WEATHER RISK ON CONSTRUCTION PROJECTS IN SRI LANKA

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Submitted in Partial Fulfilment of the Requirement of the
Degree of Master of Science

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Abstract

Almost all the activities III construction projects are outdoor, thus different weather conditions such as rain, wind and snow would directly impact on the performance of any construction project. Being a tropical country, the effect from rain would be experienced mostly in Sri Lanka. Weather risk can be defined as financial gain or loss due to a change in weather conditions over a period of time.

Models to manage the weather risk on construction projects could be developed which had already been in practice in a few countries such as US and Japan. Further, such tools have transformed into new business ventures such as insurance schemes too. In these models, if rainy weather prevails beyond a certain predetermined period, contractors can claim the losses incurred by bad weather.

Weather records of previous years could be studied, and a proper forecast on seasonal rainfall with Intensities (Precipitation) for current years could be assessed accurately. Then major and minor weather windows (WW) could be identified and the weather sensitive, high cost items which are at a risk are identified. Further, identification of Dry Spell, Rain Spell and Wet Spell are important for proper construction planning.

This research aims in developing a strategic plan for construction projects in the planning stage so that the rain risk on the project performance could be minimized. Further, through a strategic plan weather sensitive (WS) items could be identified and avoid the WW periods within the frame work of accepted construction sequence. Finally the weather risk could make an Opportunity not a Threat provided this aspect is properly managed.

Keywords: Weather Risk, Construction Industry, Precipitation, Rainfall, Strategic plan, Weather Windows

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Abbreviations

AoG	Act of God
ASCE	American Society of Civil Engineering
BSW	Building Service Works
CAR	Contractors All Risk
CI	Construction Industry
CoC	Conditions of Contract
CS	Case Study
DD	Dry day
DM	Department of Meteorology
DPC	Damp Proof Course
DS	Dry Spell
EW&SS	Earth Works & Substructure
EW&L	External Works & Landscaping
FW	Finishing Works
ICB	International Competitive Bidding
MWD	Modified Wet day
RD	Rain day
RF	Rain fall
RM	Risk Management
RR	Rain risk
RS	Rain Spell
SBD	Standard Bidding Document
SE	South east
SS	Super Structure
WD	Wet Day
WMO	World Meteorological Organization
WR	Weather Risk
WS	Weather Sensitivity
WW	Weather Window

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

Declaration

I hereby declare 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 or diploma or a University or other institution of higher learning, except where an acknowledgement is made in the text.

UOM Verified Signature

IVH WIRATUNGA
3rd February 2010

I hereby acknowledge that Mr Ishan VH Wiratunga has followed the dissertation process set by the Department of Building Economics

UOM Verified Signature

09/02/10

Nayanthara De Silva
Dissertation Supervisor

Date

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