



## Application of Logical Framework Approach on Sutong Bridge

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### Summary

This paper presents a literature review of the logical framework approach (LFA). A case study is conducted by application of LFA for the Sutong Bridge project, the longest cable-stayed bridge under construction at present in the world, to analyze the causes and effects for the insufficient quality management of bridge projects in China. It is identified that insufficient quality assurance system of contractor organization and poor site quality control are the immediate causes for the insufficient quality management of bridge construction in China. By creating problem trees and objective trees, alternative analysis for the different three options is performed. Further a project planning matrix is developed, based on which solutions are discussed and decisions are made by the owner, Sutong Bridge Construction Commanding Department. It is proved that by taking necessary measures the Sutong Bridge project has achieved its main goals of construction quality as expected.

**Keywords:** bridge construction; quality management.

### 1. Executive Summary

Bridge construction of a project has a high demand of service life, therefore quality is of utmost importance. The demand for construction of highway networks is increasing significantly with the rapid economy growth in China. Taking Jiangsu province-one important province in the Yangtze River delta area as an example, four super size bridges across Yangtze River have already been built in the past ten years. At present, Sutong Yangtze River Bridge, the world longest cable-stayed bridge, is under construction. It is observed that with more difficult construction conditions and more complex bridge structures, higher and higher quality requirements are to be put on new bridge projects.

From main span and construction standard point of view, some large scale bridge projects recently built in China are already at world level. However, as far as quality management capacities are concerned, there is still a gap between bridge projects in China and those of world class [2].

### 2. Logical Framework Approach

This paper mainly deals with application of Logical Framework Approach (LFA for short) for quality management of Sutong Bridge. LFA is a tool widely used by international organizations to develop project design, work plan and evaluation.

#### 2.1 Main Procedure of LFA

##### Step 1: Stakeholder Analysis

Stakeholder means all people, team, organization or public institute who is deemed to have a share or an interest during planning stage of a project. Stakeholder shall be categorized based on interest and expectation of people or organization involved in the project. Finally identify the most important stakeholder finally when carrying out analysis.

##### Step 2: Problem Analysis