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The establishment of baseline artisan productivities as a means to monitoring employment-intensive construction: comparison to a South African case study

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DECLARATION

I declare that this report is my own work. It is being submitted for the degree of Master of Science in Engineering in the University of the Witwatersrand, Johannesburg. Where excerpts of existing literature and previous work have been used in the text, they have been duly acknowledged and referenced. It has not been submitted before for any degree or examination in any other University.

(Signature of Candidate)

31st day of August 2007

ABSTRACT

The need to establish baseline artisan productivities in the South African employment-intensive construction sector stems from the fact that these productivity norms have not been reviewed on a frequent basis. To others, these productivity norms hardly exist. With both scenarios, it is difficult to compare artisan productivity trends in the last fifty years to the trend of international standards.

Constructive efforts have been made in this document to highlight the productivity norms that have existed within the building industry since the 1950's. A similar exercise has been done for the USA and other European countries, notably the UK. A comparison of these trends of productivity norms has revealed that the current artisan productivity figures in South Africa are the lowest since the 1950's. Again, they are the lowest amongst these countries. In the 1950's, the artisan productivity norms in South Africa were quite close and thus comparable to the European countries but the gap has widened thereafter. The USA has generally experienced a continuous improvement in their productivity norms on an annual basis and this has been due partly to the improvement in the working tools of artisans.

Another important factor is the poor quality of artisanship. The constructive effort being made by the South African government towards ensuring the sustainability of small and emerging contractors in employment-intensive construction is not in balance; the Contractor learnership programme of the Expanded Public Works Programme (EPWP) must go hand-in- hand with an artisan learnership programme.

Key words: baseline artisan productivity, task-group, work-study, construction, face & stock-bricks, plastering, painting and tiling.

DEDICATION

This report is dedicated to my Mum and Dad: Rosealene and Jonathan, DOKU respectively.

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GLOSSARY OF ABBREVIATIONS

AACE	American Association of Cost Engineering
BAS	Building Advisory Service
BIFSA	Building Industry Federation of South Africa
CETA	Construction Sector Education Training Authority
CSIR	Council for Scientific and Industrial research, South Africa
DoL	Department of Labour, South Africa
EPWP	Expanded Public Works Programme
GDP	Gross Domestic Product
ILO	International Labour Office, Geneva
MBA	Master Builder's Association of South Africa
NAB	National Apprenticeship Board
NAC	National Apprenticeship Council
NDF	National Development Fund
NFBTE	National Federation of Building Trades Employees, South Africa
NIPR	National Institute of Productivity Research
RDP	Reconstruction Development Programme
RSA	Republic of South Africa
SAB	Journal of South African Builder
USA	United States of America
UK	United Kingdom
€	Pounds
s	Shillings
d	Pence