CIDB 20 VASING FEATURE
JANUARY 16, 2017



# Changing mindsets on safety and health

Safety and health have long been a concern in the construction industry and recent accidents involving the public have worsened public perception. Construction Industry Development Board chief executive Datuk Ahmad Asri Abdul Hamid says steps are being taken to address the issue but the biggest challenge will be changing the mindsets of all the stakeholders.



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PSEUDONYMS ARE ALLOWED BUT PLEASE STATE YOUR FULL NAME, ADDRESS AND CONTACT NUMBER (TEL/FAX) FOR US TO VERIFY. he latest statistics on construction fatalities in the country reveal an alarming trend—the number has been rising over the last 10 years, averaging 99 between 2011 and 2015. According to the Construction Industry Development Board (CIDB) and the Department of Occupational Safety and Health (DOSH), this sector accounts for the highest number of fatal work injuries after transport and warehousing.

Last year, there were 140 fatalities in the construction sector — the highest recorded since 2001. By comparison, there were 27 cases in Singapore, 26 in Australia and 19 in Hong Kong. There is an urgent need to enhance existing safety practices and improve enforcement before such deaths become commonplace in the country, says CIDB.

To deal with the numerous issues involving quality, safety and professionalism in the construction industry, CIDB had launched the five-year Construction Industry Transformation Plan (CITP) on Sept 10,2015, which aimed to revamp industry practices with quality, safety and professionalism as one of its four core initiatives. The others are environmental stability, productivity and internationalisation.

Under the plan, CIDB seeks to increase the emphasis on quality and implement quality assessments, improve workplace safety and workers' amenities, enhance the ease of doing business by addressing regulatory constraints, and promote and raise awareness of the initiatives.

It says the first step towards strengthening safety practices begins with ensuring that quality, safety and professionalism become a part of the work culture. Such practices are even more vital now with the country moving towards gaining developed nation status with its many mega projects.

Based on CIDB's database, 22 packages of MRT2 valued at RM24.1 billion and 10 packages of Menara Warisan Merdeka valued at RM3.8 billion were awarded while a total of 5,024 projects worth roughly RM121 billion were registered at CIDB as at November 2016. These figures are expected to rise, taking into account later projects.

Other projects of significant value and size include the Pan-Borneo Highway, the Bandar Malaysia development and the Kuala Lumpur-Singapore high-speed rail.

# UNDERLINING SAFETY ANI HEALTH IN CONSTRUCTION PRACTICES

# ASSESSING QUALITY

CIDB has recognised the lack of adequate emphasis on quality assessment and assurance. To develop a merit-based culture in the construction industry, it highlights the importance of ensuring that the quality of contractors and construction works meets a minimum standard. While some standards have been developed for materials and structures in line with what is internationally recognised, there is always room for improvement as there is limited emphasis on and demand for quality workmanship among clients and consumers.

To increase the take-to policy changes whereby issuance of the certification for public projects work issuance of the certification for public pro

An example of quality assessment for buildings is QLASSIC or Quality Assessment System in Construction, which assesses contractor workmanship. According to CIDB, only 3% of buildings in the country were assessed using QLASSIC in 2013, though this rose to 7% in 2014. There is also a lack of accredited assessors for QLASSIC.

To improve quality levels in the construction industry, CITP proposes to increase quality assessments such as OLASSIC. CIDB believes that the use of QLASSIC is es-

sential to improve the overall quality of both contrand construction work.

To increase the take-up of QLASSIC, CIDB recompolicy changes whereby QLASSIC is a prerequisite fissuance of the certificate of practical completion for public projects worth over RM50 million and fissuance of the certificate of completion and comp for private projects worth more than RM50 millio other recommendation is for client ministries to cothe past QLASSIC scores of contractors as a criter the tender evaluation process.

CIDB urges contractors to obtain internation recognised quality certification, such as ISO 900 for financiers to include contractors' QLASSIC section an input in financial risk assessments when proposed financing applications. Similarly, public-construction-related companies are encouraged close internationally recognised quality certification ratings in their annual reports.

Recently, big developers like MK Land, Sime



# QUALITY, SAFETY & PROFESSIONALISM

# **OUTCOMES**

Quality, safety and professionalism ingrained in industry culture



More than 50% public projects exceed acceptable QLASSIC<sup>1</sup> score



More than 50% reduction in worksite fatalities and injuries



Ease of Doing Business indicator in dealing with construction permits improved by 5% points Quality, safety and professionalism contribute to the Inclusiveness goal under the 11th Malaysia Plan

A more quality-conscious and inclusive construction industry will ensure higher levels of quality in the built environment, reduce worksite accidents and remove regulatory constraints

panel has been appointed by the Ministry of Works to study safety issues in the construction industry while the working group for safety measures under CITP will further address issues and implement the recommendations of the expert panel beyond law and statutes, safety aspects, competence, roles and responsibility, design guidance and specifications and procurement practices.

A Malaysian Standard Code of Practice to define guidelines for temporary construction site workers' amenities will also be developed by CIDB and the Department of Standards Malaysia. As industry players and regulators can play a key role in emphasising the well-being of construction workers, CIDB will collaborate with them to facilitate the upgrading or construction of workers' quarters to be standards-compliant, as improving the living conditions of construction workers will boost productivity.

The amenities should include rooms, sanitary facilities, cooking and dining areas and places for leisure and social activities.

### EASING REGULATORY CONSTRAINTS

Regulatory frameworks that govern the construction industry have proved to be complex and difficult to navigate, particularly the issuance of licences and permits and contractor registration that is both cost and time-consuming. The delay in obtaining construction permits and necessary approvals stems from bureaucracy whereas regulations are dated and may not accommodate modern practices or the adoption of new technologies, which can fuel inefficiencies in the sector. Unclear regulations, inconsistent interpretations and application of regulations in the construction industry also cause disputes, says CIDB.

CITP aims to reduce regulatory obstacles by strengthening one-stop centres (OSCs) for all construction permits and approvals. This initiative proposes that the 150 OSCs in Malaysia be streamlined and enhanced to improve and expedite key processes.

CIDB recommends a full review of the OSCs to identify specific process and procedure gaps and challenges to develop concrete steps to ease business dealings. It suggests that the submission and approval of all construction permits to be done electronically and an integration of back-end systems across key regulatory bodies, such as the fire, waterworks and electricity departments. Error-checking and electronic approval systems can also pre-empt and lower the risk of unnecessary delays by allowing a transparent electronic tracking and monitoring system.

CITP is looking at a public-private partnership model to accelerate the approval of construction permits, whereby technical agencies can consider devolving partial processing responsibility to a licensed private party where feasible, such as for site inspections to increase efficiency, whereas technical agencies would retain decision-making power. Such a model has proved successful in the UK as the private sector is able to address the backlog in processing construction permits faced by local authorities.

Additionally, CITP recommends the setting up of a tribunal to resolve construction permit disputes, streamline and enhance contractor registration across all agencies, as well as enhance the culture and practices by learning from decided construction court cases.

# ENHANCING PUBLIC PERCEPTION

Through a public perception on construction industry survey commissioned by CIDB in 2014, it was found that only two in three members of the public have a positive perception of the industry while over 40% of youth below 24 years of age have a negative view of a career in construction with safety issues acting as a deterrent. In terms of public awareness, 60% of respondents claim to be unaware of safety initiatives, which explains the low level of engagement and take-up of initiatives in the industry despite their importance.

To improve the image of the construction industry, CITP strives to promote and raise awareness of its measures and to correct misconceptions as well as drive the uptake of its initiatives.

At its core, CITP aims to develop a clear, comprehensive and strategic communications plan using new media as the medium to communicate and engage with the public and industry stakeholders at all levels. It seeks to explain factually the extent of the construction industry's rising importance and to raise the profile of initiatives that are being undertaken.

For example, a portal featuring the standard of requirements with regard to an upcoming initiative to upgrade workers' dormitories will help raise awareness of and support the initiative.

CIDB urges key stakeholders to collaborate and convey integrated messages that seek to raise the uptake and buy-in of CITP initiatives to ensure their successful implementation with the ultimate objective to erase the negative perception of the industry.

### CASE FOR CHANGE

# Very few quality-rated buildings

Only ~3% of buildings currently adopt ~QLASSIC1



High occupational deaths in construction<sup>2</sup>

#### **CONSTRUCTION: 69**

Manufacturing: **58**Agriculture, Forestry, Logging & Fishing: **33**Transport, Storage & Communication: **8**Utility: **7** 

Wholesale & retail trade: 5 Mining and quarrying: 5

Delays in approval of construction permits

# 2014 World Bank Ease of Doing Business

74+ days to obtain a construction permit in Malaysia<sup>3</sup>
26 days in Singapore



# HIGHLIGHTED RECOMMENDATIONS<sup>4</sup>



Improve workplace safety and raise level of workers' amenities

- Strengthen pool of qualified safety officers and inspectors
- Include construction industry within purview of Act 446 (Workers' minimum standard of housing and amenities Act, 1990)

# Increase demand and supply of quality-rated buildings

Recommend rating as prerequisite for permit issuance (CCC<sup>5</sup> or CPC<sup>6</sup>)

Accelerate issuance of permit approvals through digitisation of One-Stop-Centre

Establish e-submission and e-approval for all permits/approvals

1. Quality Assessment System in Construction 2. DOSH (2013) 3. Kuala Lumpur 4. Not exhaustive 5. Certificate of Completion and Compliance 6. Certificate of Practical Completion

Properties and Sunway Construction embraced QLASSIC, introducing a new dimension of competition to the construction sector when they market their projects using the system's performance scores.

Additionally, CITP recommends the implementation of independent quality assurance and quality control assessments beyond QLASSIC, for buildings to include assessing aspects, such as the quality of materials used, and the quality of practices and processes adopted by the contractors, including infrastructure workmanship. Such assessments, according to CIDB, should be undertaken by independent assessors to ensure objectivity.

CIDB calls for the support of key stakeholders, such as the Ministry of Urban Wellbeing, Housing and Local Government, the Public Works Department and the Implementation Coordination Unit, to incorporate QLASSIC measurements into relevant policy changes. It also seeks the collaboration of the stakeholders to develop a construction quality programme on standards, guidelines, training and best practices.

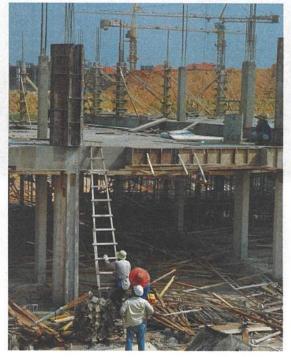
The board is looking at expanding QLASSIC's scope to include the assessment of structural, mechanical and electrical works, as well as continuously enhancing the standards and guidelines to ensure the relevant minimum standard.

# IMPROVING THE WORK SITES

Safety and health are key areas of concern for the construction industry, given the many major accidents on work sites in recent years, giving rise to negative public perception. CIDB attributes the inferior safety and health standards of the construction industry to the poor condition of work sites and workers' amenities, weak enforcement efforts, lack of safety awareness among construction workers and deficient housekeeping of work sites.

Foreign construction workers are often made to stay in cramped spaces with low levels of cleanliness and limited amenities while the level of enforcement of safety is limited by the insufficient number of certified occupational safety and health officers and site safety supervisors. Construction sites with poor housekeeping practices, resulting in pools of water that become breeding grounds for vector diseases such as dengue, also pose a threat to the general public.

CIDB urges more stringent inspections to be carried out with greater responsibility and awareness of health



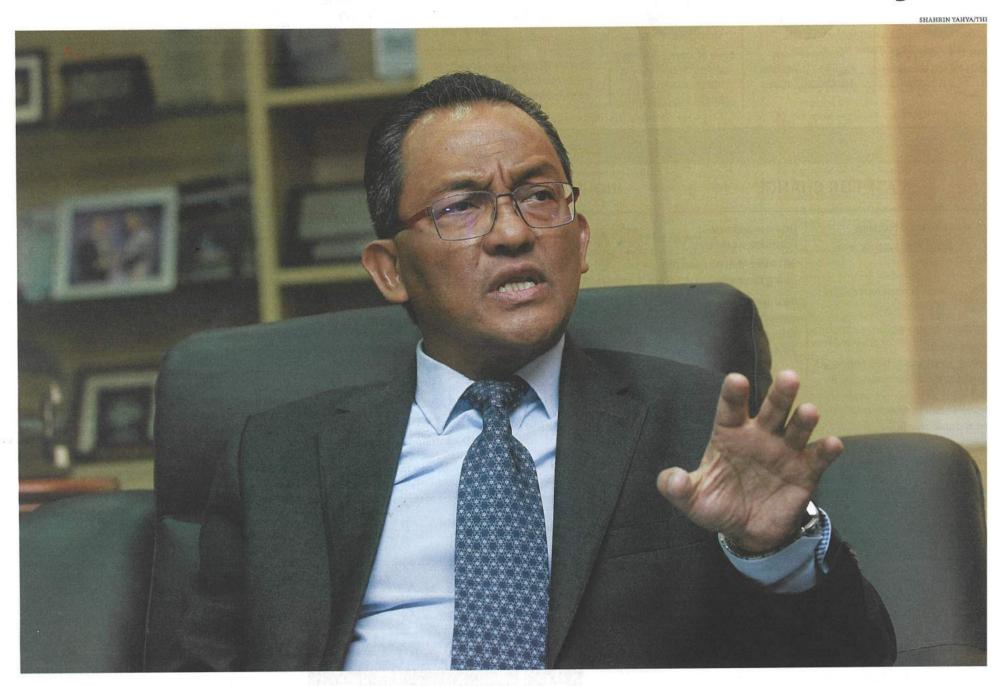
and safety. To facilitate this, CITP recommends greater stress on occupational safety and health certification. It will develop construction-specific safety training courses to increase the quality and quantity of certified safety officers and third-party inspectors. Thus, contractors can elevate their profile with internationally recognised safety certification. Financiers can also play a role by ensuring that high-standard safety practices are adopted in projects that they finance by including safety certification in their risk assessment of project financing.

CITP also emphasises the implementation of ratings and assessments to measure the success of certain standards and policies in construction, and recommends an increase in the adoption of the OSH assessment Safety and Health Assessment System in Construction (SHASSIC) — an independent method to assess and evaluate the safety and health performance of a contractor.

Meanwhile, CIDB aims to regulate the minimum level of amenities for construction workers. It says an expert



# Creating a safe ecosystem in the construction industry



he Construction Industry Development Board (CIDB) is seeking to promote a safe ecosystem at construction sites in the country after the recent spate of accidents.

The construction sector is known as a 3D — dirty, dangerous and difficult — industry. Construction sites are generally hazardous and accidents are prone to happen.

CIDB chief executive Datuk Ahmad Asri Abdul Hamid notes that the fatality rate in the construction sector - globally and locally - has always been high, versus the national average.

For example, in 2015, Malaysia's number of con struction hazard cases stood at 10.94 per 100,000 people against the national average 4.84. The US saw 9.8 cases in the same year, compared with the national average of 3.4 (see chart).

"We are very concerned because in the past, the fatal accident cases involved only those in the construction sector but of late, they have involved the public. Of course, we are taking steps to prevent further such incidents," says Ahmad Asri.

Last August, a crane hook fell from a building that was under construction in Jalan Raja Chulan, Kuala Lumpur, killing a woman in her Perodua Kancil. In November, a couple was crushed to death when a piling crane crashed onto their car in Bandar Baru Bukit Raja, Klang.

Referring to the two cases, Ahmad Asri explains that as construction sites are under the jurisdiction of the respective supervising officer and project man-

ager and the safety aspects are under the purview of the site safety supervisor or safety and health officer, CIDB aims to ensure that those working within the ecosystem are trained and certified so that they are able to carry out their duties professionally.

"It is basically about enforcement and legislation because at the end of the day, the site is managed by these parties," he adds. "Now, we are working on increasing safety awareness among these people and giving them training in the hope that the situation

"Also, what is more important is that we have the accident cases ver to act under the Construction Industry Development Board Act (Act 520)," says Ahmad Asri. He cites the collapse of the pedestrian bridge in KL Eco City that caused the death of a worker in November, saying that if the forensic report shows that there was negligence on the part of the property developer, it can be charged under the Act.

# BETTER ENFORCEMENT

A poll carried out by The Edge shows that the public is fearful when passing by construction sites and they are concerned that no action has been taken by the government or the authorities after the recent incidents.

To improve enforcement, Ahmad Asri says, CIDB has quadrupled the number of site inspectors to 133. It targets to carry out 4,000 site inspections this year compared with 3,600 last year.

We also get other agencies involved so that the

We are very concerned because in the past, the fatal involved only those in the construction sector but of late, they have involved the public. - Ahmad Asri

operations are more integrated and effective explains. "These agencies include the immigra department to tackle the issue of illegal worker: health ministry to check water ponds for Aedes quito larvae as well as DOSH [Department of C pational Safety and Health]."

CIDB is also working towards providing training programmes. Ahmad Asri notes tha perception among the construction players is ensuring safety at the sites will incur more "Because of this, they are not keen to introduce s measures or they will just do the bare minimun board is promoting the mindset that safety do increase costs."

He adds that everyone who works on a cons tion site must obtain a green card by attending a day class on basic safety knowledge. If a worker not have the card, he will be issued a compounemployer will also face a penalty.

"Also, projects of up to RM20 million are req to have site a safety supervisor (SSS). This year, v going to train 614 SSS," he says.

"Projects above RM20 million are required to l safety and health officer (SHO), who is on a higher than an SSS. The SHOs will undergo training as

CIDB has also introduced a rating tool, Safet Health Assessment System in Construction or § SIC, an independent method to assess and eva the safety and health performance of a contrac construction works or projects. At the moment, of the tool by contractors is voluntary but the









Ten years ago, you hardly saw anyone wearing hard hats but now, everyone is wearing a hard hat and safety boots, says Ahmad Asri

targets to make it mandatory by 2020. It is now creating awareness among contractors.

The board is also encouraging contractors to take up MS1722 certification, which is similar to the International Organization for Standardization (ISO) system, but with an emphasis on safety. CIDB is currently working with 70 contractors, all with ongoing Transformation Programme (CITP) two years ago to projects, to get them certified this year.

Ahmad Asri notes that while there is still room for improvement, awareness of safety and health in the construction sector has increased in the past few years. "Ten years ago, you hardly saw anyone wearing hard hats on construction sites but now, everyone is wearing a hard hat and safety boots. The safety culture is there and our challenge is to make it a norm. Overseas, safety is a basic thing and they understand that it is about a person's life."



# Occupational hazard cases (per 100,000 workers)

	COUNTRY	NATIONAL AVERAGE	CONSTRUCTION INDUSTRY
1	UK	0.46	1.62
2	Australia	1.61	3.0
3	Japan	1.66	7.47
4	Singapore	1.9	5.4
5	US	3.4	9.8
6	Malaysia	4.84	10.94
7	Taiwan	4.1	24.2

remodel the industry by 2020. Under the programme, the board targets to reduce fatalities by 50% every year.

There were 31 deaths as at September last year and there were 140 cases in 2015," says Ahmad Asri. Under CITP, CIDB will also push for the use of the

Industrialised Building System (IBS). Apart from increasing productivity, it believes, safety will be improved as construction work will be carried out in

Currently, IBS is compulsory for government pro-CIDB officially launched the Construction Industry jects of above RM10 million, which must have more

than 70% IBS materials. A reduction in the import tax of IBS-related materials has been proposed to the Ministry of Finance. With the exemption from the construction levy, low- to medium-cost housing projects are encouraged to use IBS.

"For the private sector, we plan to make it compulsory by 2018 for projects exceeding RM50 million. We are now working with the Ministry of Local Government and Housing so that every project submission must demonstrate that the IBS is being used before approval can be given.

"We believe that IBS needs economies of scale and what we are doing now is creating the trend. If we have the volume, the cost will eventually go down. In fact, Jabatan Kerja Raya has done a study which shows that there is not much difference in cost between conventional methods and IBS. The margins have been reduced significantly over the years."

Last year, CIDB and DOSH entered into a partnership to improve safety and health in the construction industry.

Among the areas of collaboration are coordinated enforcement and sharing of information, carrying out of further skills training, identifying and developing new training modules in tandem with building operations and works of engineering construction needs, formulation of standard assessment methods to be used by the industry, incorporating regulatory and standard compliance and working together on various PR and other relevant initiatives to promote and drive safety and health among the various stakeholders.



Making safety and health a priority

hen it comes to safety and health, the public has a negative impression of the construction industry. Department of Occupational Safety and Health (DOSH) statistics show that construction remains one of the most hazardous industries.

According to DOSH deputy directorgeneral Haji Omar Mat Piah, 495 workers have died from 2011 to 2015 — an average of 99 fatalities at worksites per year.

"The construction industry has a significantly higher rate of fatality (10.94 per 100,000 workers), which is over twice the average rate across all industries (4.84 per 100,000 workers)," says Omar.

While the economic outlook for the construction industry is encouraging, due mainly to the number of government-backed infrastructure projects, it poses challenges to safety and health, he says.

The industry employs 13.5 million workers as at 2014, accounting for 9% of the nation's workforce.

"The industry needs to understand that the primary responsibility for managing safety and health risks lies with the companies. It is the basic tenet of risk management.

"The role of the government should ideally be to determine that businesses are effectively managing their safety and health risks," says Omar.

He says DOSH's actions in ensuring safe workplaces are centred on influencing changes in the mindset (of the companies). However, companies themselves must

take the initiative, he adds.

"Experience tells us that traditional site-based inspections alone will never be enough to tackle poor safety and health standards in the construction industry.

"Hence, we are looking beyond the worksites, such as engaging and forming partnerships with associations capable of influencing changes," says Omar.

To strengthen worksite safety, DOSH will restructure its construction safety division with the aim of carrying out a range of inspections and punitive actions.

"We have to remember that measures alone will not ensure safer conditions. It is also up to the clients, designers, and contractors in the supply chain to make changes the way construction work is planned, managed and executed," says Omar.

# TACKLING CHALLENGES

According to Omar, some of the characteristics of the industry have contributed to poor safety and health conditions.

"The industry is fragmented with transient worksites. The work processes occur in stages and each process depends on the progress of the other processes. The transient nature of the worksites has resulted

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— Omar Mat Piah



in a lot of movement of people, materials and plants.

"At the worksites, the hazards, activities and parties involved are constantly changing. The complex and dynamic interactions between work, people, materials and plants make the control of safety and health risks challenging," says Omar.

The industry is also made up of a plethora of small firms and independent traders, usually working under contract.

"Unlike the manufacturing industry, which often has a single employer, construction projects usually involve multiple employers and a complex supply chain," says Omar.

He notes that the traditional procurement method, where the client appoints the architect to design and oversee the project, is slowly being replaced by more complicated methods. The industry has become labour-intensive and has engaged

a high number of foreign workers.

"We are now accustomed to [seeing] design-and-build methods [involving] management consultants or delivery partners.

Ensuring safety and health at the would require good cooperation, nation, communication and supe which are often lacking and diffachieve," says Omar.

Technological advancements h brought changes to the building s

"There are more high-rise buwith complicated designs and f Constructing such buildings often state-of-the-art technology, which new and unknown hazards.

"For example, for the mass ra

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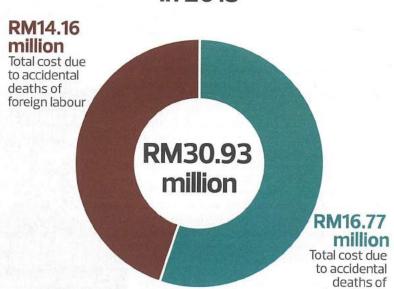


local labour

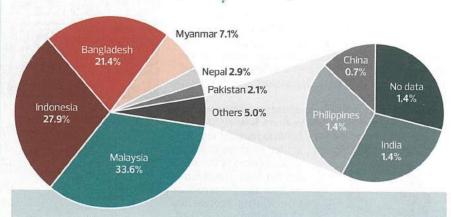
# Initiatives and measures

- The restructuring of the department/office (from 2008) to establish a special section, called the "Construction Site Section" in every state.
- Through the restructuring of DOSH's main office in 2014, a special section known as "Construction Site Safety Section/ Division" was established to regulate and coordinate standards and activities to enforce and to promote safety and health on construction sites.
- To implement the "Construction Site Enforcement Plan" (from 2015), including the following:
- a) To increase enforcement activities on construction sites. A total of 7,329 construction sites were screened in 2013. The number increased 34% to 9,822 screenings in 2015.
- b) To take punitive action against misbehaviour/ noncompliance with safety and health rules in the construction sector. From 949 notices issued by DOSH in 2013, the number has risen 554% to 6,211 in 2015. The number of lawsuits has increased 135% - from 55 cases in 2013 to 129 in 2015. Compound cases have gone up 754% from 61 in 2013 to 521 in 2015.
- c) To establish a Safety Patrol Unit in every DOSH state office to monitor construction sites day and night.
- d) To conduct spot checks on construction sites based on public complaints.
- e) To draft and review legislation related to construction in order for it to remain relevant and updated.
- To have a list of places (construction sites) for spot checks, to be used by DOSH officials and those in the
- g) To plan and improve the operations/exercise of the "Construction Site Safety Section/Division" at its main office and construction sites in DOSH states for the benefit of DOSH officials.
- h) To cooperate and coordinate with agencies in the construction sector such as the Construction Industry Development Board, Ministry of Health and local
- To create a dialogue with construction-related associations, such as the Master Builders Association Malaysia.
- To increase partnerships with employers and employees through the National Council for Occupational Safety and Health (KKP Bureau for construction sites).

# Total cost due to accidental death in 2015

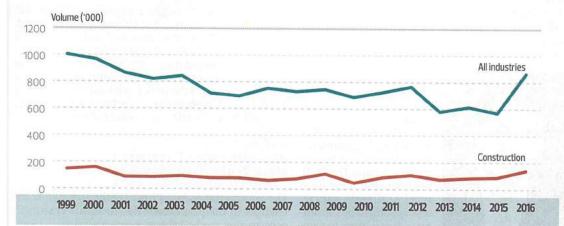


# Total fatal injuries by nationality

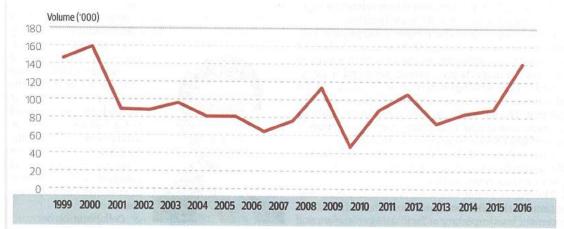


CHARTS BY CIDB AND DOSH

# Fatal injuries



# Fatal injuries in construction



sit projects, many modular construction techniques (or industrialised building systems) were adopted using pre-cast concrete and post-tension beams or viaducts," says Omar.

However, the biggest challenge in tackling safety and health risks is changing the mindset of the people involved.

Omar says occupational safety and health regulators around the world have adopted two main approaches to change the mindsets of developers (clients), designers and contractors so as to instil in them the message that safety and health are a crucial part of business.

"The first — and simplest approach — is to make it mandatory for the three parties to ensure the safety of their workers and other people who may be affected by their business. This is achieved by specifying the responsibilities to them. They would then be forced to comply with the requirements," says Omar.

Citing the UK as an example, he says such responsibilities are spelled out in the Construction (Design and Management) Regulations, making it mandatory for the three parties to consider safety and health in managing their projects.

"The other approach is to set a voluntary standard for the clients, designers and contractors to integrate safety and health into their business activities," says Omar.

The US is among the countries that has taken this approach, he says, adding that the US National Institute for Occupational Safety and Health has formulated guidelines for addressing occupational hazards and risks in the design and redesign processes.

As compliance with this standard is

voluntary, the US regulator has made extensive efforts to influence and encourage the clients, designers and contractors to take safety and health seriously, says Omar.

"In Malaysia, similar efforts are made by DOSH to educate the three parties on the importance of managing safety and health, especially at the early stages of a project.

"We have consulted with the Construction Industry Development Board, Master Builders Association Malaysia and other parties on our efforts and we expect to publish the guidelines by the middle of the year," says Omar.

# POOR PERCEPTION

Omar attributes the poor public perception of safety and health standards in the construction industry to the impatience of the people in seeing that action is taken against the culprits.

"We feel the same way because we are also exposed to the same risks. But, one thing is for sure — justice will always prevail. We will ensure that those who have put other people at risk by their business activities are prosecuted," he says.

However, he notes that the prosecution process usually takes a long time so justice is often delayed.

"For example, it took about 10 months to bring the contractors to court and get them charged for a fatal accident when a structure collapsed on a vehicle during the construction of the second Penang bridge," he says.

"We have a reporting system for the public to make complaints. We are also looking at developing an app for smartphones so that the people can have easy access to our system," says Omar.

ABDUL GHANI ISMAIL/THE EDGE



ecent accidents involving heavy machinery and members of the public have eroded confidence in health and safety practices in the construction industry.

An increasing number of major infrastructure projects, such as mass rapid transit, high-speed rail, light rail transit extension and mega projects including TRX, Bandar Malaysia and the KL118 Tower, are underway or being planned.

While most people in the construction sector believe existing regulations on safety and health are sufficient, they feel that what needs to change is the mindset, and how the rules should be implemented and enforced. The safety and health aspects should not be an added cost to a business, but rather, be an integral part of it, they say.

In this poll, industry players share their thoughts on how they perceive safety and health practices in the construction industry and what needs to improve.

#### FOO CHEK LEE,

President of the Master Builders Association Malaysia

The image of the construction industry has been tainted by numerous accidents involving heavy machinery in the past few months. MBAM is working hard to counter the negative image by organising numerous training courses, seminars and conferences across the country to increase awareness of the importance of safety at construction sites.

The association has been actively working with the Construction Industry Development Board (CIDB) Ma-



laysia to nurture more local skilled workers to fill the shortage faced by the industry. Through programmes such as the Construction Continuing Professional Development (CCPD), Construction Occupational Competency Development (COCD) and Site Safety Supervisor Course, we hope to produce more professionals to reduce the dependence on unskilled foreign labour. We strongly believe having

skilled workers will greatly help in reducing site accidents. Through regular discussions with government agencies and ministries as well as industry stakeholders, MBAM has been able to raise issues with regard to pro-

moting construction site safety and health. Besides that, approved standard operational procedures, such as the Hazard Identification, Risk Assessment and Risk Control (HIRARC) guidelines, need to be adopted and implemented to minimise risk factors.

This is especially critical in complex construction jobs to ensure potential risks are identified and minimised. Furthermore, proven methods and the appointment of competent builders and designers with a good track record are crucial factors to consider when carrying

out such works. Last year, MBAM conducted a series of HIRARC workshops to educate and train construction personnel on how to enhance the standards of safety and health at project sites. We hope by creating awareness of the importance of practising high standards of occupational safety management, the number of accidents can be reduced. To date, MBAM has trained 3,296 site safety supervisors.

MBAM is now working closely with CIDB and the Department of Occupational Safety and Health on how to implement construction design management (CDM). In this way, the risks involved during construction, maintenance and demolition can be identified, eliminated or reduced as early as the design stage. It is hoped that through CDM, safety in the construction industry can be looked at holistically.

In the meantime, MBAM is working closely with CIDB to accredit supervisors and workers based on their skills. It is hoped that through these actions, safety and health in the construction industry can be enhanced.



# DATUK DANIEL CHAN,

Group director, Property Development (Niche) and Real Estate Management of UMLand

Malaysia has robust regulations on occupational health and safety as the Occupational Safety and Health Act 1994 imposes stringent safety standards on developers, contractors and employers. The Department of Occupational Safety and Health (DOSH), which consistently monitors and enforces regulations, carried out 6,417 inspections during the first seven months of 2016, a 12% increase compared with the corresponding period the year before, according to the Ministry of Human Resources.

However, we believe there is always room for improvement. Efforts to uphold safety and health on construction sites must be consistent and comprehen-

sive to safeguard the lives of those working on these

At UMLand, quality, safety, health and environmental (QSHE) matters are our first priority. The QSHE department was set up to monitor all main contractors appointed by subsidiaries. It is a must to comply with the Occupational Safety and Health Act 1994,

Factories and Machinery Act 1967, Environmental Quality Act 1974, CIDB Act (520) and others related to regulations and requirements of the authorities.

Guidelines such as the Project Management Professional Volume 2 and QSHE Procedures Volume 1 are issued to our subsidiaries and the QSHE team will carry out site inspections — project audit and site visit. A report of the findings will then be forwarded to the subsidiaries for further action, with a copy to top management. The subsidiaries then monitor all findings and reports and take immediate corrective action to prevent any unwanted accident or incident.

Each and every stakeholder has a responsibility and role to play in enhancing the standards of health and safety on construction sites.

The public sector can facilitate more robust regulations with collective input from the industry. Enforcement is as important as facilitating education and training. The private sector, on the other hand, can play a part by putting in place the right policies and procedures throughout the entire construction process. Consistent monitoring on the work site as well as the performance and track record of subcontractors are also integral to site safety.

From UMLand's perspective, we believe that embracing high standards of safety and health throughout our value chain makes good business sense, and safety and health policies that underline clearly the roles and responsibilities of all those who are involved in the construction of our developments are important, as accountability is paramount.

We have also put in place periodic evaluation and monitoring processes while consistently engaging with our team to enhance awareness and instil in them the importance of safety in all that we do.

We have engaged main contractor Samsung C&T as part of our efforts to show our commitment to ensure sites as well as members the construction of the project with full responsibility of the public who traverse to safety and health. Samsung C&T is constructing the RM1.2 billion GDV UMCity Medini Lakeside.

# STEVEN SU,

General manager, Group quality management of Eco World Development Group Bhd

The construction industry has gone through significant changes in the past decade due to advancements in construction methodologies, new materials and design approaches. While improvements in safety and health were observed, these issues remain critical due to the fragmented working processes and practices involving many parties and stakeholders.

Negative behaviour, poor communication and the lack of understanding about the importance of safety



ECO WORLD and health still persist due to our continued reliance on foreign workers. The attitude towards the importance of safety has yet to reach the desired level as the budget set aside for safety remains insignificant. Safety and health are often the first few items compromised in the name of cost and time optimisation.

Collaboration between



the public and private sectors are needed to implement initiatives geared towards mindset change to improve construction safety and health. Key performance indicators for safety and health need to be in place and continuously measured, and the importance of this measurement should be communicated to stakeholders at all levels.

The government could also provide safety incentives to contractors and developers to motivate them to improve overall safety and health performance. Structured training for construction workers, both local and foreign, on safety and health needs to be conducted and a system needs to be in place to ensure all construction workers are fully trained and inducted.

## DATUK NK TONG

Group managing director of Bukit Kiara Properties Sdn Bhd

Safety and health in the construction industry, and for that matter, any industry in Malaysia, is often misunderstood. To many, it seems like a chore or an additional cost of doing business. Taking this approach is a losing proposition as it means that many are not motivated to improve safety and health, and may even take shortcuts that increase risks.

At BKP, we take a different viewpoint. Better safety and health become strategic in our drive for better quality, faster delivery and lower cost. As an example, cleanliness at the site is extremely important. If a site is clean, there will be less rubbish that can fall off the side of a building, or less protruding nails to step on. A clean site is a safer site. A clean site also encourages construction workers to work in a more systematic manner, thus improving quality. The psychology of workers is easily nudged in the right direction. A clean site means

HARIS HASSAN/THE EDGE

less leftover materials that can damage floor finishes.



most profound impact.

Having a clean and conducive canteen where workers can eat and drink also does wonders for their morale, and on the resultant quality of work. They are also then more likely to come to the canteen for meals, rather than hiding away somewhere in a unit, and leaving rubbish behind that causes a pest infestation. We have even found simple things like installing a water filter with cool drinking water to be a huge hit among workers! The workers save a lot of money as they no longer have to buy expensive drinks, and are well hydrated and therefore more energetic.

I believe the biggest impact on safety and health that is needed in both the public and private sector is a huge mindset shift, away from "we have to do this", towards "we really want to do this"; away from the stick, towards the carrot; and recognising the strategic benefits of improved safety and health. Once this is engrained into the mindset, the improvements will accelerate exponentially.

accelerate exponentially.

# CHUNG SOO KIONG

Managing director of Sunway Construction Group Bhd

The current state of health and safety in the construction industry is not at an encouraging level. The fatality rate per 100,000 workers for 2015 was 10.94, higher than the five-year average of 8.17 for 2011 to 2015. According to DOSH statistics for 2014, only 9% of the 13.5 million workers in the country are involved in construction but an alarming 21% of fatal injuries are recorded in the industry. The recent spate of highly publicised accidents involving the public has further eroded the public's confidence in good health and safety practices in the construction industry.

The industry has experienced pressure on the occupational health and safety front in recent years due to the rising number of major infrastructure projects, the ageing of heavy machinery, as well as the lack of skilled workers, all of which have contributed to a number of major accidents at project sites.

Looking at current trends, more construction pro-



jects are incorporating the Industrialised Building System, and contractors are using more heavy machinery such as cranes, tower cranes and other lifting equipment to assemble building components onsite. Furthermore, the shortage of competent crane and tower crane operators may give rise to illegal operators, which increases safety risks.

As the country continues to move towards Vision 2020 as a developed nation, major national construction projects such as the MRT, LRT, HSR, Pan-Borneo Highway, TRX and others more will proceed with health and safety issues as a major concern and this needs to be continually addressed and improved.

It is pertinent that safety measures at construction sites should be incentivised and regarded as part of the profit balance, instead of being seen as a cost. It has been proposed that a separate sum be provided in construction contracts (not to be tendered) for health and safety practices. Employers should also regularly identify hazards, assess risks and work on risk miti-

gation controls before the start of any construction 2. activity while employees must also be properly trained to execute safety measures throughout their tasks based on the current benchmarks — Malaysian Standard (MS) 1722 and Occupational Health and Offsety Assessment Series (OHSAS) 18001.

All contractors must aim to create awareness, enhance workers' knowl-

edge and change the existing mindset towards construction safety. This can be done through increasing the frequency of courses on safety procedures, retraining and other construction-related courses. To reinforce awareness and knowledge, it is important to provide recognition of best practices as well as the individuals who champion them.

The MBAM has also urged the government to reduce import duties for heavy construction machinery and for more incentives to be given to industry players that adopt and implement the use of the Industrialised Building System (IBS) and Building Information Modelling (BIM). This has significant implications as mechanisation is the way forward to reduce dependency on the use of foreign labour and increase productivity and safety in the industry.

As a major player in the construction industry, Sunway Construction views health and safety as a top priority in all its projects. It has embarked on changing the usual way of doing business by investing in BIM and self-regulating its health and safety activities through the Integrated Management System (ISO 9001, ISO 14001 and OHSAS 18001) across all projects in its portfolio.

It is hoped that with the continuous support and cooperation of the government and other industry players to reduce construction-related incidents, the public will soon begin to have confidence again in the construction industry.

# EDWARD CHONG

Managing director of IJM Land Bhd

I believe there are presently sufficient regulations in place in terms of safety and health in the construction industry in Malaysia. However, the practice of it may be lacking due to the indifferent attitude and "traditional or old" working culture of the people involved at the construction sites.



I believe we need to educate and inculcate the importance of safety and health to everyone involved in the construction sector — from top management all the way down to the site workers — so that everyone understands the benefits and advantages and how it adds value to them.

The other area of improvement are the living

conditions for the construction workers, who should be provided with appropriate living quarters with the necessary utilities.

The journey of transformation from the traditional construction system to IBS has to be viewed from the various perspectives:

- Overall cost must be comparable or lower than the traditional system. Savings can be in the form of faster rate of construction and improved quality;
   Availability of labour resources. Even if available,
- the cost may be very high;
   Health, safety and environment and cleanliness
- of site;
   Sufficient component manufacturers in order to ensure competitive pricing;
- Amendments to building bye-laws; and

Acceptability to end users.

In order to move the IBS agenda forward, the following roadmap needs to be in place:

- The government will need to make it compulsory for projects for which it is the principal; and
- To encourage the private sector to use IBS, various government incentives need to be looked into to assist in building or developing the entire IBS ecosystem such as:
- Developers incentives such as tax relief, higher plot ratio, faster approval process (green lane), lower premium and so on;
- Contractors incentives such as duty exemption and capital allowance; and
- Component makers incentives such as double tax deduction, duty exemption for equipment, capital allowance and so on.

# LEE CHEE SENG

Chief operating officer of SkyWorld Development Sdn Bhd

The current state of health and safety in our construction industry has shown an improvement since the setting up of the National Institute for Occupational Safety and Health and DOSH, which oversee safety and

HARIS HASSAN/THE EDGE

health issues, especially at construction sites.

However, there is still room for improvement for all entities and parties involved — from enforcement and compliance right up to the development of human resources with the required knowledge to carry out their work safely.

Much of the workforce in the construction industry comprises migrant workers from developing

countries. The mindset of these workers — from Indonesia, Bangladeh, Vietnam and Myanmar — needs some time to adapt to local safety requirements and efforts.

The government's support in terms of emulating training programmes found in developed countries, having seminars at construction sites and thorough screening of foreign workers before issuing working permits would definitely enhance productivity in the construction industry.

Both the public and private sectors play a crucial role in improving the overall health and safety in any industry, especially high risk ones such as the construction industry.

Emphasis on health and safety-related matters should start in our backyard. Training programmes should be conducted for workers from time to time.

There are many places where we can start to promote and create awareness, such as in institutions, at construction sites, and via sponsored road shows. Incentives could also be provided for organisations to carry out health and safety-related seminars and activities as part of their corporate social responsibility programmes.



# What the public thinks

With rising concern and discussion about safety and health in the construction industry, we asked members of the public for their impressions and what they think needs to be done to see improvement.

Chris M

Self-employed

The standard of health and safety in the construction sector varies greatly among individual players and from city to city. On the whole, it appears to be at an acceptable level, but I do not feel it is where it should be. The importance of health and safety in the sector is undervalued in our country, where commercial success or profit is paramount. It is mostly seen as timeconsuming work and an added cost.

Having laws and guidelines, adopting best practices and so on are stating the obvious. For meaningful improvement, developers have to learn to put human lives first. They have to take a stand that they will not compromise on health and safety even in the face of time constraints and mounting costs. They have to stop viewing health and safety as another obligation that stands in the way of success and profit.

Karl Fashion designer

I find the standards utterly deplorable and the authorities are to blame. I am not entirely sure what is causing the poor standards. Is it because we do not have the requirements in place? Is it because there is a lack of enforcement or, horror of horrors, is it because the authorities do not think there is anything wrong with the present standards?

There are a few things that need to be done for things to change:

a) Educate the authorities on what the standards should be.

b) Review the requirements to see if higher standards can be achieved by merely complying with the regulations.

c) Hire based on merit and capability instead of race so that all aspects of what needs to be done to improve safety standards are done.

d) Penalise companies when workers die in accidents.

e) Buy-in is very important. Companies must understand that it is not okay for foreign workers to die on the job. Perhaps there should be yearly licensing requirements — if there are no accidents, the licence can be renewed for free. If not, the company has to pay or have its licence denied.

f) Awareness is also important. Sometimes, it is not just the companies that want to cut corners. The workers could be lackadaisical and not bother about safety until something happens to them. So, awareness and enforcement, even within companies themselves, are

crucial.

# Tan Yih Ling

Manager

Despite all the accidents that have occurred, and the authorities coming down to the ground, things remain the same. Safety awareness is still lacking. As someone who is not in the construction sector and uses the roads and infrastructure, I am scared each time I pass these sites because I feel they do not have adequate measures to ensure the safety of the public and the workers.

Enforcement is so important. Cranes and construction sites are positioned very close to the roads. Although the authorities have said there should be a buffer, it looks like nothing has been

The main thing is enforcement. Contractors and developers must feel that they are responsible and if there is any mishap, the government must come down very hard on these developers. They are getting off scot-free, I do not see anyone being prosecuted.

Legal assistant

The newspapers and social media are full of stories about death and injury in the construction industry. Hardly a day goes by without a report of an accident on a construction site. It seems as if the government and contractors do not care, mainly because the dead and injured are foreign workers. There is only an outcry when a member of the public is injured or dies as a result of a crane collapsing or heavy objects falling from high buildings under construction. But nothing happens after the public outcry.

There are many health, safety and environment rules and regulations that cover almost every tragedy that has occurred. The government can do better with stricter enforcement, not merely suspending work when health and safety regulations are breached but prosecuting offenders, including company directors, for gross neglect. It is only when criminal proceedings are taken against the offending directors and their names made public that they will be shamed for their callous behaviour. Rules can be tightened to prevent defaulting companies from taking out insurance, resulting in such companies not being able to conduct business in the construction sector.

# Ooi Ying San

Architect

When there is a breach of safety and health practice in the construction industry, there is no serious followthrough and it is not swiftly dealt with.

For instance, even though incidents are reported and investigations are carried out, the public is not made sufficiently aware of the consequences and the punishments meted out to the parties responsible, and whether there is sufficient enforcement.

Many developed countries have more stringent requirements for their construction industry. We can emulate that, but it must be more than just requirements and policies.

A change in the way we think of and practise safety and health must happen at every stage of construction - from the design stage to selection of materials, throughout the construction and installation up to the maintenance and replacement of parts in the future.

Safety and health is not just about getting the Department of Occupational Safety and Health certification during construction. Safety practices should be designed and carried out throughout the lifespan of a project. The design of a space and selection of materials must be more than it looking good. Thought must be

given to how it will be built and safely accessed for maintenance and repair.

Developers must ensure that such requirements are applied across their projects and that safety reviews are continuously carried out. When something does not fit the requirement of safe installation, maintenance and replacement of parts, materials and fixtures, changes must be done on the drawing board and not merely dealt with on an ad hoc basis on site.

# Ngui Yichen

Reporter

The construction sector lacks proper safety and hazard prevention measures. Take, for example, the recent incident near Pavilion [in Bukit Bintang, Kuala Lumpur] where a woman was crushed by a falling part of a crane. This illustrates how poorly the construction industry deals with safety.

The government should first tackle corruption in the sector so that the funds can be used for safety and health programmes. The private sector should stop bribing government officials as part of broader measures to fight corruption. Without money, safety and health in the construction sector cannot be improved.

# Jack Abdullah

Construction industry player

Our knowledge of and policies on health and safety are acceptable. However, the construction industry is growing rapidly and it is almost impossible for the authorities to monitor and enforce the regulations. The onus is on the stakeholder/client/developer to fulfil the

Shortlisted contractors [bidding for jobs] must be screened again to ensure their health and safety knowledge/ capability is adequate. Bid documents must explicitly stipulate the requirements in order to budget sufficiently for the costs.

Workers must be continuously trained in health and safety. Due to the hazardous working environment, construction workers must be more focused and physically stronger than corporate workers. Hence, construction workers must be screened before the commencement of work every day to ensure that they are fit.

#### Seetha Credit analyst

My impression of health and safety in the construction industry is poor. In the last couple of years, there had been many accidents and casualties. Construction workers face a greater risk of fatality than workers in other industries. There are many contributing factors to accidents in the construction industry. Studies have

a) Due to the working environment, that is floors or wall openings, stairs and confined spaces.

shown that most accidents occurred:

b) During transport and using lifting equipment that includes cranes and lifts, or while using ladders, mobile ramps and scaffolding.

c) While using heavy equipment such as moving machines, excavators and scraping machines.

d) Because of driver fatigue, causing road accidents, and lorries reversing without an alarm system on the

e) Because of workers stepping on or being struck by objects or being crushed by objects.

Because workers fall from high-rise buildings. g) Due to fire or explosions, fumes or toxic

h) Because of the collapse of objects, the

building or scaffolding.

Due to improper storage of materials and loading and unloading mishaps. The legislation must be scrutinised and every construction worker must understand his legal rights and liabilities. If an individual or management breaks the law, they need to be held liable for the consequences of their actions.

Poor communication or coordination between employee and employer or management also causes accidents. Some employees do not speak the local

In addition, qualified personnel must be trained to operate construction machinery. Many non-qualified operators are injured due to improper handling of equipment.

Day-to-day evaluation and monitoring has to be done. Yearly statistical reports can be obtained from the Department of Occupational Safety and Health to ensure proper implementation. New legislation needs to be implemented from time to time and monetary penalties need to be increased, depending on the severity of the accident.

The private and public sectors must ensure no bribery or any sort of conflict of interest or breach of duty occurs.

# Chris Foo

Medical device technician

Enforcement of safety regulations in the construction sector is insufficient, as we can see from the recent accidents that killed members of the public. I believe there are fatalities among foreign workers but they are not reported. Despite the public outcry, we have not seen much improvement.

I believe the laws are in place, so I think the most important thing now is enforcement and education. The government should increase inspection, tighten enforcement and provide training to everyone involved in the construction sector to make safety a basic need for all. The private sector should make achieving a zero-fatality record something to be proud of.

# John Koo

Corporate adviser

I think the situation is relatively safe. The industry may need more insurance coverage as it seems that no matter how much safety equipment you put in, there are bound to be serious injuries.

Standards that recognise a good work ethic must be created. This would be effective as many Malaysians are religious and believe in some form of divine retribution, and buyers would be attracted to projects where the developers have taken care of their employees or where there were no fatalities.