffing, leadership, motivation, training of staff and career development.

Machine Base Systems:

Comparisons between manual and machine based systems. The newer technologies with particular reference to the impact they are now making on traditional records management systems including the use of micro-film, automated filing, word processors, computer systems, optical discs and other advanced techniques.

Using Micro-Computers:

Gain 'hands on' experience at using micro-computers and their application in individual systems.

C. SHORT DURATION PROGRAMS:

Target group:- Senior/Middle level officers from all the functions

1) Administrative Leadership and Behaviour:

Objectives:

- i) To provide an opportunity to discuss, learn and evolve relevant concepts, attitudes and skills from behavioral and management sciences.
- ii) To development their ability and skills in exercising effective leadership and behaviour in their organisation separately for better administration
- iii) To increase understanding the process of administrative leadership and behaviour

2) Managing the Administrative Stress:

Objectives:

- i) To expose the participants to the concepts of stress
- ii) To familiarize them with techniques of managing the stress
- iii) To identify the problems for Administrative stress and impart training for Managing the stress

3) Management by Objectives/Results.

Objectives:

- i) To appraise the concepts and practices in management by objectives/results
- ii) To expose to the skills and techniques of MBO
- iii) To ensure total participation in MBO and how it can achieve organisational effectiveness

4) **Vigilance in Rural Water Supply Systems:**

Objectives:

- i) To increase awareness amongst participants of the importance and scope of vigilance in urban water supply system
- ii) To expose them to managerial and specialist functions of vigilance
- iii) To familiarize them with organisation, administrative and legal requirements of vigilance function

5) **Performance Appraisal:**

Objectives:

- i) To expose them to methods of P A
- ii) To develop rating techniques/systems which are objective and valid.
- iii) To develop systematic evaluation to identify potentials for development

6) **T.U. Leadership - Workers Participation:**

Objectives:

- i) To create awareness amongst participants on the need and scope of T Unions.
- ii) To develop healthy T U & Management relationship.
- iii) To acquaint them to the concepts and to familiarize them with participative management process
- iv) To help them to create an atmosphere and climate for participative management
- v) To identify barriers in participation and to evolve strategies to overcome them

7) **Planning Management, Monitoring and Evaluation Water Supply Projects:**

Objectives:

- i) To familiarize the participants with planning process of Water Supply Project
- ii) To develop Management skills and techniques for water supply projects
- iii) To expose them to techniques of Monitoring and control/evaluation of Water Supply Projects.

8) **Ecology and Environment** - contemporary concepts and issues

Objectives:

- i) To impart basic knowledge of ecology and environment
- ii) To expose them to environmental protection - concepts and issues
- iii) To develop and motivate the participants to keep the environment clean and balance the ecology

9) **Water Management** - Integration of Techniques and Practices

Objectives:

- i) To identify contemporary practices in water management
- ii) To familiarize with the techniques of water management
- iii) To develop skills and abilities to improve water management
- iv) To integrate the techniques and practices of water management

10) **Materials Management** - Issues and strategies

Objectives:

- i) To familiarize the participants with the modern concepts of materials management.
- ii) To develop abilities and skills in the techniques of materials management
- iii) To identify problems and issues of materials management pertaining to the organisation
- iv) To develop strategies to overcome the problems and issues related to material management

11) **Instrumentation in Environmental Management:**

Objectives:

- i) To expose the participants to the latest techniques in environmental projection.
- ii) To impart training for using latest instruments for pollution detection

- iii) To develop management techniques for environmental protection
- iv) To gain working knowledge as the use of instruments for pollution detection and control

12) **Computers In Communication:**

Objectives:

- i) To familiarize with the concepts of communication
- ii) To expose them to barriers of communicators and techniques to overcome them
- iii) To impart training to use computers for communication
- iv) To expose them to basics in computers so as to enable them to store and retrieve information for communication

13) **Information Technology and People:**

Objectives:

- i) To expose the participants to the concepts and issues of information technology
- ii) To develop skills and abilities in using the latest techniques for information system
- iii) To integrate the technology with the requirements of the prole for effective management of the system
- iv) To identify the problems and issues related to information technology and solutions to overcome them

14) **Environmental Assessment for Planning Water Resources Projects:**

Objectives:

- i) To expose the participants to assessment techniques for environmental protection
- ii) To familiarize with planning process for water resources projects
- iii) To evolve methodology for assessing the projects

MANPOWER PROFILE TARGETED FOR MDP/TRAINING

Sl No	Cadre	Current Strength	NAP
1	<u>Technical</u>		
i)	Engineer-in-Chief	1	-
ii)	Chief Engineer	4	-
iii)	Superintending Engineer	22	2
iv)	Executive Engineer	98	6
v)	Dy.Exe.Engineer	559	6
vi)	Section Officers (AEE/AE)	3119	57
vii)	Geologist (Senior/Junior)	41	-
viii)	Draughtsman (Spl Grade to Grade-III)*	650	12
2	<u>Semi-Technical</u>		
i)	Tracer*	108	-
ii)	Blue Print Operator*	97	1
iii)	Computer Operator	5	-
iv)	Chemists	1	-
v)	Senior Investigators	2	-
3	<u>Non-Technical</u>		
i)	Non-Technical PA to CE	1	-
ii)	Admn -cum-Budget Officer	1	-
iii)	Divisional Account Officer	71	3
iv)	Superintendent/Head Clerk*	101	-
v)	Senior Assistants*	754	17
vi)	Junior Assistants*	532	16
vii)	Steno-Typist*	92	2
viii)	Typist*	273	7
ix)	Record Assistant*	129	2
x)	Roneo Operator*	10	-
xi)	Driver*	176	5
xii)	Attender & others*	1797	33

* - Group of employees not included in the current training need analysis.

LIST OF RESOURCE INSTITUTIONS

SI No	Institute	Place
<u>INDIA</u>		
1	Regional Centre for Urban and Environmental Studies, Osmania University	Hyderabad
2	University Computer Centre, Osmania University	Hyderabad
3	Institute of Administration, Government of Andhra Pradesh	Hyderabad
4	Engineering Staff College of India	Hyderabad
5	National Informatics Centre	Hyderabad
6	Administrative Staff College of India	Hyderabad
7	Vocational Training Centre, Advanced Training Institute, Govt of India	Hyderabad
8	Central Institute of Tool Design	Hyderabad
9.	Government Polytechnics Ramanthpur & Mallepalli (2)	Hyderabad
10	Industrial Training Centres (4)	Hyderabad
11	Advanced Technical Teachers Training Institute	Hyderabad
12	Institute of Plant Maintenance Engineering	Hyderabad
13	National Institute of Rural Development	Hyderabad
14	National Environmental Engineering Research Institute (NEERI)	Nagpur
15.	National Fire Services Staff College	Nagpur
16	Environmental Sanitation Institute	Ahmedabad
17	Institute of Public Health	Madras
18	Indian Institute of Technology	Madras
19	Indian Institute of Technology	Bombay
20	National Institute for Training in Industrial Engineering.	Bombay

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