



2016

Action Item 1 – Identification and formulation of **KEY PERFORMANCE INDICATORS (KPIs):**

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What do WE mean by KPIs?



- **Ci3** *India* consolidated 'overview' (consolidated from definitions in literature):
- ➤ **Key Performance Indicator (KPI)** the measure of performance of an activity that is critical to the success of a person, project, organisation or industry
- e.g. from (a) 'macro' level industry wide KPIs e.g. to track overall productivity, worker health & safety
- to (b) 'meso' level organisational performance KPIs e.g. financial ratios/ indicators
- ➢ and (c) 'meso' level project performance KPIs e.g. to evaluate project time and cost performance levels, accident levels
- ➤ to (d) 'micro' level activity KPIs e.g. to evaluate time and costs of concreting or earthmoving activities; or bricklaying/ plastering tasks etc.

CONCEPTS UNDERPINNING our ACTION OBJECTIVES;

- ▶ We need KPIs along with NORMS and 'BENCHMARKS'
 to compare our 'scores' against good practice,
- Is it true that "you can not manage what you can not measure" and "we can not improve what we do not measure".
- ➤ What are the risks of relying only on performance indicators?

 Unsuitable KPIs can distort performance because:

 "what gets measured and rewarded is what gets done" and

 "some things that count can not be counted while some things that get counted do not count"!
- > Also, one can not measure everything

So we need to prioritise and compare the benefits/costs of each potential KPI

Objectives of Action Item 1

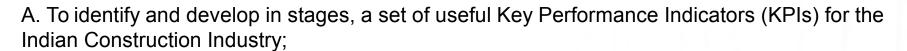
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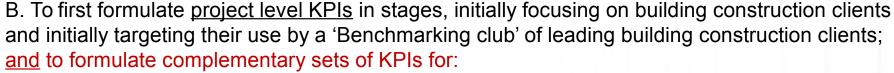
BRIEF with INITIAL OBJECTIVES

- 1. To identify and develop in stages, a set of useful Key Performance Indicators (KPIs) for the Indian Construction Industry
- 2. To formulate <u>project level KPIs</u> in stages, initially focusing on building construction clients and initially targeting their use by a 'Benchmarking club' of leading building construction clients
- <u>Note</u>: The sharing of project information and KPIs must be carefully regulated, so that confidential data remains confidential. <u>For example</u>:
- [i] Only benchmarking members' group averages (and not specific company data) will be available within the group, i.e. to those who have contributed their own required data in well-defined specific areas; and
- [ii] It is proposed to set three levels of "willingness to share data" (1) with Public (e.g. on improved Safety statistics, to boost Industry Image); (2) with a Ci3 *India* 'Benchmarking Club'; (3) for Internal (organizational top management) use only

Objectives of Action Item 1

PROPOSED EXPANDED OBJECTIVES:





OTHER INDUSTRY STAKEHOLDERS (e.g. contractors) and OTHER INDUSTRY SUB-SECTORS (e.g. highways);

- C. To facilitate focused sharing of project information and KPIs*, so as to continuously improve project level performance levels vis-à-vis industry averages; and
- D. To further *extend* the above project level KPIs and formulate, if considered useful after or during the exercises in C above:

[i] to <u>ORGANISATIONAl KPIs</u> for different types of construction organisations so they may benchmark against organisations of the same type; *and*

[ii] to OVERALL INDUSTRY LEVEL KPIs for the Indian Construction Industry, so as to compare with other countries.

Literature Survey Overview (1) - COMPARISON with some other COUNTRIES

- A few countries have developed **industry-wide Construction Industry KPIs** & **Organisational KPIs over the past few years** e.g. the UK, Hong Kong, Singapore. *Examples*:
- ➤ Hong Kong Construction Industry Performance Reports published annually since 2013 by Construction Industry Council, Hong Kong.

Note - a review of the KPIs used in Hong Kong in comparison to those used in the UK, Singapore and the USA - commissioned in 2015; & being conducted by a team from the University of Hong Kong

> UK Construction KPIs are also published annually, by 'Constructing Excellence'

UK KPIs - more detailed than Hong Kong + track changes from 2003 in most cases, even from 1999 - some 'Economic KPIs'; and from 2002 for 'Construction Consultant KPIs' Note 'Construction Consultant KPIs' also include 4 dimensions of Client satisfaction with Consultants' performance)

Please See WORKING PAPER Appendix A - for details + Examples

(1) Examples of KPIs from Hong Kong

from Hong Kong Construction Industry Performance Reports - compiled & issued annually

by Construction Industry Council in collaboration with Rider Levett Bucknall Limited

- **2013 report** available on CIC web-site

5 AREAS	4 CATEGORIES	2 SECTORS
 Productivity (7 KPIs) 	Whole Industry	
Health & Safety (3 KPIs)	Civil Engineering Works	• PUBLIC
• Environment (3 KPIs)	New Building Works	• PRIVATE
Manpower (3 KPIs)	RMAA* Works	
Dispute Resolution (3 KPIs)	* Repairs, Maintenance, Additions, Alterations	

⁻ **REVIEW** commissioned by **CIC** – awarded to **HKU CICID*** - consultancy to review

[&]quot;Consultancy Services for Assessing the Performance of the Hong Kong Construc-tion Industry, Key Performance Indicators (KPI): An International Comparison"

^{*} Centre for Innovation in Construction and Infrastructure Development

Extract: HONG KONG Headline KPIs (Separately for each Category and Sector)

KPIs	DEFINITION
P1	(On site) Man-days per HK\$1,000,000 gross value of construction works [PRODUCTIVITY KPI]
P2	(On site) Man-days per gross floor area [PRODUCTIVITY KPI]
Р3	Construction cost Indices [KPI of COST TREND OF CONSTRUCTION WORKS]
P4	Percentage of gross value of construction works to GDP [KPI OF THE ECONOMIC SIGNIFICANCE OF THE CONSTRUCTION INDUSTRY]
P4a	Percentage contribution of construction activities to GDP at basic prices [KPI OF THE ECONOMIC SIGNIFICANCE OF THE CONSTRUCTION INDUSTRY]
P5	Gross value of construction works per capita [PRODUCTIVITY KPI]
P6	Number of manual workers engaged per HK\$1,000,000 gross value of construction works at construction sites [PRODUCTIVITY KPI]
P7	Number of manual workers engaged per 1,000 sq. m. gross floor area [PRODUCTIVITY KPI]
HS1	Industrial accident number / rate (reportable industrial accidents per 1,000 manual workers) [KPI OF SAFETY PERFORMANCE]
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Realistic & Robust KPIs? - Examples from UK

Similar tabulated Breakdowns of:

Economic KPIs - All Housing

Economic KPIs - All Non-Housing

AND

Respect for People KPIs - All Construction Environment KPIs - All Construction Construction Consultant KPIs

Some Highlights from 2015 Report

60% of construction projects are completed late. (Note: 55% in 2014, so worse in 2015) Better on 'Cost Predictability' – on or within budget on 69%

In Non-housing - design phase on time in 52% projects; construction phase in 45%

Client satisfaction with overall product has fallen three years in a row to 81%

"Overall ...seems construction is making limited progress towards government's Construction <u>2025 performance</u> <u>targets</u>

- aim to cut delivery time by 50% and reduce costs by 33%.

R&D METHODS USED:



mainly based on:

- (1) Literature Review
- (2) A strong KPIs Focus Group (Ci3 India Action Team 1)
- Focus Group worked in stages in Delphi-type progressive cycles

KPIs were firstly formulated under two different project phases ('Design', 'Construction') as well as under overall 'Business Outcomes'

Also to evaluate different key stake-holders ('Consultants', 'Contractors')

Next short-listed to discard what was less useful and/or where data collection would not justify the benefits.

INTERIM FINDINGS & RESULTS



- ► Please See WORKING PAPER Appendix C
 - for currently shortlisted KPIs
- EACH ORGANISATION can SELECT their <u>OWN SUITE</u> of KPIs from this 'Large listing' + ADJUST/ ADD ETC. to suit their needs
- > **NEED** further SHORTLISTING + some REFINMENTS
- ► **NEED** WEIGHTING FACTORS (Weighting Indicators)
 - to adjust Typical Values for specific contexts/ scenarios
- ► NEED TYPICAL VALUES
 - i.e. Need (A) to collect data to assign TYPICAL VALUES to these KPIs
- ► NEED to set up and sustain 'BENCHMARKING CELLS/ CLUBS'
 - to derive expected values
 - and *evaluate* improved performance levels at *both* **project** *and* **organisational** levels.



Structure & Expected Contents of Action Team 2 White Paper- <u>due 10 Dec. 2016</u>

- ► Based on Working Paper +?
- Suggestions solicited TODAY + any more before 25 Oct. 2016 please
- > Then we will formulate a <u>Specific Activities List with a Time-line</u>



THANK YOU - for your patience

+ for your feedback !!!

Action Team 1