

# MAINTENANCE OF BUILDINGS IN THE GULF: PREVENTION OR CORRECTION

## INTRODUCTION

The effective, profitable and safe operation and development of premises assets has become an increasingly important focus of management time. Business operations now change more frequently, clients and customers demand better quality, and premises disruption or equipment failure may even threaten the longer term stability of otherwise successful organisations. Controlling and optimizing the use of building materials and innovative yet effective and buildable design ideas manageable detailing must be the priority in minimizing the likely risk of failures in both low rise and high-rise buildings.

## AIM & OBJECTIVES

The main objectives of this workshop are:

- ◆ To develop further understanding of the issues related to maintenance and renovations of buildings.
- ◆ To develop assessment skills in relation to the technical specifications of materials and methods of construction to enhance good practice through effective communication, planning, management and organization of maintenance.
- ◆ To provide practical insight into real-life refurbishment and maintenance schemes in both in Gulf and UK.

## PRESENTER

**Dr. Ghasson Shabha, BSc, MSc, PhD(Arch), MBIFM, PG Cert Ed, ASL**

Dr. Shabha has obtained his PhD. in Architecture from Bath University, UK. He is a Senior Lecturer at the Faculty of the Built Environment, University of Central England in Birmingham. He is an Architect by profession with a wide range of experience in the design and management of office, residential and school buildings. He has acted in an advisory capacity to Housing Associations, PROMIS (UAE), CIB and Building Research Establishment (BRE).

His main areas of specialism are in construction technology and building services, building pathology and management information system. His consultancy and research interests focused on flexibility of buildings in use, maintenance and facilities management of buildings and life cycle cost, IT applications to property and low energy design issues/eco-design approaches in building use. He has more than 30 refereed papers in construction and facilities management journals.

## PROGRAM

### DAY ONE

#### MAINTENANCE AND RENOVATION OF BUILDINGS - AN OVERVIEW.

- ◆ Introductions -Lecturer/Delegates
- ◆ Aims and Objectives of the Workshop
- ◆ Buildings- Materials, Form & Structure
- ◆ Economic and Social Significance of Maintenance
- ◆ Physical, Functional and Economic life of Buildings
- ◆ The Problem of Obsolescence in Buildings.
- ◆ Life Cycle Cost (LCC)

#### Maintenance Defined -

- ◆ Classifications of Maintenance
- ◆ Planned vs Unplanned Maintenance- Corrective vs Preventative
- ◆ Major Repair, Periodic, Routine or Day-to-Day Maintenance
- ◆ Predictable vs Avoidable.
- ◆ Cost and Type of Maintenance (consequential & direct repair)
- ◆ Timing of Maintenance Operation & Maintenance Cycles

### DAY TWO

#### MAINTENANCE & BUILDING MATERIALS:

- ◆ Properties and Characteristics of Materials
- ◆ Strength and Stress
- ◆ Thermal Properties of Building Materials
- ◆ Deformations Under Stress & Deterioration of Materials.
- ◆ Compatibility of Materials & Durability of Building materials
- ◆ Economics of Construction and Repair
- ◆ Specifications of building materials & Objectives of Specifications
- ◆ Defective Materials. & Defective Workmanship

#### Maintenance Planning

- ◆ What are the Main Features of Maintenance Planning?
- ◆ What are the Advantages of Maintenance Planning?

#### Scheduled vs Contingency Planning:

- ◆ Operational Life -Warranty and Expectation
- ◆ Choices of the System & Delay Time
- ◆ Programming Problems

### DAY THREE

#### DESIGN and CONSTRUCTION vs MAINTENANCE:

- ◆ Optimisation of Design Layout to Reduce Maintenance Needs
- ◆ What Constitutes Good Design Layout ? (Case Study, Research Centre, Kent)

#### Characteristics Of The Design Layout:

- ◆ Economic Plan Shape, Structural Form & Flexibility
- ◆ Internal Layout & Buildability
- ◆ Assessment and Prediction of Maintenance Requirements During the Early Design Stage.
- ◆ The Importance of Construction Detailing in Reducing Maintenance
- ◆ Total Quality Management (TQM) & Technical & Practical Issues.
- ◆ Maintenance Standards

### DAY FOUR

#### MAINTENANCE EXPENDITURE:

- ◆ What Constitutes Optimal Level of Expenditure?
- ◆ Analysis of Maintenance Expenditure.
- ◆ Factors Influencing Maintenance Expenditure.
- ◆ Property Inspection Surveys.
- ◆ Objective versus Subjective Assessment Criteria.
- ◆ Schedule of Dilapidation.
- ◆ Service Level Agreements.
- ◆ Case Study (The Impact of Defective Low-rise Housing upon the Value of the Property: A Diagnostic Study of Housing Project in Birmingham vs Dubai)
- ◆ Trails-Responsibilities.

### DAY FIVE

#### MAINTENANCE MANAGEMENT (Organisational, Contractual and Cost Issues)

- ◆ Role of the Estate/Premises/Facilities Manager
- ◆ Socio-technical System & Organisational Function.
- ◆ Maintenance Contract & Direct Labour or Contract.
- ◆ Factors Influencing Choice of the System.
- ◆ Nature & Volume of Work.
- ◆ Response Time Location, Quality & Availability of Space.
- ◆ Market Condition Cash Flow & Total