ACCURATE ESTIMATING ON LABOUR PRODUCTIVITY IN SRI LANKAN CONSTRUCTION INDUSTRY

Amarasekera E. A. L. S. B

DEPARTMENT OF BUILDING ECONOMICS
Faculty of Architecture
UNIVERSITY OF MORATUWA.

M.Sc. Dissertation

2010

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Ethauda Arachchige Lalantha Sujeevan Benedict Amarasekera

Department of Building Economics
University of Moratuwa
Sri Lanka

Submitted in Partial Fulfillment of the Requirements of the
Degree of Master of Science

January 2010

Dedication

To my parents

A Study Submitted in Partial Fulfillment of the Requirements of the Degree of Master of Science in Project Management

Declaration

I hereby declare that this submission is my own work and that, it contains no materials previously published or written by another person nor material which, to a substantial extent, has been accepted for the award of any other degree of diploma of a University of other institution of higher learning, except where an acknowledgement is made in the text.

UOM Verified Signature

Amarasekera E. A. L. S. B

2nd February 2010

I hereby acknowledge that Mr. E. A. L. S. B. Amarasekera has followed the dissertation process set by the Department of Building Economics.

UOM Verified Signature 09/02/2010

Prof. R. Rameezdeen

Dissertation Supervisor Date

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LIST OF ABBREVIATIONS

UPA _ Unit price Analysis

TFP – Total Factor Productivity

UK-United Kingdom

Hrs- Hours

Sqm- Squire Meter

Qty- Quantity

Acknowledgement

I express sincere thanks to my dissertation supervisor Prof. R. Rameezdeen Prof. Building Economics in the Department of Building Economics, University of Moratuwa for his guidance, instructions, comments and encouragement given to me in order to make this dissertation a reality. Without him this report would never have been materialized.

I extend my gratitude to the Dean of Faculty of Architecture, Head of Department of Building Economics, Course Coordinator / M.Sc. (PM) and all the lecturers of M.Sc. (PM) course of the Department of Building Economics for their guidance and support to complete the report.

I wish to express my sincere thanks to my wife Gayani for her encouragement, and my daughter little Amasha bearing with me on being away from them while I was working on this research

ABSTRACT

Sri Lankan Construction Industry is greatly concerned about Labour Productivity. Estimating labour accurately has become predominantly a difficult task in the industry. Literature survey was conducted to ascertain indices developed by other countries to measure labour productivity, Factors affecting labour productivity etc..

Case Study research was carried out in Three buildings types Namely **High Rise, Medium Rise and Low Rise** categories in relation to **Cement Block Work, Plastering and Tiling trades.** Hrs per Unit Measurements together with Novel Tool Time Analysis Techniques were used in conducting case studies. All parameters pertaining to the labour study were kept equal in all three building types during the case study research, but the study carried our in open environment where no controls have been introduced.

Research suggests that single labour rate is not meaningful for every eventuality in construction. It was found that the Best Tool time in other words Best Productivity exists in Medium Rise Buildings, and the Least Productivity recorded in High Rise Building projects. Average Productivity was evident in Low Rise Buildings.

Keywords: Labour Productivity, Tool |Time, Construction Industry

INTRODUCTION

Labour productivity is studied in this report in extensive manner by way of case studies in different perspectives focusing the attention on how the labour behaves in different types of projects. Three types of building projects were selected and studied the behavior pattern of very useful construction trades to find out a common relationship of them with respect to the project type. Buildings are categorized into High Rise, Medium Rise and Low Rise in the study and Hollow Cement block work, Cement Plaster and Laying of tiles were studied in relation to labour productivity in the three building types identified.

Hrs per unit measurement of the trades as identified has been studied for a period of six months to devise the behavior pattern on skilled and unskilled labour. Further a novel Tool Time analysis technique too has been conducted in the three building categories in the same trades to further strengthen the research findings of the Hrs per unit measurement if any as an alternative methodology. Tool Time analysis technique is extensively elaborated in this report in Chapter 4

Chapter One while deals with the definitions of the key areas of the study chapter two will elaborate the studies carried out by various other researches on this subject. Chapter Three will illustrate the Case Study elements, research limitations and their characteristics. Organisation culture of which the case study was based on also explained in this chapter. Chapter Four will focus on the two types of case studies carried out and their results in explanative manner. Most of the results have been illustrated in graphical form for easy understating. Research findings and further research hints are explained in the last chapter.