



HKICM

營造



Sustainability

OUR GOALS



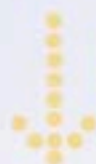
1961

Society of Builders (SOB)



1997

Hong Kong Institute of Builders (HKIB)



Change Name



2000

Hong Kong Institute of Construction Managers (HKICM)



Way Forward

Legislation of Registered Construction Managers (RCM)

Our Vision

Pursue Excellence in Construction Management

Our Mission

To Promote:

- ▶ *Professionalism and Integrity*
- ▶ *The Registration of Professional Construction Managers*
- ▶ *The Recognition of Construction Supervisors*

Our Identity

- ▶ *Incorporated as a non-profit making organisation limited by Guarantee*
- ▶ *Governed by the Constitution of the Institute to function as an educational and professional institution for practitioners in construction management*



Mr. Peter Y. Y. Ng
President

It is my great honour to take up the president post of HKICM for the term from 2011 to 2012. I have served the Institute in various positions from Council Member, Honorary Secretary and Vice President since 2001. I always enjoy the time working with the past presidents in the years that I have served and it motivates me to commit myself to be in responsible for the institute, industry and community. I treasure the friendship with the council members, and also the experience that I have gained in the past years, and find it very enlightened working with our Honorary Presidents. The continual support from them is important to me and I appreciate the advice and guidance given by them at the dinner on 22/3/2011 in the presence of Mr. Dicky Sung, Prof. Peter Mok, Mr. Thomas Ho, Mr. K.L. Tam and Prof. Raymond Leung together with our office bearers and chairpersons of the different committees in this year. We had a fruitful night of experiences sharing and it is helpful for me to have the plan listed out during my term. I hope I could do well in leading the institute stepping into a new decade and assure that I will continue to work hard and do my best to lead HKICM to achieve our Vision and Mission.



In my term, I will emphasize on the three aspects: (1) to enhance the image of the HKICM heading in the direction of getting more recognition of our professional status in the industry; (2) to work together with all the stakeholders in the construction industry to strengthen and promote the importance of Construction Industry in Hong Kong and it is one main sector of our economic growth; (3) to nurture more young professionals and construction management people to fill up the shortfall of construction professionals and technicians in the coming years as the construction is foreseen in booming. For the first task, I will continue to keep in close contact with all the stakeholders in the industry, legislators and Government bodies in lobbying the importance of Registered Construction Manager and let them understand about the works taken by HKICM. For the second task, I will continue to host more conferences and seminars to focus on the most concerns and hot issues in the industry by collaborating with all the stakeholders. For the third task, I will organize our young member team to have more contacts with the secondary schools and universities in order to promote the construction industry and working in the industry is a good career prospects. Furthermore, HKICM will be actively involved in organizing the secondary school event called "Discovery in Construction", it will be led by the Engineering and Construction Training Board of the Vocational Training Council. This event is also fully supported by other professional institutes and construction statutory organizations. It is expected that this competition event will be held in the year of 2012.

Our new council has already been formed and undoubtedly all of the members in the new organization chart are committed and will make the best endeavour to do well in the coming year for the institute. Thanks to all committee chairpersons, all the council and co-opted members' effort in taking up the tasks in this year. We are looking forward to have a better performance of HKICM in the coming year.



General Council Members (2011/2012 Session)

President



Mr. Peter Y. Y. Ng

Vice President



Mr. Jeff M. H. Cheung



Mr. Paul K. M. Chung



Mr. Barry W.N. Sin

Honorary Secretary



Mr. Honby S. H. Chan



Dr. C. M. Ho

Honorary Treasurer



Mr. Peter C. K. Kwan

Immediate Past President



Mr. Christopher C. L. Wong

Members of General Council



Mr. W. S. Chan



Mr. Bosco M. S. Chiang



Mr. Patrick Lai



Mr. Eddie K.W. Lam



Mr. Y. K. Lau



Dr. Lee F. P., Billy



Mr. Kenneth H. W. Mok



Mr. Stephen K.Y. Siu



Mr. C. W. Tang



Mr. Paco P. C. Tsang



Mr. C. L. Wong



Dr. Brenda L. P. Yip

Co-opted Member



Mr. Thompson C. Y. Chan



Mr. C. L. Li



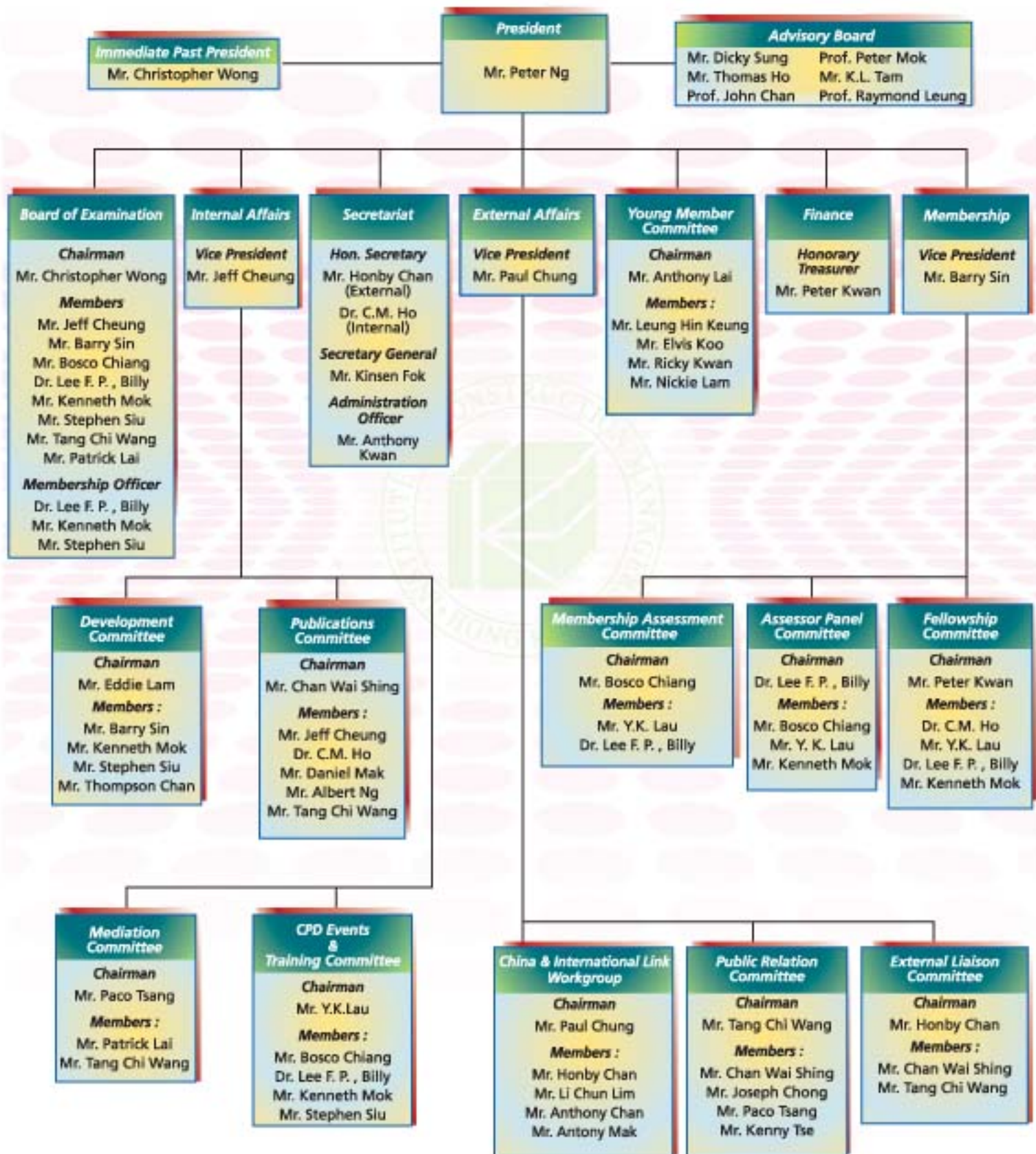
Mr. Albert P.K. Ng

YMC Representative



Mr. Anthony Lai

Hong Kong Institute of Construction Managers Organization of Committees and Working Groups 2011 - 2012



Organizations / Professional Bodies	Name of Representatives
Advisory Committee on Civil & Structural Engineering (Hong Kong Polytechnic University)	Mr. Peter Y.Y. Ng
Building & Civil Engineering Industry Training Board of Vocational Training Council	Mr. Peter Y.Y. Ng
Cadastral Survey Consultative Committee, Survey & Mapping Office (Lands Department)	Dr. Herman C.M. Tso
Construction Industry Council Committee on Construction Site Safety	Dr. Brenda L.P. Yip
Contractors Registration Committee Panel and Contractors Registration Committee, Buildings Department	Mr. Peter Y.Y. Ng Mr. Christopher Wong Mr. Honby S.H. Chan Mr. Peter C.K. Kwan Dr. Lee F. P., Billy Mr. Chan Ching Leung Mr. Ho Wai Wah Mr. Ng Choi Wah Mr. Sunny S. Yeung
HKIA and HKIS Arbitrators Appointment Advisory Board	Mr. Christopher Wong
Joint Contracts Working Committee on Standard Forms of Building Contract	Mr. Kenneth H.W. Mok
Minor Works Contractors Registration Committee Panel and Minor Works Contractors Registration Committee	Mr. Peter C.K. Kwan Dr. Lee F. P., Billy Mr. Kenneth H.W. Mok Mr. Cheng Kwok Wah Mr. Geung Tsz Chiu Mr. Kong Wing Kin Mr. Kwong Siu Tim Mr. Lee Cham Kiu Mr. Shum Hau Tak Mr. Tse Hung Cheung Mr. Danny Y.C. Yiu
Quality Building Award 2012 Organizing Committee	Mr. Jeff M.H. Cheung Mr. Paul K.M. Chung Mr. Tang Chi Wang
建造業訓練局課程顧問委員會 - Safety	Mr. Stephen K.Y. Siu
建造業訓練局課程顧問委員會 工料量度技術員	Mr. Honby S.H.Chan
建造業訓練局課程顧問委員會 建造業監工課程 (土木工程、屋宇裝備、屋宇建造)	Mr. Bosco M.S. Chiang
VTC "Youth Construction Discovery Challenge" – Organizing Committee	Mr. Anthony S.S. Lai Mr. Patrick K.K. Lai

- **MSc Surveying (Quantity / Building / Real Estate / Minerals)**
 - **MSc Construction**
 - **MSc Housing**

Special Features

- Fully accredited by RICS and CIOB.
- Partnership with RICS, learners will be eligible to begin the APC upon enrolment.
- Learners may apply for credit exemption; tuition fee will be deducted on pro-rata basis.

Entrance Requirements:

- Normal Route: Holders of a bachelor degree or above in any subject/discipline; or
- Matured students: Higher diploma or eqv. + 5 years' relevant experience

Northumbria University Student Support Centre

- Social Resources Development Institute Tel: 2398 3885

This is a purely distance learning programme which is not subject to the Non-local Higher and Professional Education Registration in HK.

土木工程高級文憑 / 高級證書

Higher Diploma / Higher Certificate in
Civil Engineering

土木工程證書

Certificate in Civil Engineering

- 課程參照 BTEC International Syllabus 培訓要求而編訂。採用全新教學理念，以實務培訓為基礎，以習作為評審基準，減輕「死背書」和「考試」的壓力，特別適合在職人士。
- 會充分考慮學員的背景，給予曾修讀相關科目豁免，讓學員在進修途中不須「走回頭路」。
- 10% Special Discount to HKICM Members, IVE graduates & HKFTU Members

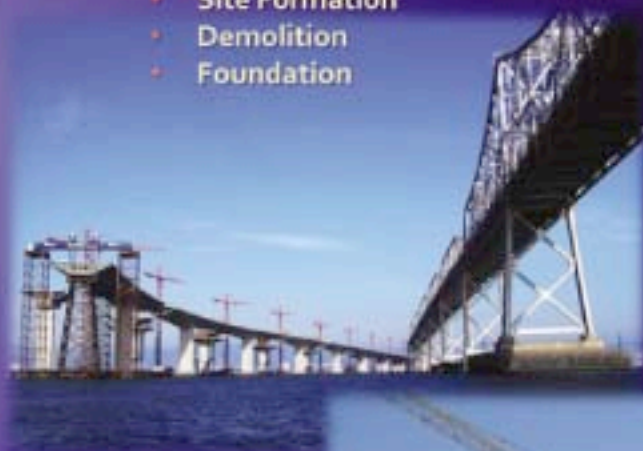
註冊建築承建商 專業工作坊

Registered Contractors Workshop

對象：建築公司的工程管理人員，及有興趣成為 AS 或 TD 的人士

導師：由培訓專家 Ir Dr. C.M. Ho 親自教授

- RGBC
- Site Formation
- Demolition
- Foundation



Accreditation HKU Middlesex U

Date : 25 January 2011



New Territories Walk for Million

Date : 27 February 2011



Past Presidents Dinner

Date : 22 March 2011



The Review of the New Minor Works Control System

小型工程監管制度之探討

Date : 8 April 2011



HKICM members' participation in External Affairs

February

17th 香港專業及資深行政人員協會 - Hon. Secretary Honby Chan

March

8th 香港建築業承建商聯會辛卯年新春聯歡晚會 - President Peter Ng

17th ICES Annual Dinner 2011 - President Peter Ng

19th HKIPM Annual Dinner - Vice President Barry Sin

20th The 4th CIC Training Academy Sports Day cum Fun Day - President Peter Ng

April

1st Canadian Society for Civil Engineering Hong Kong Branch - Vice President Paul Chung

14th HKCA 66th Council Inauguration Ceremony - President Peter Ng

May

6th HKIA - Prize Presentation & Exhibition Opening Ceremony of their Annual Award
- President Peter Ng

Coming Events

May

25th HK International Arbitration Centre - cocktail reception - President Peter Ng

June

3rd SRS 20th Anniversary AGM & Annual Dinner 2011 - President Peter Ng

OBITUARY

*Paul Yu Wai Keung, former deputy secretary general of HKICM, was passed away on 4 January 2011 at the age of 54.
We express our deepest sorrow of his sudden passing away.*

HKICM – YMC Corner



Mr. Anthony Lai
YMC Committee Chairman

Academic Seminar for AS Students at CityU

Date : 24 January 2011



The 4th CICTA Sports Day cum Fun Day

Date : 20 March 2011



Coming Activities:

June, 2 -3, 2011

Nomination of student members to Lighthouse Club for attending International Construction Conference and Construction Services Exhibition "Caring Construction, Collaborative Contracting" organized by the Lighthouse Club.
Venue: Hong Kong Convention and Exhibition Centre

June, 26, 2011

Joint 1-day social function with Trainee Alumni Association of CICTA

August, 2011

Factory visit to precast façade factory in Dongguan, PRC
(Details to be announced)

Master of Engineering in Engineering Management

工程管理
工程學碩士

Details: www.ouhk.edu.hk/ect

This part-time taught programme is intended for engineering graduates to upgrade their management skills for application in an engineering organization. It enables students to strengthen their academic profiles for career advancement and to progress as a technical manager. Holders of postgraduate qualifications may be granted credit exemption.

- Engineering Project Management
- Environ. Engineering & Design
- Innovation & Tech Management
- Energy Management & Audits
- Building Services Management
- Construction Economics
- Building Planning & Construction
- Systems Engineering

Graduates eligible to apply for:

Doctor of Engineering



香港公開大學
THE OPEN UNIVERSITY
OF HONG KONG

E-mail : ckkwok@ouhk.edu.hk
Tel: 2768-6824



Development of Sustainability Building Index in Hong Kong

Ir Prof. Peter K. W. Mok
Chairman, Hong Kong Quality Assurance Agency

Abstract In 2007, the Intergovernmental Panel on Climate Change (IPCC) identified the building sector as having the highest emissions and also the highest potential for drastic emission reductions. Urban buildings contribute on average to 30% of energy use in society causing similar levels of associated greenhouse gas emissions. There are many proven ways to reduce the energy use in new and existing buildings but experience shows that this will not happen without the support from policy makers.

The Hong Kong Quality Assurance Agency recommends to develop a Sustainable Building Index for Hong Kong with reference to the latest international standards in sustainability in building construction, UNEP SBCI research papers, green building certification and rating system that commonly adopted in the developed countries and cities. The index is aimed at developing a model for rating the sustainability performance along the life cycle of operating the building. The outcome will facilitate players in the building sector and energy policy makers on energy strategies to understand the interest of investors as well as to promote the sustainable building development in Hong Kong.



Why Needs Sustainable Buildings?

UNEP SBCI (United Nations Environment Programme, Sustainable Buildings & Climate Initiative) revealed that the building sector contributes up to 30% of global annual greenhouse gases emissions and consumes up to 40% of all energy (13). Greenhouse gases emissions mainly come from the operations of buildings along its life cycle where energy is used for heating, cooling, ventilation, lighting and electrical appliances.

The buildings and construction industry is one of the key industries that affects the sustainable development of the community. Variety of stakeholders is engaged in the supply chain of the whole life cycle of buildings. The construction, operation and demolition of buildings generate considerable environmental, social and economic impacts to the society. It may introduce serious negative impacts, in particular on the environment when there is lack of suitable management of buildings along the whole life cycle.

This business sector contributes about 8% of the total employment (8) and normally generates more than 7% of the GDP in Hong Kong (15). It plays an important role for achieving sustainable development in the community and provides the context for social interactions as well as economic development in our daily life. The condition of building may also affect the public health and safety.

At the same time, the built environment accounts for a large share of energy use, waste generation or use of natural resources. Other areas of key concern also include the production of construction materials, consumption of hazardous products, integration of buildings with other infrastructure and social systems, use of freshwater and foul water discharge, etc.

Environmental Performance vs Sustainability Performance of Buildings

Stakeholders in the community become more concerned about the green performance of buildings. To respond to the needs in the society, various green building rating or certification schemes were launched in developed countries and cities to promote and recognize the green performance of buildings in the past decade, such as LEED in the United States (7), BREEAM in the United Kingdom (2), CASBEE in Japan (4), and the Building Environmental Assessment Method (BEAM) in Hong Kong (1). Environmental performance of buildings is the core issue of these schemes. Besides, the UNEP-FI/SBCI's unveiled the importance for incorporating the social and economic performance in measuring the sustainability performance of buildings (12).

This paper proposes to develop a simple, direct and evidence based rating system to support the establishment of Sustainable Building Index for measuring the sustainability performance of buildings in Hong Kong by referring to the applicable international standards and green building rating or certification schemes regarding the sustainable performance of buildings. The aim of this rating system is to enable the common users of buildings, such as the Property Managers and Owners, to evaluate the sustainability performance of their buildings periodically.

Major References

The research is conducted with reference to several important international standards regarding the sustainability of buildings and social responsibility (9)(10)(11). A comprehensive literature review was conducted to study the relevant research papers from various professional bodies (3)(12)(13). In addition, the common international green building



rating or certification schemes were reviewed to identify the common core of aspects and indicators to be used for measuring the sustainable performance of building (1)(2)(4)(5)(6)(7).

Overview of the Rating Framework

ISO/DIS 26000 states that the sustainable development has three dimensions - economic, social and environmental - which are interdependent. It also provides a definition of sustainable development, i.e. the development that meets the needs of the present without comprising the ability of future generations to meet their own needs (11). ISO/TS 21929-1 and ISO 15392 also concur that the sustainability performance of buildings should be closely linked with environmental, social and economic aspects in its life cycle (9)(10).

We, therefore, adopt the economic, social and environmental as the three core aspects of the proposed rating system. There are several critical issues under each aspect. By reviewing the common international green building rating or certification schemes and UNEP SBCI research papers, we are able to identify the suitable indicators of the respective issues.

When developing and selecting indicators, the starting point is the identification of the needs and expectations of stakeholders and concerns of the public regarding the sustainability performance of buildings. The major stakeholders should include investors and owners, occupants and users of the buildings, and the neighbors around the buildings.

The proposed rating system is focused on measuring the evidences that reflect the environmental, social and economic performance of building along its life cycle. It is not intended to be used for certification of the appropriateness of the operational or engineering issues of buildings. By comparing the performance of respective indicators in a defined period, the Building Owner or Property Managers may evaluate the sustainability performance of their buildings. These results would facilitate the necessary modification or enhancement to the building for improving sustainability.

This rating system is a tentative proposal only. Comments are welcome from readers and the industry for further contribution to other performance indicators.

The Environmental Indicators

The environmental aspects are relevant to the impact to the environment and the consumption of natural resource when operating buildings. By reviewing the international green building rating or certification schemes, we can identify that the "Climate Change", "Biodiversity", and "Use of Natural Resource" are the common issues for measuring the environmental performance of buildings.

By measuring the amount of renewable and non-renewable energy consumed by the building, it is feasible to measure the impact contributing to the issue of Climate Change. The use of harmful chemicals will directly affect the sustainable development of ecosystem that should be included as one of the indicator to measure the building's impact toward Biodiversity. Whereas the consumption of freshwater and renewable resource and the amount of building waste are suitable indicators to measure the building performance in terms of Use of Natural Resources.

With reference of specific geographical and climatological characteristic of Hong Kong, the building may expose to the risk of flooding and typhoon damages, therefore they are included in the performance indicators.

The Social Indicators

There are various concerns in identifying social aspects. Based on the research outcomes, the social performance of buildings is primarily related with issues of "Harmonized Community", "Social Infrastructure" and "Health and Comfort of Users". After the collapse of an aged residential building in Hung Hom in January 2010 (14), there witnessed the awareness of the structural soundness of buildings in particular the aged reinforced concrete buildings and thus it is crucial to include the issue of "safety and security of buildings" as an integral part of social aspects.

The operations of buildings have immense influence on achieving harmonized community. By studying the reactions and responses of neighbors, it is conceivable to evaluate how well of buildings in achieving harmonized community.

Social Infrastructure is closely linked with the accessibility for buildings. The mode of transportation to and from the building relates to convenience of users and may have potential impacts to the environment.

In order to achieve health and comfort for building users, it is essential to evaluate the users' feeling about lighting, thermal, ventilation and acoustics comfort. The quality of air and freshwater is closely connected with the health of building users that there should be regular testing in assessing their performance.

It is fundamentally important to assure building safety. The Owners and Property Managers have to engage authorized competent persons to evaluate the structural soundness and fire safety of buildings. By reviewing the statistical of security issue, we are able to assess the security performance of buildings.

The Economic Indicators

The consideration of economic aspects is closely linked to the areas of "Asset Value" and "Resources for Maintain the Building". The Asset Value of building will directly affect the wealth and investment of the building owners. It is essential to evaluate its value in regular interval by professionals.

The ease of maintenance associates with the whole life cost of buildings. The Building Owners and / or Property Managers should consider applying innovative and effective maintenance method to reduce the maintenance costs. By tracking the expenditures in maintenance, we can make use of these figures to gauge the performance of buildings maintenance.

Measurement Approach

Factual based measurement approach is proposed in defining the status of respective performance indicators. The recommended measurement approach is addressed in table 1. Scoring approach is applied in rating the sustainability performance of buildings to facilitate the benchmarking exercise.

Scoring Method for Individual Performance Indicator

The score for individual performance indicator is determined by comparing the performance figure in a defined time period. The criteria of respective scoring level are shown as follows:

Scoring Level	Criteria
1	The performance datum is yet to be determined.
2	The performance is determined and collected for tracking. However, unstable performance is observed.
3	The performance is determined and collected for tracking. Stable performance is observed.
4	The performance is determined and collected for tracking. Improving performance is observed.

Overall Rating for Sustainability Performance of Buildings

The overall rating for the sustainability performance of buildings is concluded based on the performance of indicators in three aspects. The criteria of overall rating are shown as follows:

Overall Rating	Criteria
1- Preliminary Stage	Unstable performances are observed in any one of the three aspects.
2- Progressing Stage	All issues and data are effectively covered but only stable and improving performances are observed in a particular aspect.
3- Sustainable Stage	All issues and data are effectively covered whereas stable and improving performances are observed in all three aspects.

By analyzing the distribution of the rating score of buildings, it is feasible to establish the Sustainable Building Index of Hong Kong.

Table 1 - Overview of Rating Framework of Sustainability Performance of Buildings

Aspects	Categories	Issues	Performance Indicators	Measureme Approach
Environmental	Climate change	Reduce Greenhouse Gases emissions	Use of non-renewable energy Use of renewable energy	Trend analysis of reported data Trend analysis of reported data
	Biodiversity	Enhance ecology in building	Use of harmful chemicals	Trend analysis of reported data
	Resource use	Reduce water consumption	Use of freshwater	Trend analysis of reported data
		Reduce materials consumption	Use of renewable resource	Trend analysis of reported data
		Reduce amount of waste from operating the building	Amount of waste	Trend analysis of reported data
	Geographical risk	Minimizing climatological risk	Number of incident of flooding Typhoon damages	Trend analysis of reported data
Social	Security and Safety of Building	Assure the building strength and quality	Comply with legal requirement	Trend analysis of review result by authorized competence person
		Fire prevention	Comply with legal requirement	Trend analysis of review result by authorized competence person
		Designing out crime	Number of security incident	Trend analysis of reported data
	Health and Comfort of Users	Enhance building user comfort	lighting comfort	Trend analysis of survey data of users' feedback
			Thermal comfort	Trend analysis of survey data of users' feedback
			Ventilation conditions	Trend analysis of survey data of users' feedback
			Acoustic comfort	Trend analysis of survey data of users' feedback
		Maintain good indoor air quality	Indoor air quality	Trend analysis of testing result
		Assure quality of fresh water	Quality of fresh water	Trend analysis of testing result
	Social infrastructure	Accessible to public services and transportation	Users' satisfaction	Trend analysis of survey data of users' feedback
	Harmonized community	Promote harmonized neighborhood relationship	Neighbors' satisfaction	Trend analysis of survey data of users' feedback
Economic	Whole life cost	Ease of Maintenance	Maintenance cost	Trend analysis of reported data
	Asset value	Maintain the value of building	Monitoring the value of building	Trend analysis of reported data

Reference

1. BEAM, Building Environmental Assessment Method, HKGBC & BEAM Society, Hong Kong (2010)
2. BREEAM, the BR Environmental Assessment Method, BRE Global, United Kingdom (2008)
3. CRISP, European Thematic Network on Construction and City Related Sustainability Indicator, (2004)
4. CASBEE, the Comprehensive Assessment System for Building Environmental efficiency, Japan Sustainable Building Consortium, Japan (2008)
5. Green Globes Rating / Certification scheme, Green Building Initiative, United States of America (2010)
6. Green Star, Australian Green Building Council, Australia (2008)
7. LEED, Leadership in Energy and Environmental Design, US Green Building Council, United State of America. (2008)
8. Census and Statistics Department, Hong Kong in Figures, HKSAR Government (2010)
9. International Standardization Organization, ISO 15392 Sustainability in Building Construction - General Principles, ISO Geneva (2008)
10. International Standardization Organization, ISO/TS 21929 -1 Sustainability in Building Construction - Sustainability Indicators - Part 1: Framework for the Development of Indicators for Buildings, ISO, Geneva (2006)
11. International Standardization Organization, ISO/DIS 26000 Guidance on Social Responsibility, ISO, Geneva (2009)
12. United Nations Environmental Programme, Sustainable Buildings & Climate Initiative, Finance Initiative, UNEP-FI / SBCI, Financial & Sustainability Metrics Report (2009)
13. United Nations Environmental Programme, Sustainable Buildings & Climate Initiative UNEP-SBCI, Buildings and Climate Change, Summary for Decision-Makers (2009)
14. 屋宇署・九龍土瓜灣馬頭圍道 45 號 J・2010 年 1 月 29 日・樓宇倒塌調查報告 (2010)・香港特別行政區政府
15. Hong Kong General Chamber of Commerce, Service Sector in Hong Kong, Statistical Card (2009)

Comparison of Construction Safety Performance of Local Chinese and Ethnic Minority Workers

Cheung M. L., Karen
Student, Department of Building & Construction, City University of Hong Kong

Tam C. M.
Professor, Department of Building & Construction, City University of Hong Kong

Abstract Owing to the shortage of labour, construction workers of different nationality have been working in Hong Kong. In recent years, certain percentages of South Asian ethnic minorities have been employed. These people having different culture, belief, language of communication and physique may perform differently in construction safety, a grave concern in the local construction industry. Using a case study approach, this paper studies the safety performance of these workers in comparison with the local Chinese. Questionnaires were sent to workers of different nationalities on a random basis, followed by an interview, to collect their personal attitude and mindset towards construction safety.



Professor C. M. Tam

The results show that there is a difference in accident rates between Chinese workers and South Asian ethnic minorities. The reasons for the difference are communication breakdown, inadequate training, ignorant about safety regulations, higher risk of work, relatively lower in construction experience and worry about job security. Recommendations to improve the situation include provision of induction programme and training, use of workers' native language in communication, and adoption of a mentoring scheme for the ethnic minorities.

INTRODUCTION

With the concerted effort from the industry in Hong Kong, there has been a significant improvement in construction safety in the recent decades. Figure 1 show the decreasing trend of accidents for the industry.

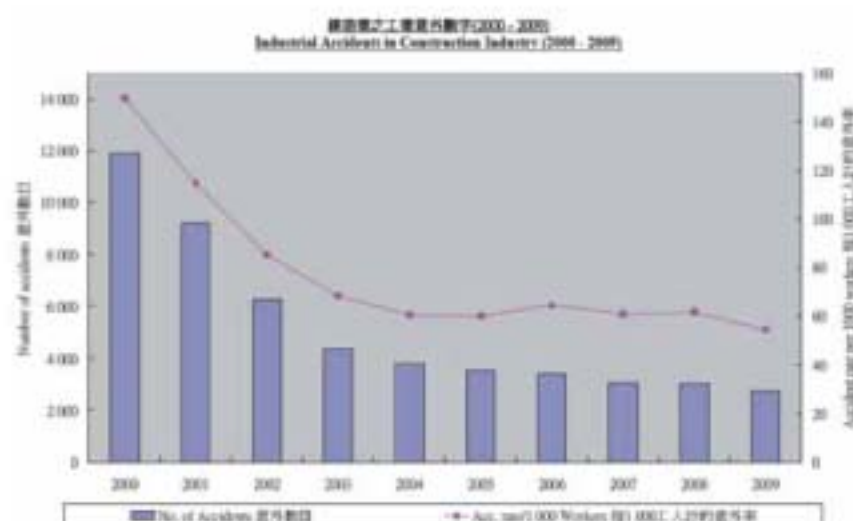


Figure 1: Industrial Accidents in Construction Industry (2000 - 2009)
(Labour Department in 2010)

Although there has been a significant improvement in construction safety in recent years, the accident rates are still intolerable when compared to other industries and the counterparts of other developed countries. The recent accident rates have troughed for quite some time, without any further improvement. From a macro point of view, to achieve any breakthrough, a quantum leap is required in safety measures. However, from a micro point of view, any small incremental improvement can help make a ripple at the current stagnant situation.

In the recent years, owing to the shortage of workforce in construction, the industry has recruited certain percentage of ethnic minorities as construction workers. These people with different culture, habits, education levels and language of communication would behave differently, leading to variation in safety performance. In order to study the possibility of any incremental improvement in construction safety, this paper is targeted to:

- * Survey the difference in safety attitudes, characteristics of Chinese workers and South Asian ethnic minorities;
- * Compare the construction safety performance between them; and
- * Suggest some recommendations for improving the safety performance.

In this study, a case study approach is adopted and data from a small specialist contracting firm is used for the analysis.

LITERATURE REVIEW

The construction industry has been booming for years with the economic expansion and growth in population in Hong Kong. In the old days, most large contractors came from overseas. They brought in new ideas, technology, construction methods and management to the construction industry. However, the construction safety management was not their major concern at all (Lee, 1996).

In the past, construction safety was solely managed and overseen statutorily by the Factory Inspectorate Division and the Occupation Health Division of the Labour Department during the construction period. It was difficult to promote construction safety in Hong Kong because the existence of multiple trades involved in construction and the changing nature of works all the time. Most hazardous activities may last for a short period of time. Therefore, many workers may not know what other workers are doing and their general obligation on site. This creates difficulties for effective management control and safety promotion. Also, subcontracting workers may be on site for a short time, and thus training programmes provided by the main contractor are difficult to arrange. In the recent years, some laborers are new migrants, without much experience and skill in the construction industry and with little safety training, leading to possible safety problems.

Although companies should provide a safe environment to their employees, it is not safe at all in construction. It is because the responsibilities for safety belong to everyone to achieve zero accident; such as the managing director or chief executive has the responsibilities for establishing the safety policy, senior management has the responsibility for providing necessary safety infrastructure and all workers have responsibility to follow the safety policy and ensure their own works following the procedures that they do not endanger themselves or others (Rowlinson, 1997 and Kennedy, 1997).

The responsibility cannot only lie on one part, and it should be cooperated with others to promote and improve safety in construction sites. The government is responsible for the overall policy, legislation, record keeping, enforcement and compensation on construction safety. Clients should be responsible for the social and economic liability. Contractors should be responsible for the safety of all those working on site. The individual workers should behave well in all action on their own safety and others on that site. Also, there are some training organizations, such as Construction Industry Training Authority, Occupational Safety and Health Council, Hong Kong Construction Association and Hong Kong Institution of Engineers to provide quality training courses for workers. All play a role in construction safety.

In the recent years, owing to the shortage of local construction workers, most employers have started to look for people from the South Asian (SA) ethnic minorities. Most of these SAs have experienced some form of difficulties in finding a job in Hong Kong due to the following reasons:

1. Most do not know Cantonese, Mandarin and English and thus it is hard for them to search a job because most job advertisements are in Chinese or English.
2. Their qualifications obtained at their home country are not recognized in Hong Kong, or they may only have low education levels. Also, some of them are lack of special skills.
3. Most come to Hong Kong alone and the networking is not strong.
4. The cultural or religious difference between Chinese and South Asian ethnic minorities makes them difficult to get understanding from employers and co-workers.

Although there are some employment assistances to help people to find a job in Hong Kong, most of these SAs do not seek for help. It is because some of them do not know the availability of such service in Hong Kong. Even though some might know such services, they think it is useless as the services are described in Chinese and local people may have discriminatory attitude toward them.

There are some retraining services provided in Hong Kong to upgrade people's education level and skills. However, most SAs do not join these training services as they may not know the courses, not being able to find suitable courses, courses conducted in Chinese, course fees too expensive, or their education qualification not meeting the entry requirements.

CASE STUDY

In this study, a questionnaire survey to both local Chinese and South Asian ethnic minority workers has been administered in order to investigate the different construction safety performance between them. There are 60 respondents, all working in construction sites of a specialist contractor. Thirty of them are Chinese and thirty are South Asian ethnic minorities, chosen on a random basis. In the interview, some did the questionnaire themselves while some with the help of a translator of the specialist contractor.

In the questionnaire, questions were classified into 4 parts, including personal information, safety awareness, safety problem, and others.

ANALYSIS

Accident Statistics

The accident rates of the studied contractor are slightly higher than the industrial average as shown in Table 1. It is worthy to note that the accident rates of South Asian ethnic minority workers are much higher than those of Chinese workers.

Year	2005	2006	2007	2008	2009
No. of labour	Total: 833 Chinese: 589 SA: 244	Total: 369 Chinese: 297 SA: 72	Total: 323 Chinese: 246 SA: 77	Total: 245 Chinese: 190 SA: 55	Total: 296 Chinese: 224 SA: 72
No. of accidents	Total: 152 Chinese: 49 SA: 103	Total: 54 Chinese: 21 SA: 33	Total: 33 Chinese: 14 SA: 19	Total: 21 Chinese: 12 SA: 9	Total: 18 Chinese: 10 SA: 8
Accident rate per 1000 workers	182.5	146.3	102.2	85.7	60.8
Accident rate of Chinese workers per 1000 workers	83.2	70.7	56.9	63.2	44.6
Accident rate of SA workers per 1000 workers	422.1	458.3	246.8	163.6	111.1

Remarks: SA = South Asian ethnic minority

Table 1: Accident Rates of Chinese and Ethnic Minority Workers of the Studied Contractor

Effectiveness of morning briefings to arouse the alertness of safety in daily work

The percentage of South Asian ethnic minorities that support morning briefings that are useful to improve alertness of safety in daily work is only 43% while 57% think that they are useless (see Figure 2). Comparing with findings of local Chinese, 97% of Chinese workers opined that morning briefings were effective to increase safety alertness in their daily work (see Figure 3). That explains that the ethnic minorities may have communication problems in understanding the safety messages given at the briefings.

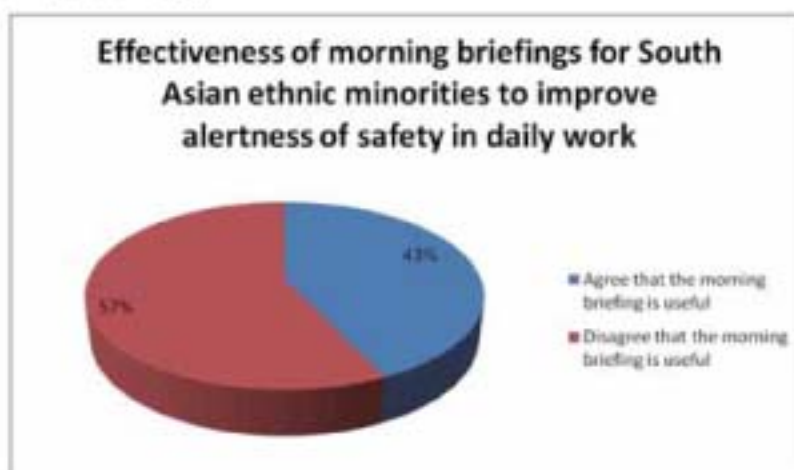


Figure 2: Effectiveness of Morning Briefings for SA

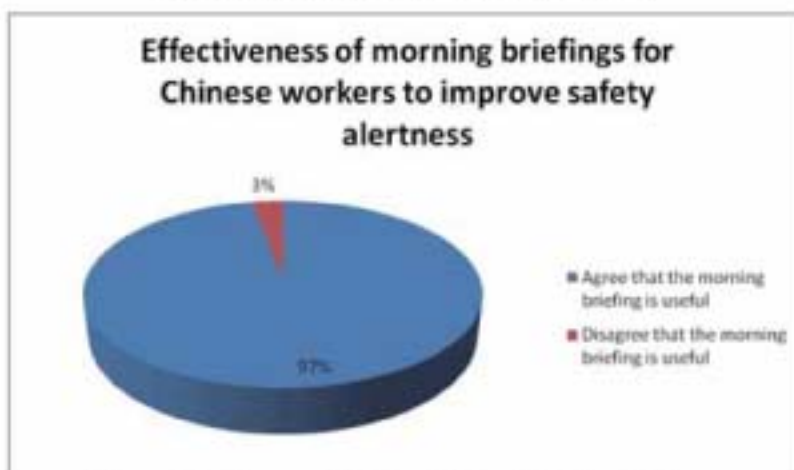


Figure 3: Effectiveness of Morning Briefings for Chinese Workers

Level of understanding safety procedure/ instruction at morning briefings

The above scenario leads to another problem: level of understanding of safety procedure and instructions. There is a big difference between South Asian ethnic minorities and Chinese workers on the level of understanding of safety procedure/ instruction at the morning briefings (see Figure 4). Most Chinese workers have no difficult in understanding the content while few South Asian ethnic minority workers can understand the safety procedure/ instructions.



Figure 4: Level of Understanding of Safety Procedure and Instructions at Morning Briefings

Tendency to follow safety instructions after morning briefings

From the survey, the mean of Chinese workers to follow safety instructions after morning briefings is 4.6 while the mean of SA is 3 (see Figure 5). Discussion with the SA respondents indicates that the main reason for not following the instructions was the incomplete understanding of the safety messages and hence they use their own ways of operation instead. Although both of them are at or above the mean, Chinese workers have a higher tendency to follow the safety instruction after attending the morning briefings.

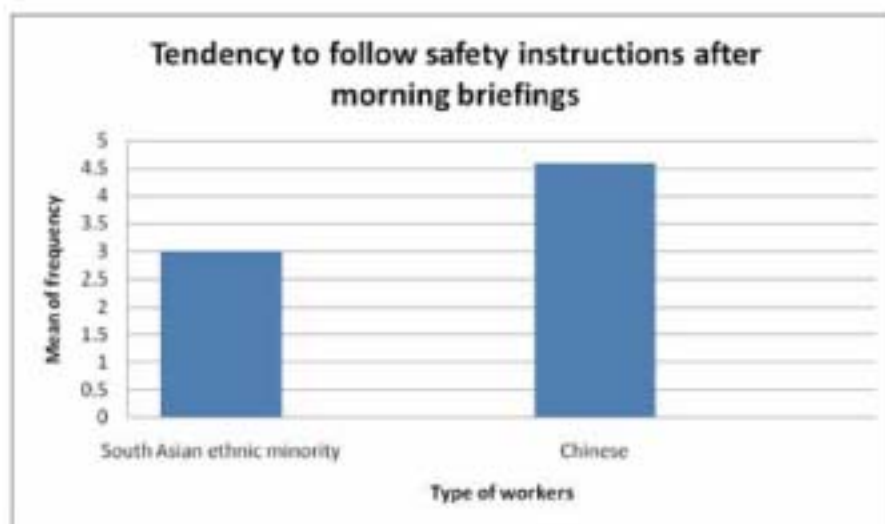


Figure 5: Tendency to Follow Safety Instructions after Morning Briefings

Level of understanding of the statutory safety regulations

Since most SAs are new immigrants, they are not familiar with the social structure and construction practices. As a result, they could not understand any safety promotions/ propaganda initiated by the government and the local legal systems. Hence, very few SAs could fully understand the statutory safety regulations (see Figure 6). Only 27% of them opined that they could understand while 73% did not know these safety regulations. Comparing with that of the Chinese workers (see Figure 7), there is big gap among them.

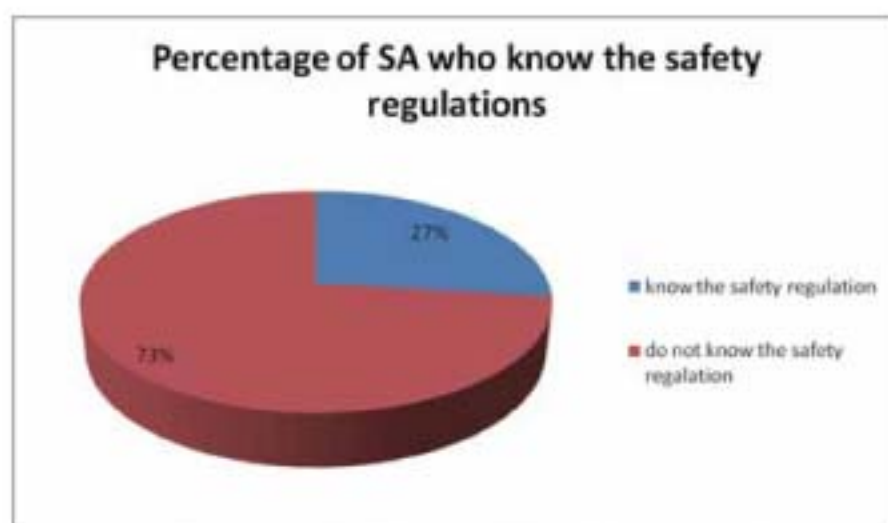


Figure 6: Percentage of SA Understanding the Safety Regulations

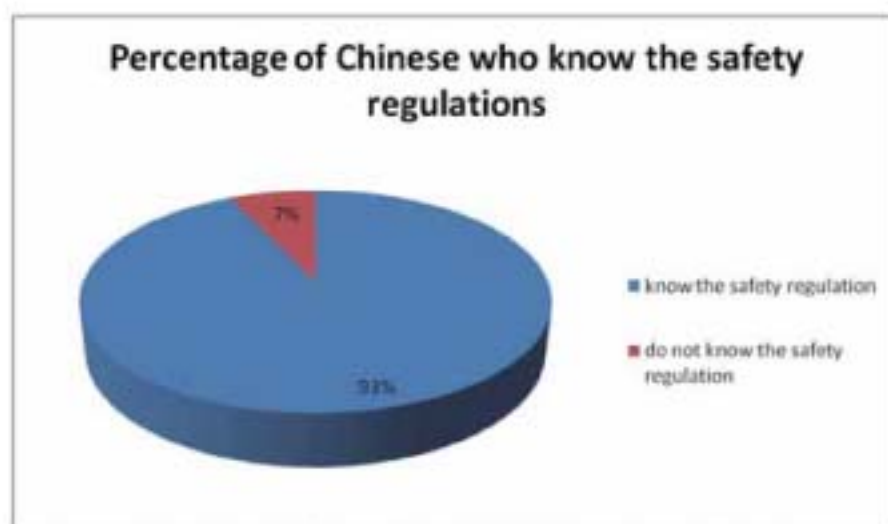


Figure 7: Percentage of Chinese Workers Understanding the Safety Regulations

Tendency of workers reporting to the supervisor when they find something in danger

To be a champion in safety management, every member of the organization should be a supporter of a sound safety culture. Reporting dangerous environment voluntarily to supervisors forms one of the critical behaviors for workers under a proper safety cultural setting. It is noted that Chinese workers are more willing to report dangerous situation when compared to SA, which demonstrates that the SA workers are shy in expression or have the feeling that reporting such incidents may be in vain (see Figure 8). This misconception needs to be expelled in cultivating a proper safety culture.

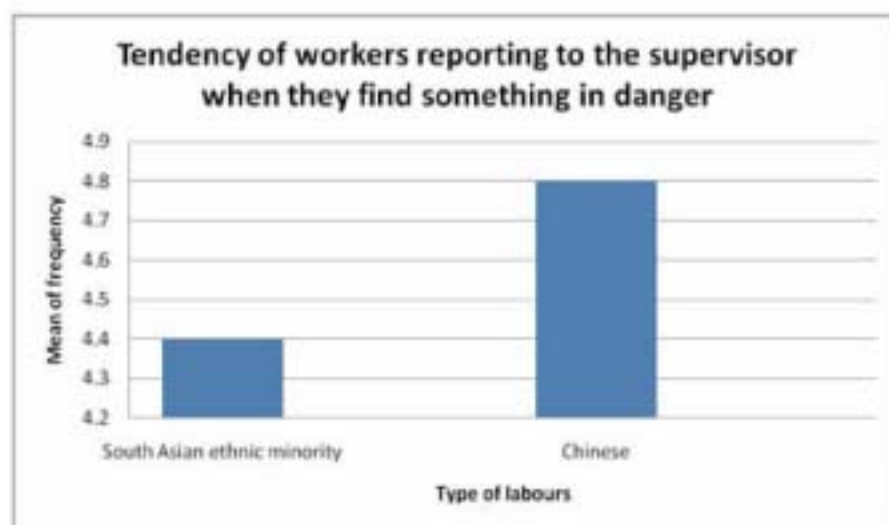


Figure 8: Tendency of Workers Reporting to Supervisor when Something in Danger

Tendency of workers refusing to work when they find the environment is in danger

Workers have the right to refuse unsafe work under most labour regulations. The purpose of this is to ensure that all employees are working in an environment where their health and safety is not in danger. However, owing to the threat of losing their job opportunities, workers sometimes bend to supervisors' instructions. From the survey, it is noted that SAs are less inclined to refuse to work under unsafe conditions (see Figure 9).

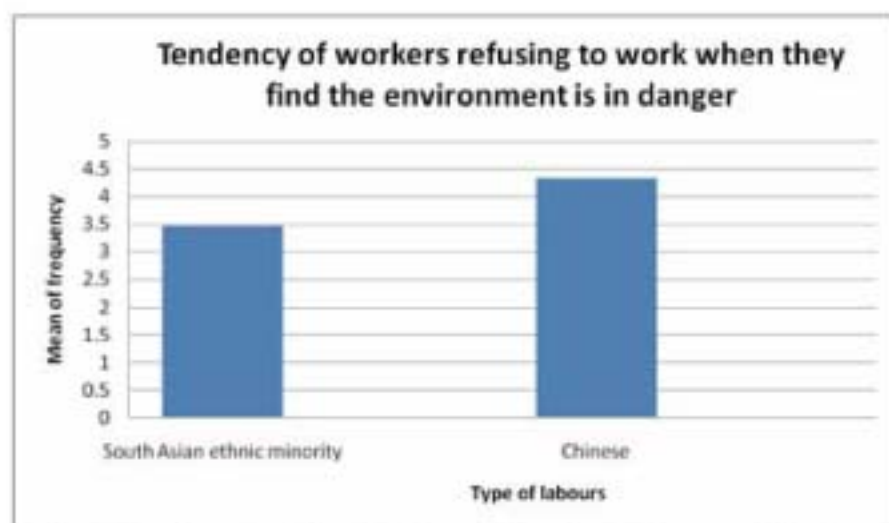


Figure 9: Tendency of Workers Refusing to Work when Environment is in Danger

Reasons for workers continue to work under dangerous environment

Figure 10 summarizes the reasons that workers continue to work under unsafe conditions. There are two reasons that SAs will opt for while Chinese workers will not: Better pay and Make me employable. As SAs have lesser choices in job, they will catch every opportunity to work, especially those higher paid works.

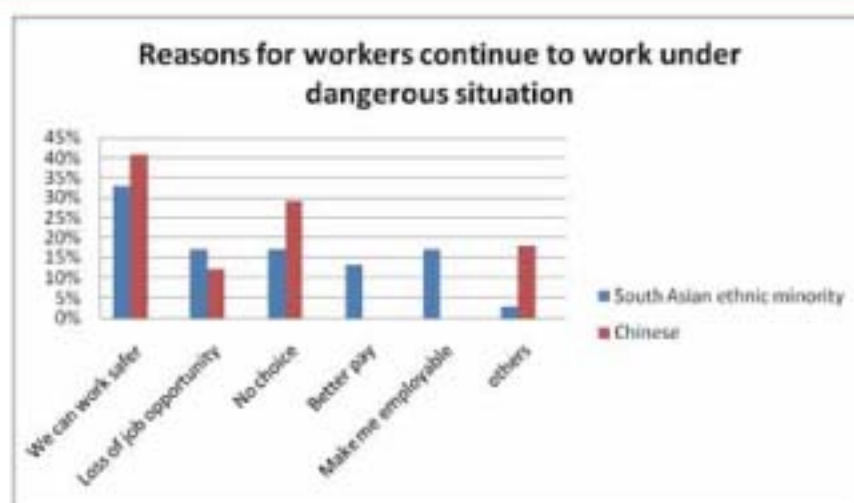


Figure 10: Reasons for Workers Continue to Work under Dangerous Situation

Level of danger of construction work considered by workers

The survey results indicate that both the two types of workers consider construction works to be dangerous (with means above 3). But that of South Asian ethnic minorities is higher than the mean of Chinese workers, indicating that SAs are more worry about construction safety although they have less choice of jobs. (see Figure 11).

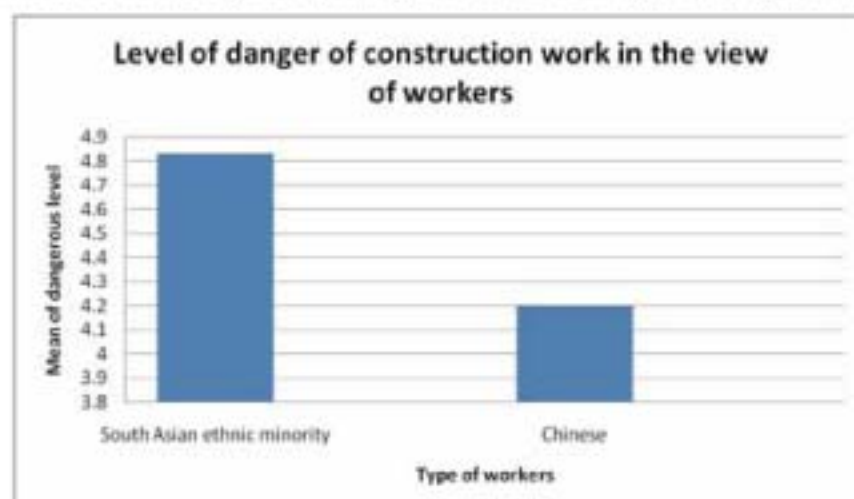


Figure 11: Level of Danger of Construction Work in the View of Workers

Criteria to be considered for workers in job selection

For the SAs, most of them are concerned about the salary, apportioned 60% among the job selection criteria while safety only apportioned 3% in their job selection. For the Chinese workers, the most concerned one is safety, 47% while salary is 23%. The results show a marked difference in the criteria of job selection among them. (see Figure 13).

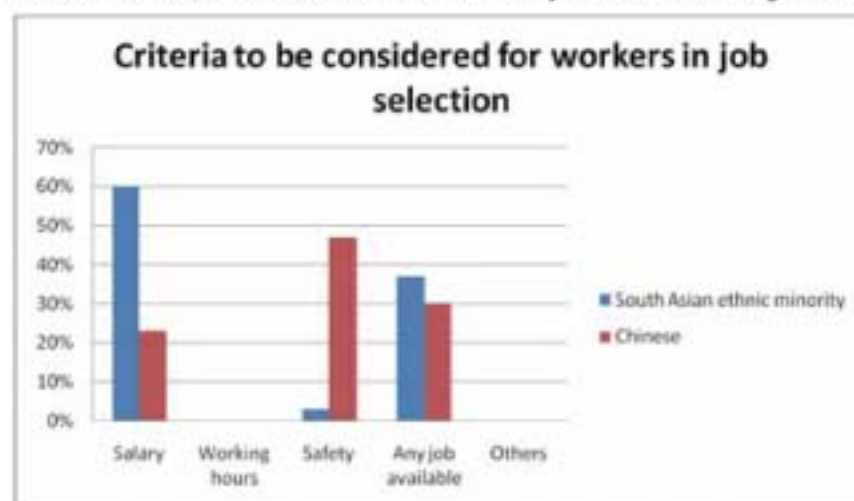


Figure 13: Criteria to be considered for Workers in Job Selection

Working experience on site

Most Chinese workers (73%) are more experienced (more than 5 years in sites), with 13% between 0 — 1 year, 7% between 2 — 3 years and 4 — 5 years. For SAs, the percentages are 37% between 0 — 1 year, 23% between 2 — 3 years and 40% above 5 years. The more experienced Chinese workers thus demonstrate a safer working attitude and a lower accident rate. (see Figure 14).

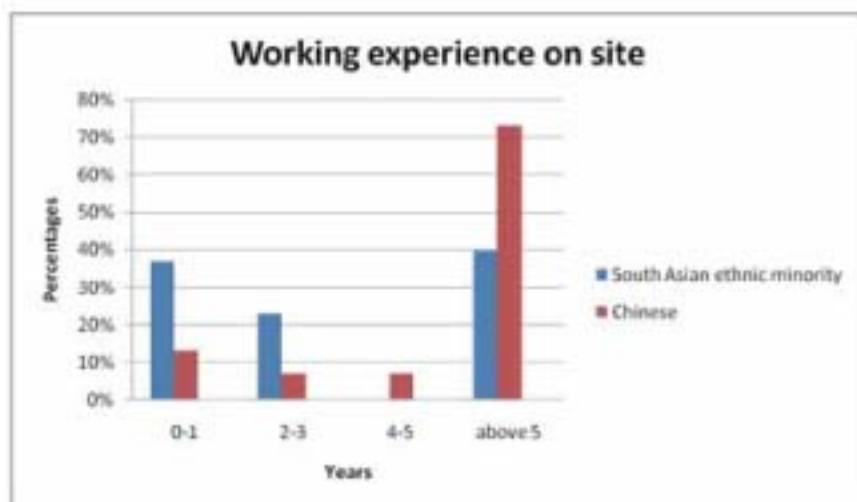


Figure 14: Years of Working Experience

DISCUSSION AND CONCLUSION

The study has unveiled some salient points as shown below:

- ▶ Most of the South Asian ethnic minority workers are new immigrants with high education levels, which are however not recognized in Hong Kong. Therefore, most can only join the construction industry. But their skill levels and experience are low, making them vulnerable to site accidents.
- ▶ Morning briefings are considered effective for workers to arouse their awareness of dangerous site activities over the working day if they could understand the information given. However, most South Asian ethnic minority workers have difficulties in apprehending the information due to their poor proficiency in both Cantonese and English, making them missing some important safety messages.
- ▶ Since most of these South Asian ethnic minorities are new immigrants and they are not familiar with the safety regulations in Hong Kong, they may violate some rules, and in doing so, exposing their co-workers to dangerous conditions.
- ▶ Owing to the communication problem and the threat of losing jobs, most South Asian ethnic minorities are not brave enough to reject works even though they are in dangerous settings.
- ▶ Most South Asian ethnic minorities consider higher wage is more important than safety at work in choosing their trade, which makes them bearing a higher accident rate.
- ▶ These SAs have a lower level of construction experience when compared to the local counterpart. Thus, these people need to receive higher level of guidance and supervision.

With the above observations, some recommendations are suggested to improve the situation:

Provision of induction programme and safety training courses

Before starting to work on site, all workers should have been provided an induction programme and possibly, a training course with a test at the end to ensure that all workers have exposed to the same level of safety knowledge. These courses can improve the safety knowledge of new immigrants as well as the SAs. At the training, it is better to have speakers who use the same language as the trainees.

Mentoring scheme

As most South Asian ethnic minorities have communication problems on site, some senior South Asian ethnic minorities should serve as their mentor for some time on site, offering them some guidance and introducing them to the site practices.

Different section of morning briefings for SAs

The morning briefings should be organized in two sections, one for Chinese and the other for South Asian ethnic minorities. The section for the South Asian ethnic minorities should have a translator to translate the information into their native language.

Promotion of legislation against racial discrimination

Most South Asian ethnic minorities are new immigrants and they are not familiar with the legislation in Hong Kong. Promotion of legislation and law about racial discrimination can inform their rights and alleviate their concern on job security. This could help them speak out in facing unfair treatment and refuse to work at unsafe conditions.

The limitations of this study include the small number of respondents (60) and they all belong to the same contractor. Future works extended to larger number of respondents and more contractors can verify the findings of this study.

REFERENCES AND BIBLIOGRAPHY

"Occupational Safety and Health Statistics Bulletin Issue No. 10 (September 2010)", <http://www.labour.gov.hk/eng/osh/pdf/Bulletin2010.pdf>

"Occupational Safety and Health Statistics 2009", http://www.labour.gov.hk/eng/osh/pdf/OSH_Statistics_2009.pdf

Cheung, C.M. (2002), "A Study of the Safety Attitudes in Hong Kong Construction Sites", Final Year Project, Department of Building and Construction, City University of Hong Kong

Tse, O.P. (1994), "A Study on the Attitude of Workers to Construction Site Safety in Hong Kong", MSc. Dissertation, MSc. in Construction Management, City Polytechnic of Hong Kong

Poon, K.C. (2002), "Construction Safety and Safety Management in Hong Kong", Master Dissertation, Master of Engineering in Building Engineering, City University of Hong Kong

Yim, H.W. (2002), "A Study of Safety Attitudinal Divergence in a Large-Scaled Construction Project", Master Dissertation, Master of Engineering in Building Engineering, City University of Hong Kong

Chan, C.Y. (1999), "A Study of the Attitude Change of Project Management Team to Site Safety after the Implementation of Supervision Plan" MSc. Dissertation, MSc. in Construction Management, City University of Hong Kong

Chan, K.S. (2001), "A Benchmarking Study of Construction Safety in Hong Kong", MSc. Dissertation, MSc. in Engineering Management, City University of Hong Kong

Tung, C.F. (2004), "Safety Professionals' Perceptions to Risk Assessment of Hong Kong Construction Industry" Master Dissertation, Master of Philosophy, City University of Hong Kong

Ku, H.B., Chan, K.W. and Karamjit, K.S. (2006), "A Research Report on the Employment of South Asian Ethnic Minority Groups in Hong Kong", Centre for Social Policy Studies, Department of Applied Social Sciences, The Hong Kong Polytechnic University, Hong Kong

George, K. (1997), "Construction Foreman's Safety Handbook", Delmar Publisher, U.S.

Laney, J.C. (1982), "Site Safety", Construction Press, New York, U.S.

Lee, H.K. (1996), "Construction Safety in Hong Kong", Lorraine Concept Design & Project Management LTD., Hong Kong

Mallick, R. (1998), "Development, Ethnicity and Human Rights in South Asia", Sage Publications India Pvt Ltd, U.S.

Joshua, A. F. (1999), "Handbook of Language & Ethnic Identity", Oxford University Press, New York, U.S.

Levitt, R.E. and Sameison, N.M. (1993), "Construction Safety Management", 2th edition, John Wiley & Sons, Inc., U.S.

Rowlinson, S. (1997), "Hong Kong Construction — Site Safety Management", Sweet & Maxwell Asia, Hong Kong

Lingard, H.C. (1995), "Safety in Hong Kong's Construction Industry: Changing Worker Behaviour", Ph.D. thesis, Department of Real Estate and Construction, The University of Hong Kong

Walker, A. and Rowlinson, S. (1990), "The Building of Hong Kong", Hong Kong University Press, Hong Kong

"Race Discrimination Ordinance", Equal Opportunities Commission, <http://www.eoc.org.hk/eoc/GraphicsFolder/showcontent.aspx?content=Race%20Discrimination%20Ordinance%20And%20>

FIRE ENGINEERING PROGRAMMES

A Professional Pathway Leading to a Recognised Professional Fire Engineer

The University of Central Lancashire (UCLan), through the School of Continuing and Professional Education (SCOPE), City University of Hong Kong (CityU), is offering the following programmes that are specially designed for students to obtain professional recognition (CEng / MHKIE) and specialized training in Fire Engineering for career advancement.

- MSc in Fire Safety Engineering
- BEng (Hons) Fire Engineering
- Foundation Degree of Science (FDS) Fire Safety Engineering

Unique features:

- Provides a pathway to become professional engineers through part time study
- Students are encouraged to approach their academic study and careers as creative and innovative managers and engineers
- Meets the training need of fire engineers and other disciplines such as building engineers, surveyors and architects
- Fully supported by The Institution of Fire Engineers (HK Branch) (IFE(HK))
- Strong links with the industry and professional bodies
- Workplace modules incorporating academic theories into your daily work context
- Access to CityU's library, Computing Services Centre and SCOPE Resources Centre with dedicated collection on fire discipline
- A 5% discount on the programme fee be given to all IFE (HK) Members

The above are exempted courses under the Non-local Higher and Professional Education (Regulation) Ordinance (reference number 451419, 451418, 451312).

It is a matter of discretion for individual employers to recognise any qualifications to which these courses may lead.

Information Seminar

Date and Time :

9 June 2011 (Thursday), 7:00-8:30pm

Venue :

SCOPE Lecture Theatre (SLT), LG/F,
Academic Exchange Building,
City University of Hong Kong, Kowloon Tong

Online Seat Reservation :

www.scope.edu/seminar/113-29190-B (MSc)

www.scope.edu/seminar/113-29240-B (BEng)

www.scope.edu/seminar/113-29250-B (FDS)

*Application Fee of HKD140 waived
for application submitted at the
Information Seminar*

Professionally Recognized as
CEng / MHKIE

MSc in Fire Safety Engineering
(2-year, Part-time mode)

BEng (Hons) Fire Engineering
(2-year / 3-year, Part-time mode)

Foundation Degree of Science
Fire Safety Engineering
(2-year, Part-time mode)

Programme Website : www.cityu.edu.hk/ce/fire/

Enquiries : 3442 5805 / 3442 7423



The Publications Committee of HKICM 2011/ 2012

Chairman: Mr. Chan Wai Shing

Members: Mr. Jeff Cheung, Dr. C.M. Ho, Mr. Daniel Mak, Mr. Albert Ng,
Mr. Tang Chi Wang

Publisher: The Hong Kong Institute of Construction Managers, Ltd.

Room 801, 8/F, 25 Des Voeux Road Central, Hong Kong.

Tel:(852) 2523 2081 • Fax:(852) 2845 4749

E-mail: info@hkicm.org.hk • Web Site: www.hkicm.org.hk

Disclaimer: The views and opinions expressed or implied in this publication and those of the authors do not reflect those of the HKICM, its officials or editorial staff. The HKICM, its officials or editorial staff therefore do not and shall not accept any liability or responsibility of whatsoever nature in the context of this publication. Opinions, conclusions, representations, views and such other information in this publication shall be understood as neither given nor endorsed by the HKICM, its officials or editorial staff.