

# **Eradicating Problems & Making Effective Decisions Programme**

## **Programme Outline**

### **WHY THIS PROGRAMME?**

Problems are a fact of organisational life. In order to come up with creative and effective solutions, organisations must analyse their problems deeply and holistically. Such an approach will prevent the occurrence of recurrent problems and inter-functional issues. In today's ever-changing environment, it is necessary to equip employees with skills essential for problem-solving and decision-making.

### **OBJECTIVES:**

At the end of the programme, participants will be able to:

- analyse problems or issues in a systematic manner using the failure analysis technique;
- develop appropriate actions to correct the immediate cause of failures;
- analyse organisational issues systematically by eradicating root causes or basic causes;
- analyse broader organisational issues by using clustering technique, building integrated models, applying loops (system) thinking concept and force-field analysis technique; and
- apply a systematic approach to prevent a failure from occurring
- derive solutions and ideas creatively

### **METHODOLOGY:**

To enhance learning effectiveness and transfer, experiential learning will be emphasised. The learning methods will include:

- Case Studies
- Short Lectures
- Syndicate discussions
- Video

### **FOR WHOM**

This programme is specially designed for managers, team leaders, front-line supervisors, and technical professionals who need a systematic approach to resolve problems and derive quality decisions in a multifaceted and dynamic environment.

### **DURATION:**

3 Days

**CONTENTS:**

This programme comprises four modules. The key topics covered are:

**Module 1: Eradicating the Functional Aspect of Failure**

A failure is defined as an object which has a defect. The aim of Module 1 is to eradicate the main cause of the failure which is of functional nature. Its systematic approach should lead to the determination of the direct cause which may have its origin obscured by delayed effect or complications. The premise is that the cause of a technical failure is always originated from a singular source.

The 5-D rational problem-solving steps are :

- (a) **Define the Failure**  
What were the effects of the failure? What was the object? What was the failure or defect? How to define a failure statement?
- (b) **Describe the Defect**  
What was the effect? Where did the failure happen? When did it happen? How many times in the past had it happened? Where-else had it happened? Where-else had a similar object but had no such defect? Who caused it to happen?
- (c) **Determine Possible Causes**  
What were the apparent causes (of technical nature) of failure? Can these apparent causes be traced to a singular source or sources (of technical nature)?
- (d) **Destroy Unsound Causes**  
Can each of the identified causes satisfactorily explain how it happened? Where it happened, when it happened and who caused it to happen?
- (e) **Develop Proposed Actions**  
What should be done to rectify the defect? What simple actions can be taken to verify the likely cause? What actions (technical) can be taken to stop the defect? What preventive actions (of technical nature) can be taken to avoid similar failure in the future?

## Module 2: Organisational Issues Analysis

Owing to human intervention in the design, maintenance and operation of equipment, machinery and plant, each functional failure can often be attributed to one or more causes which are of non-technical nature - they are generally being categorised as organisational issues. The aim of Module 2 is to eradicate the main sources of functional failure which can be directly attributed to human intervention through design, maintenance and operations.

The 7-P format for categorizing and analyzing these organizational issues are:

- (a) **Policy and Maintenance Philosophy**  
What are the stated policies which are restrictive and outdated? What are the unresolved conflicting goals and objectives? Was there enough emphasis and priority given to learning from similar failures in the past?
- (b) **Procedures**  
Are there updated work procedures and guidelines? Are procedures and guidelines properly documented? Were there clear instructions given?
- (c) **Practices**  
What are the common “unwritten” practices or “short-cuts” adopted by the people involved? Are there built-in difficulties in transmitting instructions or work messages?
- (d) **People**  
Are people properly trained for the job? Are people aware of potential hazards and failures? Is the number of people sufficient to carry out the job? are there interpersonal relationship problems? Do people possess the right attitude in carrying out the job?
- (e) **Place**  
Is it the right place to carry out the job or to locate the equipment? Are the physical conditions acceptable? Is the environment hostile to equipment and people?
- (f) **Parts**  
Was the equipment, machinery, tools used of the right type? Was the system design appropriate?

- (g) **Period**  
Was the timing in carrying out the job suitable? Is there any unnecessary lapse in time period resulting in the failure?

***Root cause and effect analysis, building an integrated model for action, system thinking, decision-making process and force-field analysis techniques will be covered.***

### **Module 3: Failure Prevention Planning**

It is imperative for an organisation to achieve competitive edge through proper failure prevention planning. A systematic approach is emphasised in this module. The approach involves the following key steps:

- (a) **Assignment**  
State the assignment to be accomplished. Alternatively, name the project.
- (b) **Objective**  
Define the objective to be achieved with respect to the assignment to be done. Objectives have to be clearly defined.
- (c) **Key Success Indicators**  
What are the key indicators of success upon completion of an assignment? How do we know we have achieved an assignment successfully.
- (d) **Key Steps**  
Break down the assignment into key process steps.
- (e) **Potential Failures**  
Identify what can potentially go wrong. Assess their respective likelihood and criticality (or impact) should they happen.
- (f) **Prevention**  
Develop actions to reduce the chances of a potential.
- (g) **Protection**  
Develop actions to minimize or obviate the adverse impact should a potential failure occur.

## Module 4: Creative Thinking

In addition to failure analysis, organisational issues analysis and failure prevention planning, creative thinking skills will be covered to enhance the quality and quantity of alternatives generated during the failure eradication, decision-making and planning process. Increasingly, the need for an organisation to do things differently to improve work processes is more critical than to do things the same way better.

The following techniques will be covered:

### **Brainstorming**

#### ***Creative thinking techniques***

- A number of useful techniques will be covered.

#### ***Overcoming barriers to creative thinking***

- Barriers could be caused by the organisation's policies and procedures, supervisor's authoritarian style of supervision and personal mind-set.

**Programme Schedule**

<b>Time</b>	<b>Day 1</b>	<b>Day 2</b>	<b>Day 3</b>
0830h	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Schedule</li> </ul> <p><b>Module 1: Failure Analysis</b></p> <ul style="list-style-type: none"> <li>• Failure Analysis: Case 1 (Syndicate Work)</li> </ul>	<ul style="list-style-type: none"> <li>• Review of Day 1</li> </ul> <p><b>Module 2: Organisational Issues Analysis (cont'd)</b></p> <ul style="list-style-type: none"> <li>• Decision-Making Process</li> </ul>	<ul style="list-style-type: none"> <li>• Review of Day 2</li> </ul> <p><b>Module 2: Organisational Issues Analysis (cont'd)</b></p> <ul style="list-style-type: none"> <li>• Loops (Systems) Thinking</li> <li>• Case Study</li> </ul>
1015h	<b>Break</b>		
1030h	<ul style="list-style-type: none"> <li>• Failure analysis: (Model)</li> </ul>	<ul style="list-style-type: none"> <li>• Case study</li> </ul>	<p><b>Module 3: Failure prevention Planning</b></p> <ul style="list-style-type: none"> <li>• Prevention Planning (Syndicate Work)</li> <li>• Prevention Planning Presentation</li> </ul>
1230h	<b>Lunch</b>		
1330h	<ul style="list-style-type: none"> <li>• Failure Analysis: Case 2 (Syndicate Work)</li> <li>• Presentation</li> <li>• Debrief</li> </ul>	<ul style="list-style-type: none"> <li>• Force Field Analysis</li> <li>• Case Study</li> </ul>	<p><b>Module 4: Creative Thinking Skills</b></p> <ul style="list-style-type: none"> <li>• Creative Thinking Process</li> <li>• Exercise</li> </ul>
1515h	<b>Break</b>		
1530h	<p><b>Module 2: Organisational Issues Analysis</b></p> <ul style="list-style-type: none"> <li>• Cause &amp; Effect: 5 Why's Method</li> <li>• Root-Cause Analysis</li> </ul>	<ul style="list-style-type: none"> <li>• Clustering Technique</li> <li>• Integrated Model</li> </ul>	<ul style="list-style-type: none"> <li>• Issues Analysis</li> <li>• Summary</li> <li>• Action Planning</li> <li>• Programme Critique</li> </ul>
1730h	<b>Reading Assignments</b>		