

**Final Year Project Report
Advanced Diploma In Civil Engineering
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**Monitoring The Behaviour
of
Earth and Rockfill Dam**

A Case Study of Kenyir Dam

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ABSTRACT

This paper described the behaviour of the dam being monitored by instruments and related facilities which installed in the Kenyir Dam . General recommendations are given for selecting long-term performance instrumentation to measure pore pressure , settlement , horizontal movement , seepage and ground observation holes .

Generally instrumentation was installed in embankment and foundation to monitor and to acquire important behaviour data during construction and initial filling , and long-term behaviour during the life of the dam . The instrumentation can be simple or complex depending upon the used . It should provide the data with sufficient precision to analyze performance and should cover pore pressure behaviour , seepage location and at least the areas of movement .

A requirement of a program for monitoring long-term performance in a routine observation are given . The purpose of the observation is to monitor the high pore pressure , seepage and dam movement developed during construction and continued for many year after the structure were completed . Consequently continuous monitoring and evaluation are necessary to see the of performance during operation stage .

1.0 INTRODUCTION

1.1 General

Earth and rockfill dams are impounding structures composed of fragmental materials. These materials are made up of discrete particles which maintain their individual identities and which have space or void between them. Unlike materials which are rigidly cemented together, they form a somewhat flexible structure which can deform slightly to conform to deflection of foundation without failure.

The dam body consists either of an impervious component and some intermediate zones or else of dry-placed rock (rubble masonry without mortar) or concrete. Composite dams consist of an upstream section comprising nearly one half of the dam and a downstream section of rockfill with a zone of gravel and a downstream section of rockfill with a zone of gravel and sand between the two parts.

The earth core rockfill dam is a narrow or thin zone which is the impervious member and compacted earth supported by rockfill which filters zones of fine rock, gravel, and sand on both sides of the core.

Dam is divided into two zones on the upstream and two