Seminar on Responsibility and Accountability of Stakeholders in Construction Industry



Contents

- What is failure of building
- Recent spate of building failures
- Position paper on Responsibility and Accountability of Stakeholders in Construction Industry
- Responsibility of consultant in the construction industry
- Case study
- Recommendations

Responsibility of Failures

Hammurabi Code of 1950 BC

"If a contractor builds a house for a man and does not build it strong enough, and the house which he builds collapse and causes the death of the house owner, then the contractor shall be put to death " Horror in the Highlands

1961

May 11

An avalanche of earth buries six shophouses in a row of eight in Ringlet, in the Cameron Highlands. A great fall of earth spills onto the main road for 50 yards. Immediately after the 10-second, 4pm landslide, hastily-organised parties from nearby houses and farms begin rescue work. Within minutes, the number of rescuers swells to 700. Hundreds from projects connected with the Highlands hydroelectric scheme hasten to give aid. Rescue workers labour frantically to clear away thousands of tonnes of earth to reach those entombed. Civilian and medical teams from Tanah Rata rush to render first aid. Minister of Finance Tan Siew Sin, holidaying in the Highlands, takes personal charge of rescue operations. A mobile generating plant is set up to provide electricity as rescue operations continue after nightfall.

Commander of the visiting US 7th Fleet in the Pacific, Vice-Admiral Charles D. Griffin, offers to postpone his departure from Port Swettenham if his men can be of use. This gracious gesture is declined by a "very touched" Tunku Abdul Rahman, who feels the Vice-Admiral "could not do very much just now". The Prime Minister travels by air and by road to the scene of the tragedy; men of the Saint Paul, flagship of the 7th Fleet, make a collection on board. In the 10 minutes before their departure, they collect \$631.

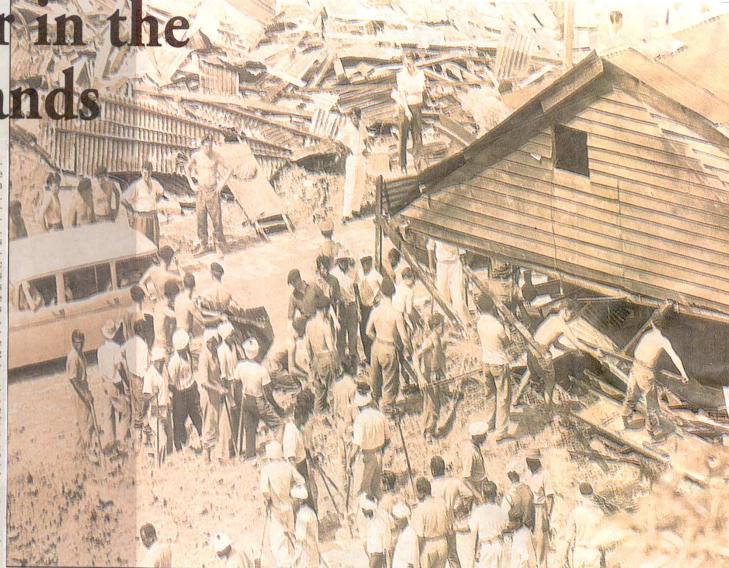
The township of Ringlet consists of this ill-fated row of shophouses and another of 20, surrounded by bungalows, farms, and the Lubok Temang New Village. Customers in coffee-shops, playing mahjong and cards, have been caught unawares by the landslip.

Four hours after rescue operations begin, a boy of six is dug out alive, but in severe

trapped under 25 feet of r no chance of survival. wing day, mud-besplatorkers overcome with r vehicles, and on desk-

tops and the floor of a nearby school. The death toll is 17.

1961



Customers in coffee-shops, playing mahjong and cards, have been caught

The Ringlet tragedy: Six shophouses are buried under an avalanche of earth. The death toll is 17

6 shophouses buried, death toll: 17

Bodies of 15 Sarawak landslide victims found

Salawak

Rescue workers continue search for the 16th

By Sulok Tawie and Letitia Samuel

news@nstp.com.mu

KUCHING, Tues. — The search and rescue team has recovered the bodies of 15 of the 16 people buried alive when a landslide hit a 13-door longhouse at Kampung Ruan Changkul in Simunjan, about 130km from here, yesterday morning.

They were identified as Tuai Rumah (longhouse chief) Galau Bagi, 70, Tuai Rumah Kichin Guntur, 50, from Muara Baro, her father Guntur Ingai, 70, Ijok Lopeng, 50, Malina Jali, 60, and his wife Beda Gudang 55,

dang, 55.

Also found were the bodies of Wally Diman, 27, his wife Melina Kawi, 20, and their son Jurak, four, and their 23-day-old daughter Catherine, Jeni Kukin, 30, her two sons Luis Tel, nine, and year-old Peter Ronis, daughter Suli, three, and her mother Lily Bagi, 60.

Co-ordinator of Ops Bantu, Sri Aman-based 13th Battalion com-

Co-ordinator of Ops Bantu, Sri Aman-based 13th Battalion commanding officer Kol Ramli Ismail said the first body to be recovered was Ijok's at 9.35 last night and the 15th body was that of Malina at

4.40pm today.

The body of Malina's son Franky.
20, had yet to be found.

All the bodies were sent to the Serian Hospital and are expected to be buried tomorrow.

In the 1.30am incident on Monday, 16 residents of the longhouse where 69 people live, were buried alive when the landslide hit.

Five of the residents who were seriously injured are Roslin Chenggil, 27, Menyan Inggi, 60, Sangan Bagi, 65, and Jabi Deman, 70, and Melan Jawan, 45. They are still warded at the Sarawak General Hospital.

The other 48 residents who were not in the longhouse when disaster struck are now putting up at Sekolah Kebangsaan Padang Pedalai. Twenty-nine pupils were already staying in this residential school.

Ramli said the 250 rescue workers including 150 from the armed forces were working round-the-clock

30.1.2002

ment, Public Works Department



WHAT'S LEFT An agrial view of the landelide in Simunian



Cameron Highlands 2001



INDER SIEGE ... Rivers of mud and silt from land bared for development. Note the cleared hill slopes behind the houses. — Picture by HAMSIAH ABU BAKAR

Highlands under attack

Cameron Highlands is literally being washed away by rampant development. The situation is dire especially during the current rainy season, writes SARAH SABARATNAM.

"YOU see lah what's happening here," says a woman who would like to be known only as Mageswari. She is strained and wearied from the ordeal of trying to wash mud out of the family sundry shop in Lubok Tamang, Cameron Highlands.

Her husband Ramasamy, 43, is shouting in the background, angry with the turn of events. The shop has been there for 35 years t was his father's once — and this has never happened before.

The problem is because of the proect. The project only is important. We been laid bare for human activities. are not important," says Mageswari.

She is referring to the cleared land chind the shop. Two schools are being uilt there and a signboard states that t is a project by the Education Ministry. Hidro dam in Habu that the dam gate

Unfortunately, there was no evidence of measures to cover the cleared hill slopes. The project sits atop a hill. The slopes to the hill are bare, without any vegetation in most places. Muddy water is gushing down the crevices in the hills, and into the homes below.

It's the rainy season again but unfortunately condensed moisture isn't the only element that is coming down.

In Cameron Highlands, earth, rocks and trees are slipping down slopes (almost 100 metres high in some places) because the forest cover above it has

opment projects on hills is being washed into homes and unto the road. So much silt is collecting in the TNB

Muddy water from unmitigated devel-

has to be left open to allow water to trickle out. This is to prevent it from rising to a dangerous level. To say the residents are upset would

be putting it mildly. "You see how many people need to do

cleaning up," continues Mageswari. Her sons, and neighbours, armed with shovel, brooms and hose are hard at work, scooping out mud, washing and sweeping the floor. They have been at it for three hours already.

There are about 30 houses just below where the project is located in Lubok Tamang, mainly government quarters for JKR workers, and four privatelyowned homes.

The privately-owned homes, which are close to the hill, have been most badly affected.

The owner of one of the homes is flustered. "Of course I am angry. This is not the first time. Look at my home, look at my things. This is the third time. No, there has been no compensation from the contractor." He did not want to be

He did say however that after the second incident, the contractor built a wall to divert the muddy water when it rains, but the culvert has filled up with silt over the last few days because of the rain, and the water has overflowed.

"Please," he pleaded, "please write about this in the papers. Ask someone to do something about it.

A tractor is hard at work in his garden, but it is not making much progress. It is still raining so the earth

please turn to page 5

Four squatter houses buried under tonnes of mud and debris in Kampung Gelam

17 killed in Sandakan landslide

By Jaswinder Kaur

SANDAKAN, Sun. — Seventeen people were killed and two injured following a landslide which buried four squatter houses under tonnes of mud and debris in Kampung Gelam, near here, at 4am today.

Sandakan police chief Assistant Commissioner Hashim Mohd Yusuf said police had cordoned off the area for fear of more landslides.

He identified the dead as Hamsiah Pandang, 30; her daughters Rohana Rudy, 12, Marhana Rudy, 11, three-year-old Mariana Rudy, and her six-year-old son, Ismail Rudy.

The others were Mastura Tahir, 13; Asni Tahir, 15; Asri Tahir, 11; four-year-old Nurul Ashikin Tahir, year-old girl Fara Nabilla Tahir; Bunga Bangga, 40; Saadiah Bahara, 32; Sofiah Abdul Salleh, 18; Maradiah Abdul Salleh, 13; Dondin Abdul Salleh, eight, and Suhaimi Abdul Salleh, eight, and Suhaimi Abdul Salleh, fiye.

The injured were Marhani Rudy, 10, and Farah Deva Awang, 19.

Marhani received out-patient treatment while Farah broke her left hand and was admitted to the Sandakan hospital.

Police and firemen who began rescue operations at 7am were initially looking for 10 missing people under the mud and debris as of 3pm before recovering the bodies.

The first body was recovered at 7.30am and the last at 6.50pm.

The landslide, which started after an unremit-

1999

between two hills.

Police have evacuated the remaining families, numbering about 100 people, to houses of friends and relatives. The families have been given food and other assistance from Red Crescent staff.

Police and the various rescue services are also monitoring the situation for fear of more landslides in the area.

Fire and Rescue Department operations chief Ismaid Ismail said the department received a call at 7.15am today about the incident and despatched 15 men to the scene.

He said the firemen together with police, Civil Defence, Red Crescent, Marine Department staff, Public Works Department and Rela officials conducted a search-and-rescue operation

tion.

Hashim said about 100 men from the Sandakan police department, the General Operations Force, also assisted in the operation.

Meanwhile, Rudy Raman, 35, who lost his wife Hamsiah, three daughters and a son in the tragedy was overcome with emotion

He had left his house before 4am to sell vegetables at the market.

Fish trader and resident Kungoing Luamai, 43, said he heard a rumble from the nearby hill early today.

Fearing a landslide, he alerted his family and ran out of his house. However, his house was not affected by the tonnes of mud which buried his neighbours' homes.

Kungoing said residents in the village could not do anything to save the victims as it was dark and raining heavily at the time.

with the San-Merdeka Daily ited the scene de at 8am toaccess to the ut off due to he landslide.

PAGE 4, COL 5



BURIED IN MUD ... All that's left of the four squatter houses (centre) in Kampung Gelam in Sandakan following the early morning landslide which claimed 17 lives and left in its wake a torrent of mud and debris. — Picture courtesy of Sin Chew

More building failures recently!!

3/7/2014



Rush hour chaos: One of the two sinkholes that appeared at the Jalan Pudu-Jalan Imbi intersection yesterday, disrupting traffic flow. – Photo by MUHAMAD SHAHRIL

The day the earth moved

Ongoing construction work on part of the Pudu Underpass project has caused the road above the tunnel to collapse leaving large holes at the intersection.



20.8.2014

Najib calls for MRT probe



r happens again'

incident on his Facebook page, Najib urged all construction industry players to ensure workplace safety.

Meanwhile, Department of Occupational Safety and Health (DOSH) said initial investigation showed that the contractors did not comply with standard operating procedures.

operating procedures.

DOSH deputy directorgeneral Zabidi Md Adib
said it was found that no
engineers or supervisors
were present to oversee the
installation of parapet wall.

"The installation of the

"The installation of the parapet wall should be supervised by qualified engineers to ensure it is done according to procedures."

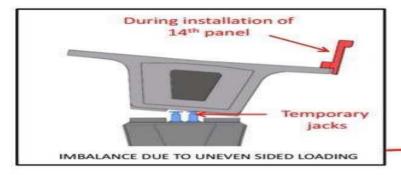
DOSH also ordered all works to stop at the site until a full investigation is carried out.



ADIB RAWI YAHYA THESUI

Construction workers examining the concrete block of the guideway that fell to the ground yesterday.

HOW IT HAPPENED?

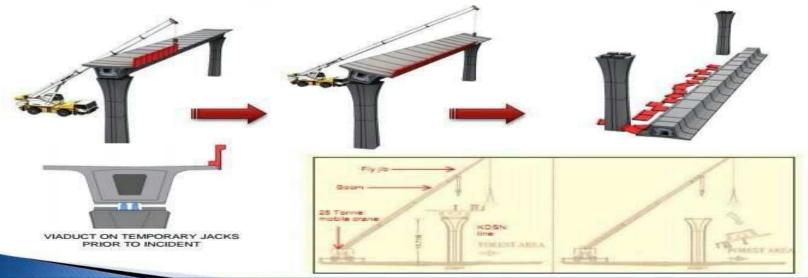


- 1. No shims
- 2. Sitting on a temporary jack
- 3. Parapet installation on one side

WHAT HAPPENED?



A SINGLE TRACK VIADUCT DECK UNDER CONSTRUCTION TOPPLED AND LANDED ON GROUND.



INCIDENCES OF BUILDING COLLAPSE IN MALAYSIA



Some recent worldwide cases of building collapse

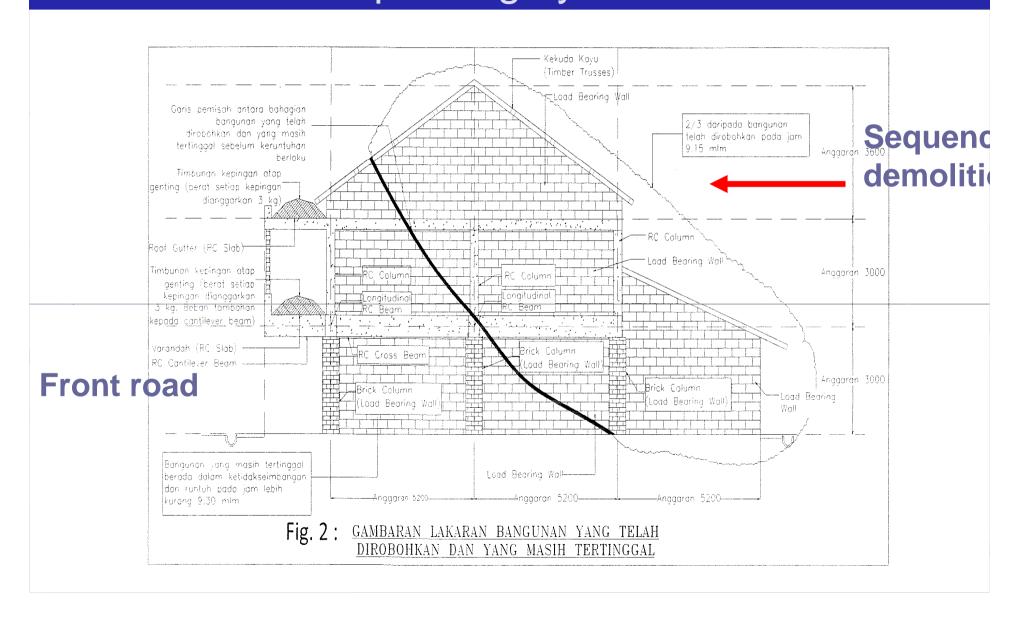
- Georgian TV building collapsed on April 26, 2009
- An apartment building undergoing construction in southeast Houston collapsed on April 14, 2009
- A four-storey building under construction collapsed in the coastal town of Mombasa, Kenva, on April 9, 2009
- A four-storey apartment building in Lagos, Nigeria, collapsed on March 25, 2009
- Cologne's six-storey city archive building in Germany collapsed on March 9, 2009
- A four-storey building which housed a hotel and a bank collapsed in Ahmadabad, India, on Feb 3, 2008

- The roof of a 22-storey building earmarked for demolition collapsed in Dhaka, Bangladesh, on Dec 8, 2007
- A six-storey building housing shops and offices collapsed in Dhaka, Bangladesh, on Feb 25, 2006
- A four-storey residential building collapsed in Mumbai, India on Aug 23, 2005
- A 12-storey building in Cairo's residential and commercial area in Egypt collapsed on Ian 27, 2004

Jaya Supermarket collapse 2009 – 7 deaths



Ipoh shophouse demolition mishap causing 2 deaths of passing by motorists - 2009



Ipoh shophouse – cantelever collapse



Ipoh shophouse demolition mishap causing 2 deaths of passing by motorists - 2009



Trengganu Stadium roof collapsed 2009



17.3.2008

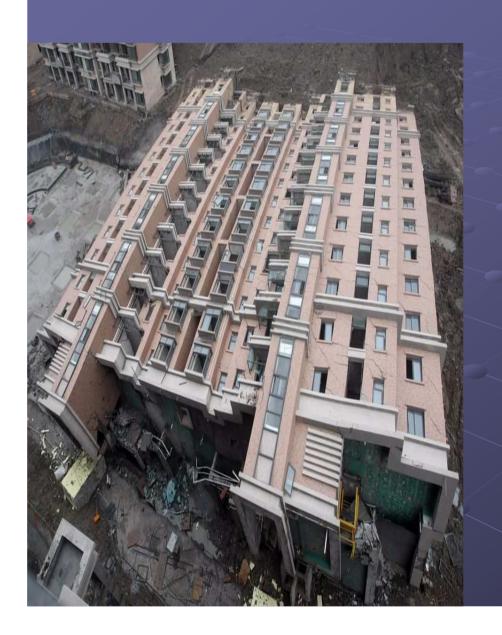
Nine hurt in Hotel Site collapse in Sarawak

Nine foreign workers were injured after part of the building structure of a multi-million ringgit international hotel-cumshopping mall project at Jalan Bukit Mata here collapsed at 4pm on Saturday.





Shanghai Condominium collapse 2009



Overseas too



Who are responsible and accountable ??

Public statements

Public comments

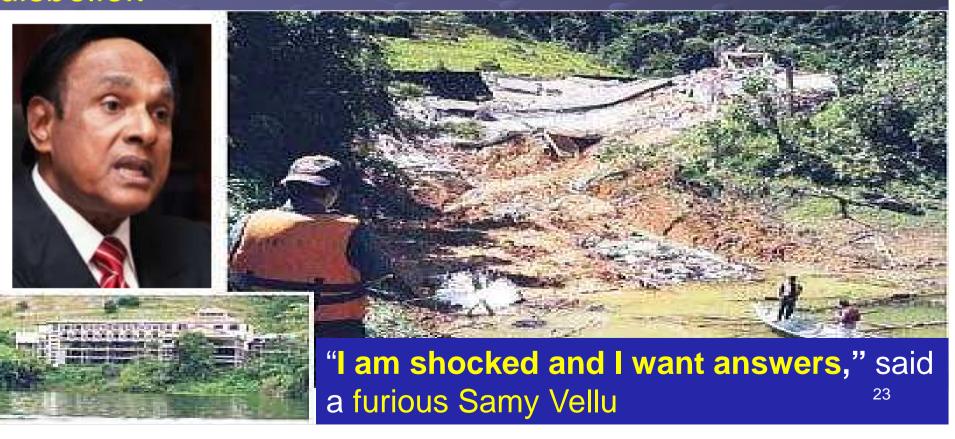
court cases

Perak State Park Corporation Building Collapsed

The Star

November 15, 2007

KUALA LUMPUR: The collapse of a two-storey building on a hillslope at the edge of Tasik Banding in Gerik, Perak, has Works Minister Datuk Seri S. Samy Vellu reeling with disbelief.



Saturday June 26, 2010 MYT 5:12:08 PM

Penang Botanic Garden arch leans further

Who needs the Leaning Tower of Pisa when we have the Leaning Arch of Penang!

Controversial Penang Botanic Garden arch to be demolished: Yen Yen







Sunday June 7, 2009

MB raps PWD over shoddy job on aquatic complex

Wednesday July 22, 2009
Shoddy aquatic centre
By ZANI SALLEH
KUALA LUMPUR:

Irregularities in construction work including the use of substandard material led to defects at the Batu Burok Aquatic Centre in Kuala Terengganu, said the Public Works Department



3 roof collapses in Trengganu in 2013 alone:

- 1. 20.2.2013 West stand roof of Trengganu stadium collapsed injuring 3 workers
- 2. 20.5.2013 Mesjid Binjai
- 3. 30.9.2013 Mesjid Tebauk

Another roof collapse in Terengganu

This time, Kg Tebauk Mosque ceiling comes crashing down

By JOSEPH KAOS Jr joekaosjr@thestar.com.my

KUALA TERENGGANU: The roof of the Kampung Tebauk Mosque in Bukit Tunggal here collapsed, just five months after the roof of another mosque came down in Hulu

Yesterday's collapse, which happened at about 4am, affected about 20% of the place.

The two-year-old mosque was built at a cost of almost RM6mil.

Mat Man, who is the bilal (the man who makes the call for prayers) said he arrived at about 5am yesterday to prepare for subuh (dawn) prayers for the congregation when he found that the foyer's ceiling had collapsed.

"I had arrived at the mosque, opened the gates and switched on the lights, as people would come soon for the subuh prayers.

"When I entered the foyer, I saw there was rubble. I looked up and

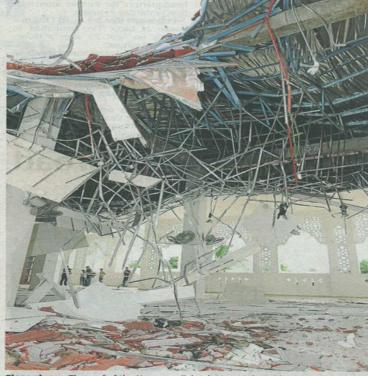
realised the ceiling had collapsed," said Mat, 61, who lives nearby. Mat said the ceiling had been intact the night before. He suspects that the roof collapsed early in the morning.

"I asked some of the villagers who live next to the mosque and they told me they heard a loud crash at around 4am," he said.

He said the fover section where the roof collapsed was not used for performing prayers although some people would pray there when the mosque was full such as on

Built in January 2010, the mosque was open to public on Oct 24, 2011. It could accommodate about 1,000 people at a time.

The collapse was similar to the



Close shave: The roof of the Kampung Tebauk Mosque in Bukit Tunggal which had





Court Case verdict Highland Tower 1993





Court: Local councils cannot be held liable



Justice Abdul Hamid: 'Projects will stall. The local council may go bust'

> FROM PAGE 1

The court was unanimous in allowing the MPAJ's appeal to set aside the Court of Appeal's decision holding the MPAJ 15% responsible for the pre-collapse period.

As for the post-collapse liability, it dismissed with a 2-1 majority the cross-appeal by the 73 residents of Block Two and Three against the Court of Appeal's ruling that the MPAJ was not liable for losses suffered during the post-collapse



as priority over com-

residents and relied

on assessment rates and

e Arifin concurred with

Abdul Hamid's findings.

dissenting judgment on

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ks of the Highland Towers condominium is shown in this file photograph taken on Dec 11, 1993.

Saturday 18 February 2006 September 2015 Determined to 1970 Period 1970 Period

Highlands Tower Collapse, Ampang

> Highland Towers tragedy

Council not liable

Federal Court: MPAJ has full immunity from claims

RAPHAEL WONG

PUTRAJAYA: Local councils cannot be held liable for losses suffered by anyone should a building collapse. The Federal Court has rule. The court said this when it held that the Ampang Jaya Municipal Council (MPA) was not liable for losses suffered by 73 residents of The finee-member panel pessids by Chief Judge of Saloh and Saraw. Justice Steve Shim Lip Kiong and Federal Court judges Datuk Abd Hamid Mohamed and Datuk Arif Azikaria raded that the MPA use liabile in the pre-collapse period as we as post-collapse period of flock One. They said local authorities such: the MPAJ were given full immunist under Section 95 (2) of the Street under Section 95 (2) of the Street

d. > TURN TO PAGE 8

95(2) of the Street, Drainage and Building Act because this was a case of negligence in failing to formulate and implement the master drainage plan so as to ensure the stability and safety of the adjacent Blocks Two and Three.

He said there was an assumption of responsibility by the MPAJ to do what it had promised.

"I do not thin the public interaction authority such should be allow liability for negligence communication."

18.2.2006

ted beyond the expansive shel-

ter of Section 95(2) or other rel-

evant provisions of the Act nor

would it be fair, just and rea-

sonable to deprive the respon-

dents of their rightful claims

In 2000, High Court Judge

James Foong ruled for the 73,

and apportioned liability as fol-

lows: Arab-Malaysian 30%.

under the law," he said.

CHRONOLOGY OF EVENTS
Dec 11, 1993 - Heavy rains

Dec 11, 1993 - Heavy rains cause a landslide and the 12-storey Block One of Highland Towers condominium collapsed, killing 48 people. Over 1,000 residents in two other blocks are made homeless.

Dec 5, 1996 - Seventy-three residents file a suit against several parties. In the statement of claim, they contend that all the defendants were jointly and/or severally liable for causing or contributing to the collapse of Block One and the subsequent abandonment of the other two blocks.

Nov 3, 1997 - Coroner's Court finds no incriminating factors in the deaths of the 48 people, that the incident was not a natural disaster but one which could be considered a misadventure.

Aug 10, 1998 - The High Court begins the hearing of a suit by the 73 owners.

Aug 11, 2000 - The High Court finds Arab Malaysian Finance Berhad (AMFB) and five others liable for the collapse of Block One. Ampang Jaya Municipal Council (MPAI) is negligent of post-collapse events but not liable for the collapse. Court apportions 15% blame on MPAI.

Dec 3, 2002 - The Court of Appeals dismisses the appeals of four of the seven defendants.

August 2004 - AmFinance Bhd (formerly AMFB) agrees to pay RM52mil to 139 residents and

of Highland Towers.

2006 - Federal Court nat MPAJ not liable for - and post-hcollapse at Highland Towers.

Issues: Role and responsibility of Local Authority:

Case of Highland Towers (liability of Local Authority (PBT):

Court	Pre collapse	Post collapse
High Court	PBT was negligent but because of immunity provision, PBT is not liable. (sec 95 Act 133)	The event happened after the collapse, PBT is therefore liable
Court of Appeal	PBT was negligent as they had created the danger, PBT is liable. The indemnity in sec 95 is not absolute but qualified	PBT is not liable as the case should be taken on public law; not as private law

Issues: Role and responsibility of Local Authority:

Case of Highland Towers (liability of PBT):

Court	Pre collapse	Post collapse
High Court	not liable	liable
Court of Appeal	liable	not liable
Federal	Ruled that PBT was negligent but they are protected by sec 95 of Act 133 (indemnity). Not liable	PBT is negligent but the law protect them because of policy consideration. Not liable.

POLICY ISSUES ON HILL SLOPE DEVELOPMENT

Issues: Role and responsibility of Local Authority:

Case of Highland Towers (liability of PBT):

- 1. Indemnity clause is provided for most laws.

 Otherwise it is difficult for government to operate.
- 2. Indemnity is provided for bona fide cases. In the event of mala-fide, then the authority may loose the indemnity
- 3. The liability of PBT should be left to the court to decide on case to case basis on evidence from all parties

POLICY ISSUES ON HILL SLOPE DEVELOPMENT

Issues: Role and responsibility of Local Authority:

Case of Highland Towers (liability of PBT):

- 1. Provision of sec 95 Act 133: PBT can still be sued if there is "negligent "by PBT.
- 2. There are many cases of PBT being sued and lost the cases.
- 3. The indemnity provision is required as PBT cannot check every inch of the land.

(En Shamsul AG)

A look at:

Legislations and policy guidelines on safety of building

Legislations regulating the various phases along the construction supply chain in relation to causes of failure

	Item	Property development supply chain
a	Land conversion	National Land Code
b	Planning permission	Town and Country Planning Act, (Act 172)
c	Building plan approval	Street, Drainage and Building Act (Act 133), UBBL, earthworks By-Laws, Electricity supply Act, Water Service Act, Sewerage Service Act, Solid waste management & public Cleansing Act, Telecommunication Act, Fire service Act,

Legislations regulating the various phases along the construction supply chain in relation to causes of failure

d	Procurement	Contract Act 1950
e	Construction	Act 133, UBBL, E/works bylaws, OSHA, CIDB
f	Building delivery	Act 133, UBBL
g	Extension & renovation works	Act 133, UBBL, Act 172, Fire Service Act
h	Periodical Inspection	Act 133, UBBL
i	Demolition	Act 133, OSHA

Legislations related to hill slope development:

- Kanun Tanah Negara, 1965
- Akta Perancangan Bandar dan Desa, 1976
- Akta Pemuliharaan Tanah, 1960
- Akta Jalan, Parit dan Bangunan, 1974
- Akta Kualiti Alam Sekeliling, 1974
- AKta Hutan Negara, 1984
- Enakmen Bekalan Air
- Akta Per,indungan Hidupan Liar, 1974

POLICY ISSUES ON HILL SLOPE DEVELOPMENT

Legislations related to hill slope development:

- Akta Taman Negara, 1984
- Akta Orang Asli, 1954
- Akta Penyiasatan Kaji Bumi, 1974
- Akta Pembangunan Mineral, 1994
- Drainage Works Act, 1954(1988)
- Peraturan Kuari Negeri

Act 133 – Street, Drainage and Building Act, 1974

Sec 95: Protection of the State Authority and officers from personal liability

"the state authority, local authority and public officer of local authority shall not be subject to any action, claim, liability or demand what-so-ever arising out of any building in accordance of this act.."

Uniform Building By-Laws 1984

Bylaw 258 – Failure to buildings

(5) Notwithstanding that any plan, drawing or calculation has been approved by the local authority, the responsibility for the failure of any building shall *prima facie* lie with the person who submitted such plan, drawing or calculation.

Interpretation Act 1948 & 1967, Act 388:

Sec 63:

'No written law shall in any manner whatsoever affect the rights of the King or government unless it is expressly provided "

Sec 127:

"No Act of Parliament, ordinance or enactment shall in any manner whatsoever affects the rights of the king or the government unless it is therein expressly provided "

Legislature review:

- Highland Towers collapse in 1993
- Amendment in Street, Drainage & Building Act, 1974, Act 133:
 - sec 85 A:
 - Periodical Inspection of building more than 5 storey every 10 years
 - Local Authority to serve notice to owner of building
 - what if building of over 10 years old collapses and PBT has not ever served any notice to do periodical inspection ???

Legislature review:

- Highland Towers collapse in 1993
- Amendment in Street, Drainage & Building Act, 1974, Act 133 in 1995 :
 - sec 70B: Order to review safety and stability in the course of erection of building:
 - the building
 - the foundation of the building
 - the surroundings

The review shall be undertaken by a qualified person than the qualified person who prepared and certified the plans, calculations, particulars, documents or reports submitted to local authority

Act 133 – Street, Drainage and Building Act, 1974

Clause 71:-

- Where any building or part of a building fails in the course of construction or after completion etc. and such failures is due to;
- Misconstruction or lack of proper supervision during construction
- Misdesign or miscalculation; or
- Misuse

The person responsible shall be liable on conviction to a fine not exceeding Rm500,000 or to imprisonment for a term not exceeding 10 years or to both.

Guidelines issued:

- KPKT issued guidelines : Garispanduan Pembangunan Di Kawasan Bukit – JKT (1997)
- More Landslides fatalities around Bk Antarabangsa, Ampang :
 - 1993 Highland Tower, Ampang 48 died
 - 2002 Taman Hillview, Ampang 8 die
 - 2004 Taman Harmonis, Gombak 1 died
 - 2006 Kg Pasir, Hulu Klang 4 died
 - 2008 Bk Antarabangsa (Bk Mewah) 4 died
 - 2010 OK More guidelines : Garispanduan Pembangunan di Kawasan Bukit dan Tanah Tinggi - 2010
 - 2011 Hulu Langsat landsilde 16 died

Structure of National Disaster Committee:

J/Kuasa Pengurusan & Bantuan Bencana Pusat, JPM

- Kumpulan Kerja keruntuhan Tanah (JKR)
- Kumpulan Kerja Keruntuhan Bangunan (JKT)
- Kumpulan Kerja Banjir

Jawatankuasa Penyiasatan kes bencana

Recent spate of building failures even the minor ones but with wide media publicity is of great concern to PUBLIC and BEM



Recent building collapses is of acute concern



BEM directive:

Prepare a paper to identify the issues and weakness in the construction industry supply chain in respect to failure of buildings and fatal site accidence and propose recommendations

BEM formed a working group called "WG on Responsibility and accountability of Stakeholders in Construction Industry"

Chairman: Ir. Dr. Tan Yean Chin, PPC chairman

- IEM

- MBAM

- KPKT

- DOSH

- ACEM

- PAM

- CIDB

- LAM

- PSDC

- BEM

 "WG on Responsibility and accountability on Construction Industry"

TOR includes:

- stakeholders involved at every stage of development (supply chain)
- relevant laws & policies
- study possible causes of failure and recommendations
- literature reviews of past cases of building failures

Scope of Review

Types of failure:

- Buildings failures of public buildings structures & services
- Buildings failures involving life and injury as reported in the press
- construction site accidence involving human life or injury
- serviceability problem creating nuisance to users of public buildings

Scope of Review

Stakeholders responsible:

- Developer / project proponent
- Planner
- Engineers
- Site supervisors
- PTD (Land officer) Local authority

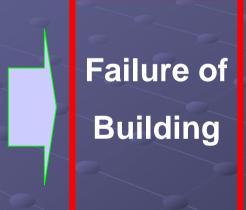
- Architect
- Contractor
- Tradesman

Supply Chain of Construction Industry

- 1. Project inception
- 2. Land conversion
- 3. Planning approval
- 4. Building Plan approval
- 5. Procurement process
- 6. Construction
- 7. Building delivery (CFO/CCC)
- 8. Maintenance and Management / COB
- 9. Periodical Inspection
- 10. Demolition

Stakeholders responsible

- Developer / owner
- Architect
- Contractor
- Planner
- Engineer
- Tradesmen
- SiteSupervisor
- Land Officer
- Local Authority



Supply chain of property development

- Project conception
- Land conversion
- Planning permission
- Building plan
- Procurement
- construction stage
- Building delivery (CFO/CCC)
- Maintenance & Management
- Periodical Inspection
- Demolition

Common causes of building failure

- 1) Development project inception stage
 - a) Project proponent carrying out structure work without professional input within local authority areas or outside local authority area.
 - b) Short and unreasonable time line to complete complex structures

Recommendation:

i) awareness program ii) strengthen Act 133 & UBBL iii) reasonable time for project completion

55

Kuala Dipang bridge tragedy

SUARA PERAK: Suspension Bridge in Kuala Dipang...illegal structure?

by <u>Sivakumar Varatharaju</u> on Saturday, November 7, 2009

Kuala Dipang suspension bridge did not meet specifications

Additionally, the private contractor involved had not submitted a plan of the structure or received any approval from authorities





Kuala Dipang bridge tragedy 2009





The investigation committee found that the concrete block connection in Pylon A could not handle the uplift force from the back-stayed cable.

Unapproved 4 storey commercial building - STAR 9/3/2011

M4

NEWS

STARMETRO, WEDNESDAY 9 MARCH 2011

Unapproved building !!

Demolition plan on hold

Furniture store owner douses himself wi

By EDWARD R. HENRY edward@thestar.com.my

FURNITURE store owner tried to set himself on fire in front of policemen and Petaling Jaya City Council (MBPJ) enforcement officers in a bid to stop his unapproved four-storey commercial building in Kampung Chempaka Chinese New Village from being demolished.

In the 11.40am incident yesterday, Lam Chen Yon, 61, doused himself with kerosene but screams from his wife Wong Choi Chan alerted a policeman who tried to snatch away the kerosene container away from him.

Another policeman and Kelana Jaya police station Chief Inspector



Keep cool: Lam (in red shirt) and his son Chee shirt) being restrained by policemen including C

ings had been held with them.

.Want to take



SRJK(C) Teluk Panglima Garang school hall - query on safety by PIBG -28/4/2011

中国福

卜家协主席詹福财说, E著手补办申请程序, 球场加盖工程的建筑图

刃为了尽快把遮阳棚建 受到日晒雨淋, 所以三 当局提呈图测申请。

有工程师参与处理, 教 表示没有问题, 可是却

日

和

羽球場加蒂補呈圖測

有人在这事件上挑课题,官员向校长说明只要 补办手续即可。

他指出, 羽球场加盖后得到许多家长赞好, 学生不用再晒太阳, 也有更大空间活动。

他说,建筑费其中5万5000令吉为州政府常年 拨款, 其余款项来自校友会和家协。



羽球场。 加 盖 后杂

改建成多元 用

途活 下东 于3月8日学校 三机构联席会议, 询 问工程是否经过专业 工程师核准和提呈予 当局申请时,被告知 县教育局相关人士曾 来巡视和表明应该没

他说, 当时校方也 坦承有关工程没有提 呈申请。

"我们一行人在3 月20日到万津新邦摩 立华小,参观该校的



■直落平民华小羽球场加盖工程被指未

校周会、毕业典礼等活动都在羽球场加盖 改建成的多元用途活动空间举行, 希望校 方尽快提呈图测鉴定工程符合安全标准, 否则 万一发生意外由谁负责。

3 尺高的围栏连铁都没有,是否能够负担沉重的遮阳棚,学生的安

潜沂期再開聯席



Where is engineer's plan ???



■钢铁结构一边锁在课室柱子上,安全 性让人质疑。

Fish pond on slope





Highlands farming on slope



Common causes of building failure

2) Land conversion stage

Land office approving development application without considering the geo-hazard in the particular areas especially farming activities at hill slope area.

Recommendation:

All land conversion application on hill slopes and sensitive areas should be attached with a brief report of Professional Engineer evaluation of site suitability against the proposed development

Common causes of building failure

- 3) Planning approval stage
 - a) Approving plan with structures on unstable ground /hazard area
 - b) Approving build environment on flood prone plain

Recommendation:

Planning authority should be careful when approving planning permission of new projects. Where hill slopes or sensitive areas (ex-dump sites, wet lands, and peat soil area) are involved, they should insist on comment from engineers.

Common causes of building failure

- 4) Building Plan approval stage
 - a) Architect submitting building plan with structure elements
 - b) Incompetency of design engineer
 - c) Insufficient soil investigation for geotechnical related work

Common causes of building failure

4) Building Plan approval stage

- a) Review joint list of project for architect and engineer to provide clear authority and responsibility in respect to design involving structural elements.
- b) Professional engineer must have a certain amount of years of relevant experience before being allowed to act as Submitting Person for structure plan to local authority.

Common causes of building failure

4) Building Plan approval stage

- c) Reviewing UBBL to require submission of structure plan to be accompanied with soil investigation and geotechnical report for works where is geotechnical setting
- d) stern action against PE practicing beyond the field of engineering that they are competent with

Common causes of building failure

- 5) Procurement stage
 - a) Contractor building complex type of work lack necessary qualification and experience (since engineer cannot be there full time)
 - b) Lack of basic safety supervisions, equipments and builtin measures

- a) selection of contractor for complex works should be based on contractor's experience, logistics & financial standing
- b) costing to include into preliminary for OSHA & Factory & Machinery Act provisions (Building operators and Works of Engineering Construction) (Safety) 1986

Common causes of building failure

- 6) Construction stage
 - a) Incompetent site supervisor
 - b) Insufficient site supervisors (SS)
 - c) Temporary works overseen by incompetent contractor/supervisor or without engineer's input for works involving structural input
 - d) Removal of consultant's scope of service in construction stage
 - e) Contractor fraudulent act resulting in inferior product
 - f) Inferior quality of building materials used
 - g) Incompetent tradesmen used

Common causes of building failure

6) Construction stage

- a) Regulate SS in the Act or regulation to carry responsibility and accountability. Set some entry requirement for SS depending on the category of SS in relation to the size and complexity of the project.
- b) set a minimum ratio of SS against size and complexity of the projects and categories of SS.

Common causes of building failure

6) Construction stage

- c) review existing guidelines on temporary works in respect to structure stability and hazard to public. Identify any gap in the guidelines and enhance enforcement.
- d) amend CIDB Act to make key personnel of contractor (eg director) personally responsible on negligence and fraudulent act resulting in inferior product

Common causes of building failure

- 7) Building Delivery (CFO/CCC) stage
 - a) Certifying without checking / visiting the project
 - b) Contractor / site manager not regulated in respect of building failure

- a) remind PE on accountability when certifying works– BEM publication
- b) take stern action against PE acting unprofessionally and ethically
- c) All Forms G for CCC must be signed jointly by contractor's director and site manager
- d) take stern action against individual of company acting irresponsibly or fraudulently

Common causes of building failure

- 8) Extension and Renovation stage
 - a) Performing extension or renovation works without checking on designed capacity of structure

Recommendation:

Strengthen UBBL to make it a requirement to submit structural plan to local authority (for endorsement only) for any renovation that incur extra loading. This will imply the engagement of engineer as only PE can sign on the structure plan.

Sampoong Building, Korea collapse 1995

Original 4 story office building - departmental store with 2 columns removed to install escalator Later, one more floor added for 8 restaurants



Common causes of building failure

- 9) Maintenance and Management stage
 - a) Incompetent technical personnel handling refurbishment / repair structural work

Recommendation:

Repair of structural elements should be managed by qualified technical personnel. For complicated structures or slope/ ground, professional engineers must be engaged. Since incidence of such nature affects mainly complexes or big building, owner and the managing team should be educated on this risk as part of their work manual.

Common causes of building failure

- 10) Periodical Inspection stage
 - a) Failure to perform periodical inspection of building by owner

Recommendation:

Government especially the state government should issue instruction to all local authorities to ensure notices are sent to all building owners to observe this rule.

Alternatively, the Act can be amended to make it the mandatory for the owners of buildings to perform periodical inspection by professional engineers according to the guidelines issued by the Ministry of Housing and Local Government.

The 40 years old swiftlet house (Chiat Cheong Sdn Bhd)



Prewar house collapses

A DILAPIDATED prewar house at busy Jalan C.Y.Choy in Penang

collapsed recently.

The front wall of the unoccupied house beside SEK (C) Sum Min gave way and part of its wooden beam fell onto the road. Fortunately, no one was injured during the 1.30pm incident.

Cheah Eng Chuan, 63, who lives on the opposite side of the road, said he heard a loud noise while he was having lunch and ran out to look.

'I saw two lorries passing by the narrow road, Luckily, the drivers managed to avoid the falling rubble," he said.

A passer-by, Hot Weng Beng, 63, said he saw the house col-

abse.

"I know the old (prewar) houses here are structurally unstable as they were constructed without any steel. So I never cycle near them for fear that one of them might come down one day," he added.

Komtar assemblyman Ng Wei Aik, who was there to inspect the



Unsafe: Residents looking at the crumbling house.

damage, said the house owner was asked to clear the rubble the same day so as not to endanger road users.

Ng said residents who refused to move out of their dilapidated houses should take the incident as a valuable lesson.

The Penang Municipal Council (MPPP) has issued several notices to the residents to inform them that these prewar houses were unsafe but some have refused to move out.

"We will issue a final notice soon and decide what to do if they still refuse to move. he said:

Pengkalan Kota assemblyman Lau Keng Ee, who was also

present, said: "The residents are very stubborn and refused to move, arguing that their houses are still in good condition.

"But architects who inspected the houses have said that they

are no longer sale."

Lau added that 41 unsafe prewar houses near the Prangin Market were still occupied.

Common causes of building failure

- 11) Demolition stage
 - a) Demolition done by contractor without understanding the structural behaviour of the building structure
 - b) Demolition contractor submitting standard method statement without clear understanding the structural behaviour of structure





Common causes of building failure

11) Demolition stage

Recommendation:

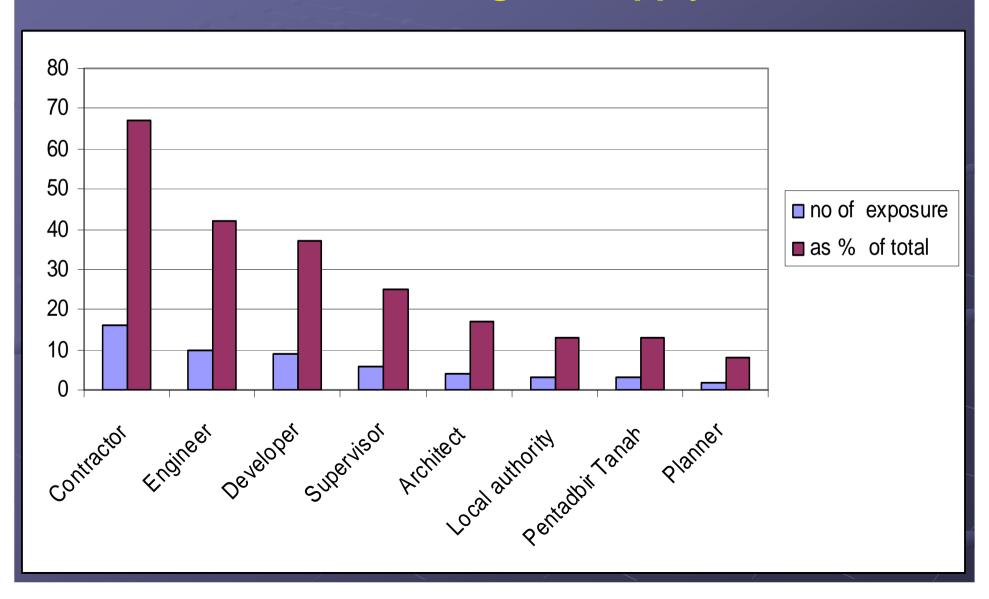
- a) Demolition of building more than 2 storeys must engage the service of professional engineer to advise the sequence of demolition and precautionary measures. For practical purpose, demolition report from engineer need only to be lodged with local authority and CIDB to avoid bureaucracy.
- b) Method statement must be signed by PE and undertake to supervise the demolition of the critical part of the structure.

Analysis of Stakeholders exposure to causes of failure and its frequency

Number of exposure to causes by stakeholders along the supply chain

stakeholder	no of exposure	as % of total
Contractor	16	67
Engineer	10	42
Developer	9	37
Supervisor	6	25
Architect	4	17
Local authority	3	13
Pentadbir Tanah	3	13
Planner	2	8
Other agency	2	8 83

Number of exposure to causes by stakeholders along the supply chain



7 strategic plans:

- 1. General awareness of construction safety
- 2. Strengthening role of regulatory authority especially local authority
- 3. Ensuring quality and independence of Engineers
- 4. Upgrading competency of supervisors
- 5. Review Code of ethic of professionals
- Clearer delineation of responsibility of certain 'structure' drawing between architect and engineer
- 7. Enhance accountability of contractor

Strategic plan 1:

General awareness of construction safety

- 1. Publicity through circulation of pamphlets on risk of building failure
- 2. Make available easy access to professional associations CSR service counter (as practiced in Hong Kong)

Strategic plan 2: Strengthening role of regulatory authority especially local authority

1. All Government (Federal or State) projects especially those designed and supervised by Consultants shall be submitted to the local authorities in the interest of public safety and accountability in particular those design by Consultants

Strategic plan 2:

Strengthening role of regulatory authority especially local authority

- 2. To amend the Street, Drainage and Building Act, Act 133 and UBBL:
- Prescribed the minimum duties of Project a) Owners or Developers as they sit at the apex of the project organization chart.
- b) Prescribed the minimum duties of the Qualified Person, Site Supervision Staff and the Contractors. 88

Strategic plan 2:

Strengthening role of regulatory authority especially local authority

- 2. To amend the Street, Drainage and Building Act, Act 133 and UBBL:
- c) Prescribed the minimum requirements for Site Supervision Staff in terms of nos. of staff, qualifications and experience in relation to project size and complexity.
- d) Make it mandatory to appoint Accredited Checkers base in the size and complexity of the project.

Strategic plan 2: Strengthening role of regulatory authority especially local authority

- 2. To amend the Street, Drainage and Building Act, Act 133 and UBBL;
 - e) To support the amendments, develop Codes of Practice for (i) Design of Temporary Works (ii) Site Supervision (iii) Risk Management & Assessment and (iv) Design for Safety. 90

Strategic Plan to minimize / mitigate failure of building

Strategic plan 2:

Strengthening role of regulatory authority especially local authority

3. Local authority engineers to undergo mandatory training courses every 2 years to update them with the new technological practices and code of practices in structural and geotechnical works.

Similarly, JKR being the largest employer of Consultants and acts as the Supervising Officer in many Government Contracts will need to improve their competence

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Strategic Plan to minimize / mitigate failure of building Strategic plan 3:

Ensuring quality and independence of Engineers

- 1. proposed amendment to REA to impose compulsory Professional Competency Examination (PCE) for engineer intending to be the Submitting Person to local authority /authority. (Now awaiting for it to be tabled at Parliament).
- 2. Selection of design consultant should be based on QBS (Quality Based Selection) process

Strategic Plan to minimize / mitigate failure of building Strategic plan 3:

Ensuring quality and independence of Engineers

- 3. Enforce effectively against anyone who causes the failure of building or earthwork as provided in the Street, Drainage and Building Act. Local authorities to take action under the severest penalty
- 4. Project proponent's responsibility shall be properly defined in the Building Law to require proper selection of consultant among others and contractor who has relevant and similar experience.

 93

Strategic plan 4:

Upgrading competency of consultant's resident site supervisors (inspector of works)

- 1. Amend the CIDB Act to allow for penalty for Main Contractor's licensed Builder (or Project Manager) and or Consultant's Resident Site Supervisor/s who are found guilty of an offence arising out of failure of buildings.
- 2. To specify in all local 'Standard form of Contract' on the number and level of qualification of the resident site supervisors needed to act for the consultants.

Strategic Plan to minimize / mitigate failure of building Strategic plan 4:

Upgrading competency of consultant's resident site supervisors

- 3. To amend UBBL on all Form G except G2 to require relevant consultant's site supervisor/s to sign on the relevant Form Gs that he has supervised the project and that he takes responsibility on the portion of works he is connected with. (amendment to CIDB Act)
- 4. To amend CIDB ACT to make it a statutory requirement for site supervisor (both contractor's and consultant's) to be registered with CIDB. No one shall employ any deregistered site supervisors unless the registration has been reinstated.

Strategic Plan to minimize / mitigate failure of building

Strategic plan 5:

Review Code of ethic of professionals

• BEM to review their processes of Disciplinary Action against defaulting engineers including guidelines and regulations in a more effective manner and strengthen the duty of care provisions in the existing laws in relation to safety.

Strategic plan 6:

- Clearer delineation of responsibility of certain 'structure' drawing by architect and engineer
- 1. a declaration from both the boards that any drawing submitted to the local authority with structural element would be the responsibility of any of the submitting person concern.
- 2. The two boards review the 3 appendixes on the rights to submit building plans.

Strategic Plan to minimize / mitigate failure of building

Strategic plan 7:

Enhance accountability of contractor

1. To amend CIDB Act to allow CIDB to act against the director and Site/Project Manager found responsible for the failure of a building with punitive action such as fine and suspension from any construction activity within a specified period.

Strategic Plan to minimize / mitigate failure of building

Strategic plan 7:

Enhance accountability of contractor

2. To introduce QBS (Quality Based System) process for the appointment of contractors and the use of 2 envelope systems of to technical and financial system evaluate bidders for the projects. For government projects, greater transparency system should be practiced whereby representatives from relevant organisations such as MBAM, ACEM, IEM or PAM be invited to sit on the tender board. The tender bids and successful bidders should be displayed for public viewing.

Strategic Plan to minimize / mitigate failure of building Strategic plan 7:

Enhance accountability of contractor

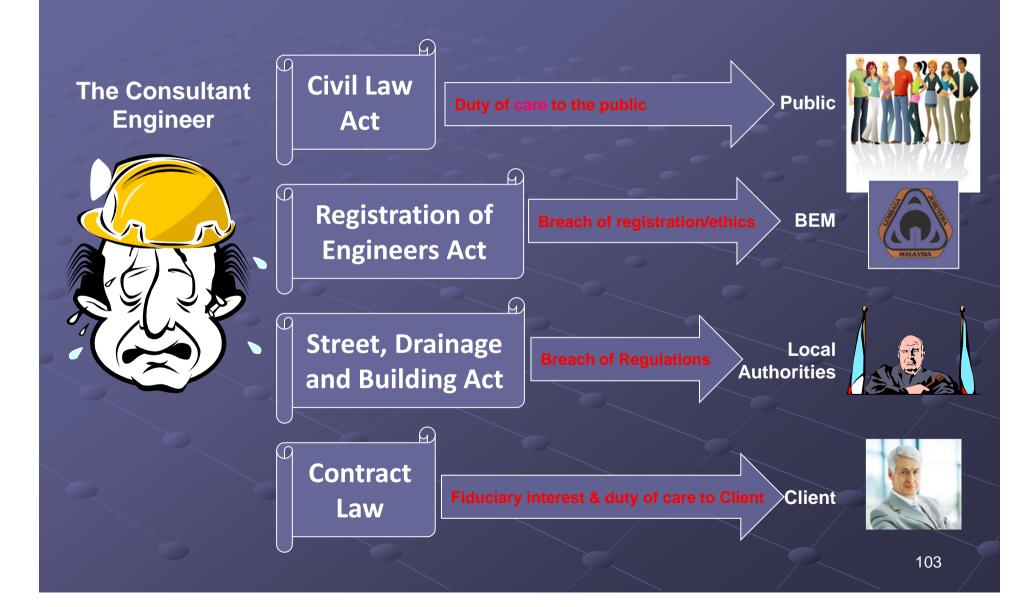
- 3. contractor shall engage Professional Engineer to design, endorsed and supervise all temporary works on site. Temporary works shall be given the same due respect in terms of safety.
- 4. all temporary works endorsed by Professional Engineers and submitted to DOSH shall be constructed strictly according to the submitted drawings.

Roles & Responsibilities of a Consulting Engineer

Consultant Engineer Roles & Responsibilities

- For the Consultant to be professional it implies that he will make maximum use of his skill and knowledge and he will use his competence to the fullest extent;
 - 1. With complete honesty and integrity
 - 2. With his best effort in spite of the fact that frequently neither Client nor Employer is able to evaluate that effort
 - 3. With the consciousness that the profession of Consultant Engineering is often judged by the performance of a single individual
 - 4. With a duty of care for his Client and the public at large. He is responsible for a sound and economic design.

A Summary of the Consulting Engineers Liabilities



2011-2014 Building failure continues

Overloading believed to be cause of floor collapse

SUN 5/1/2011

KUALA LUMPUR: Overloading from heavy machines placed on the fifth floor of the Bank Rakyat building under construction in Jalan Ang Seng, Brickfields, is believed to have caused the floor to collapse on Monday night.

A Bangladeshi construction worker, Ahmad Ali Late Azgor Ali, 42, was killed when the floor – which was under construction – came crashing down 17 metres at about 10.30pm.

Another Bangladeshi and an Indonesian worker were injured.

Initial investigations showed that the scaffolding was not strong enough to support the excess weight of the heavy machines and concrete mixer placed on it, said Fire Operations assistant director at the Kuala Lumpur Fire and Rescue Department, Azizan Ismail.

"There were also several workers on that floor when the incident occurred," he told Bernama after visiting the construction site yesterday.

A full investigation is being undertaken by a special committee which also involves the Department of Occupational Safety and Health (DOSH) and Kuala Lumpur City Hall.

"The committee will also discuss ways to prevent such incidents from recurring," Azizan said.

Construction work on the building has been temporarily halted to facilitate investigations.

"According to regulations, construction work at the site is only allowed until ropm but the workers were still working after that time until the incident happened," Azizan said. – Bernama



4/1/2011 – Bank Rakyat Building, Brickfields, K Lumpur





大都會

ME





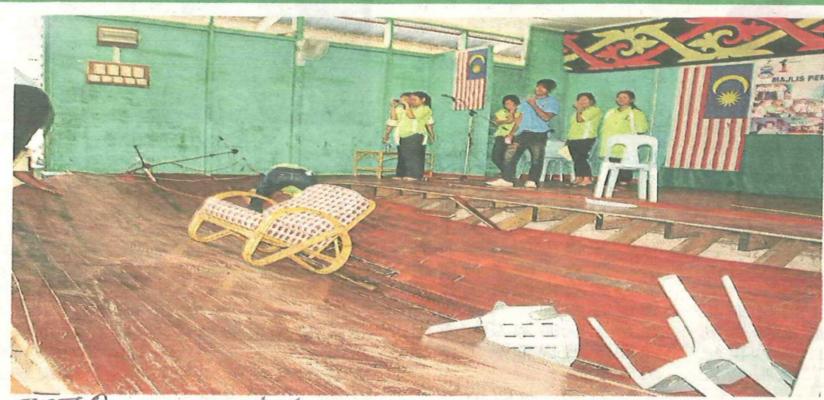
河J建竣的木凉亭经不起狂风暴雨的吹打而倒塌,成为一堆废墟,让人不禁怀疑有关当局在施工方面是否出问题而导致凉亭这么"不堪一击"。

这座木凉亭建在格泰巴刹巴央休闲观光走道,其他5座木凉亭暂时无事,不过凉亭的倒塌,其他凉亭的结构是否安全足以让人质疑。

8/1/2011 - Kuala Trengganu, newly constructed

SCJP paperare others safe ??

Collapse of Keningau school hall stage – 29/4/2011



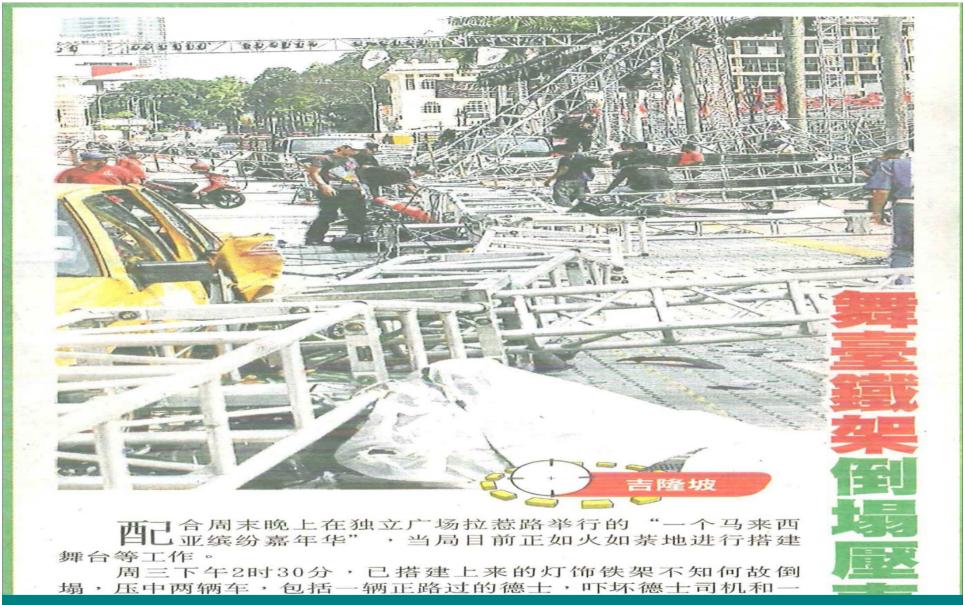
ジープラン 29/4/2011 沙州根地咬

大 然资源及环境部副部长丹 斯里佐瑟古禄与众人大合 照时,舞台突然坍塌,所幸没有发 生任何不愉快事件。

上述事件是于上周五发生在纳

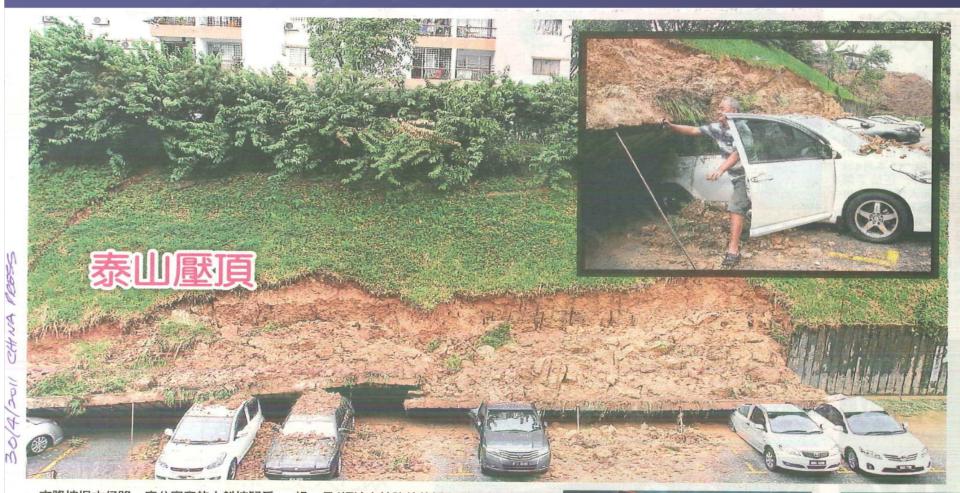
巴湾乡区的文青体育部礼堂,副部长当时为一项活动主持开幕礼后,与约250人站在离地约1米高的舞台上大合照。

该舞台的中间部分突然倒塌后,并没有造任何人受伤,所有在舞台上的贵宾及众人都在事发时即时逃开。坍塌原因相信是舞台不胜负荷。



18.5.2011: Collapse of temporary lighting structure at Merdeka Square (1 Malaysia show), K. Lumpur causing damage to 2 cars

Collapse of retaining wall at Kuchai Ent park Apt – 26/4/2011



吉隆坡旧古仔路一座公寓旁的小斜坡疑受建筑工程及连日下雨影响,周五(29日)凌晨斜坡围墙突倒塌,一私人泊车场也出现地陷,10辆车被土石压中,其中6辆遭围墙压

损,另4辆泊在地陷处的轿车则无大碍。 小图为一名居民尝试启动及移开被压在围 墙下的迈薇轿车,惟徒劳。

◆報導: A21 ◆攝影: 林慧婷







JKR to probe Serdang STAR Hospital ceiling collapse

By ISABELLE LAI

SERDANG: An investigation will be carried out by the Public Works Department (JKR) to determine the cause of the ceiling collapse at the Serdang Hospital's main lobby, said Health Minister Datuk Seri Liow Tiong

He said a thorough investigation was needed to find out exactly how and why three parts of the ceiling had

"It might have been caused by a structural, design or maintenance failure. The investigation will help us know for sure," he told reporters after failure since the design warranty is

Sunday morning. No one was injured them of the damage.

"For example, maybe it was water the cafeteria. seepage that caused the ceiling to "Additional guards have been become heavier and collapse," he placed around the area as well," he said, adding that debris from the col-said.

»It might have been caused by a structural, design or maintenance failure«

DATUK SERI LIOW TIONG LAI

Liow said the results of the investi- Liow praised the hospital adminisgation were expected in one to two tration's prompt actions in blocking off the area to protect the public's The ceiling had collapsed early on safety and posting signs to inform

"Access to the site has been blocked He added that any number of fac- and an alternative route from the tors could have caused the collapse. main lobby has been created through



31/1/2011 - Serdang Hospital, Selangor

Pahang KDN flooded office: pipe burst twice within 2 years - SCJP 10/3/2011



Fed up with calamity



Pillars of one of the buildings in Taman Jasmine visibly eroding.

By Gan Pei Ling

PORT KLANG: As if floods, and robberies were not bad er occupants of shoplots in Taman J.

After a preliminary survey of the site, JKR Klang engineer Ashrul Nizam said the structure of the shop houses did "seem weak".

Engineer in the dock

Man allegedly 'approved' framework for stadium roof that caved in

KUALA TERENGGANU: A consulting engineer was charged at the Sessions Court in connection with the Sultan Mizan Zainal Abidin Stadium roof collapse in Gong Badak here, nearly two years ago.

Wan Manan Wan Ali (pic), 51, pleaded not guilty.

He claimed trial to the charge of acting like an approved examiner in issuing a document, dated lan 15, 2009, on the main roof truss system and its associated works for the proposed Terengganu Sports Complex.

He is alleged to have signed and given the document to the state public works department (PWD) director Rosli Zainal and duped state secretary Datuk Mokhtar Nong into believing that he was the approved checker.

The offence was allegedly committed between Ian 15 and March 29, 2009 at the state PWD office here.

Code carries a jail term of up to seven years or fine, or both, upon conviction.

Judge M. Bakri Abdul Majid fixed March 17 for re-mention and allowed Wan Manan bail of RM10,000 in one surety.

Deputy public prosecutor Syafinas Shabudin, of the Malaysian Anti-Corruption Commission, appeared for the prosecution while Wan Manan was represented by Wan

Zainuddin Wan Musa.

The roof collapse incident occurred less than a year after the handover of the RM292mil stadium to enable the state to host the Malaysia Games (Sukma) in May 2009.

The charge under Section 419 of the Penal Following the incident, the PWD set up an investigation committee to determine the cause of the collapse.

Among factors cited by the committee were serious engineering flaws, shoddy workmanship, inferior materials and lack of expertise in the project management team.

The committee also determined, among others, the design failed to take into account the support condition of the roof structure.



Trengganu Stadium Roof Collapse:

28.1.2011: Engineer charged under Penal Code

(7 yr jail + fine)

20/5/14

Engineer freed in stadium case

Wan Manan: I hope for a change in fortune

By JOSEPH KAOS Jr joekaosjr@thestar.com.my

KUALA TERENGGANU: A consulting civil engineer was acquitted and discharged by the Sessions Court here in connection with the Sultan Mizan Zainal Abidin stadium roof collapse in 2009.

Judge Mohd Azhar Othman ruled that the prosecution had failed to prove a prima facie case against Wan Manan Wan Ali, 53, of Kuala Terengganu.

The judge made the ruling yesterday after hearing from 10 witnesses and submissions from DPP Farah Yasmin Salleh and Wan Manan's counsel Haresh Mahadevan.

On Feb 1, 2011, Wan Manan was accused of acting like an accredited examiner in issuing a document, dated Jan 15, 2009, on the main roof truss system and its associated works for the proposed Terengganu Sports Complex.

He was alleged to have signed and given the document to the then state Public Works Department director Rosli Zainal and deceived then state secretary Datuk Mokhtar Nong into believing he was the accredited checker between Jan 15 and



21.5.2011: Hulu Langat landslide – 16 died

ity

Lessons unlearned from landslides past

24/5/11

landslide at Hulu Langat has claimed 16 lives so far.

Orphanage children were the main victims and rescuers were still sifting through the debris.

Hats off to the rescuers who are mounting a round the clock search Continuous over-development, deforestation, rapid urbanisation were contributing factors to fatal landslides over the years.

Unethical practices result from authorities closing one eye, and we are now witnessing a pattern of incidents of similar nature unfolding.

NEWS WITHOUT BORDERS | 03

theSun ON TUESDAY | MAY 24, 2011



Tragedy could have been averted, say engineers

BY CHARLES RAMENDRAN
newsdesk@thesundaily.com

KAJANG: Building engineers believe the landslide tragedy which killed 16 boys and volunteer workers of the orphanage who had noticed the slanting trees on the hill went on to trim or cut down the trees and were unaware it was a sign of weakening soil.

He said the building itself was

normal level is around 20mm. With such heavy rain, a lot of water would seep into the soil, causing the structure to be weak and a landslip could occur any time."

He said the PWD will carry out



Race against time: Rescuers at the site of an orphanage in Hulu Langat, Selangor, where two landslides killed 15 boys and ore: adult.

OACIT HOWANDER

21.5.2011: Hulu Langat landslide – 16 died

4 NATION The Star, TUESDAY 24 MAY 2011

It was a disaster in the making

PWD: Cracks, soil movement and heavy rainfall some of the reasons

By JOSHUA FOONG
ioshuafoong@thestar.com.mv

HULU LANGAT: There were several signs of an impending landslide at Saturday's disaster area that claimed 16 lives, according to a Public Works Department's initial data.

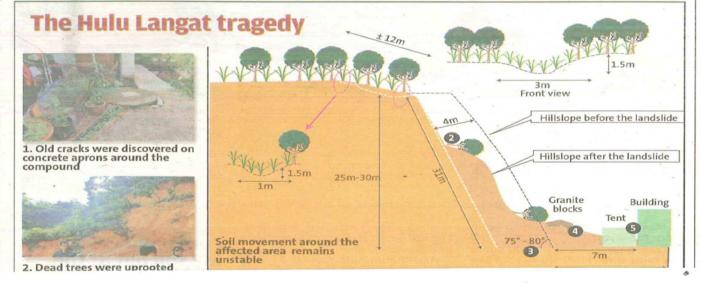
Department slope engineering branch director Datuk Dr Ashaari Mohamad said they found old cracks on the concrete apron around the orphanage's compound.

"These are signs that there has been soil movement on the hill for quite a while," he said when briefing the Sultan of Selangor Sultan Sharafuddin Idris Shah who visited the disaster site and the orphanage Rumah Anak Yatim Hidayah.

"Hyetograph readings also showed a 400% spike in rainfall from Friday afternoon causing the soil to soften," said Dr Ashaari.

"A lot of water seeped into the





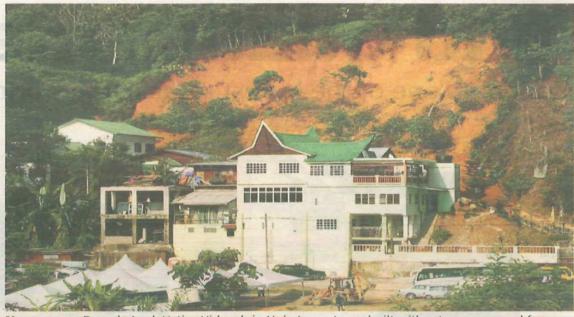
21.5.2011: Hulu Langat landslide – 16 died

StarMotro S

StarMetro, Tuesday 24 May 2011

Get CF, house owners told

Residents have three months submit plans



No papers: Rumah Anak Yatim Hidayah in Hulu Langat was built without any approval from any authority.

By OH ING YEEN ingyeen@thestar.com.my

HOSE residing on slopes without a Certificate of Fitness (CF) will be issued a notice urging them to apply for one, Kajang Municipal Council (MPKj) president Datuk Hassan Nawawi Abdul Rahman said.

Following the Hulu Langat landslide tragedy, the council has begun making its rounds to high-risk areas near slopes with a gradient of more than 25 degrees to urge those without a CF to submit building plans.

"It will take us two weeks to conduct our checks and we will give them three months to apply for a CF. If they still fail to do so, then they will have to bear the consequences if any accident were to happen," he said.

Hassan said the Department of Mineral and Geoscience, JKR, Indah Water Konsortium, Syabas, the Fire and Safety Department and other departments are involved in the process of issuing CF.

He admitted that the council was aware of the orphanage's existence.

Hasan said the orphanage had been in existence for the past 17 years on agriculture land without a CF.

The council, which was formed only in 1997, did not exist at that time.

"Two years ago, this area (Lembah Semungkis) was included as part of the municipality. However, this is not part of our service area," he said.

He added that after investigation, the building would be demolished if it was found that the foundation was weak.

"By right, there should be enforcement to check if buildings have CF but it has been lax in village areas.

"Even if the orphanage owner were to apply for a CF, it would not have been approved because it is on agriculture land.

"Furthermore, with a slope of 75 degree gradient, this building will not be approved," he said.



Even if the orphanage owner were to apply for a CF, it would not have been

approved because it is on agriculture land.

-DATUK HASSAN NAWAWI ABDUL RAHMAN

Who's in charge of development n no-man's land?

AS the dust settles on the latest landslide tragedy, remarks by the Kajang Municipal Council president have raised several questions.

It is clear that the problem is much more serious.

Datuk Hassan Nawawi Abdul Rahman was being honest when he said he did not know about the existence of the orphanage as the area was outside his jurisdiction, and it seemed that nobody was in charge of licensing it.

The building was put up on agriculture land but neither the council nor the district office had any say on what could be built there, effectively

making it a no-man's land.

State Local Government, Research and Development Committee chairman Ronnie Liu said the area laid outside the jurisdiction of MPKJ and it came under the purview of the Rural and Regional Development Ministry.

No land assessment tax was collected from the landowners and urban services like rubbish collection and drain cleaning were not provided to them.

Hulu Langat assistant district officer Mohamad Fadhlullah Omar said although they were in charge of maintenance and upgrading works,

SHANKER

news@nst.com.my



the district office was only responsible for overseeing development on government land.

They only monitored illegal developments and encroachment, but could not do anything when it came to privately-owned land.

"The place where the landslides struck is a grey area. Nobody is in charge of it. There are many other places here that can be considered grey areas," said Fadhlullah.

If this was the case, the ambiguity in the land's status would open the floodgates to a host of buildings on private land, all built without any regulatory approval.

Local Government Department director-general Datuk Arpah Abdul Razak said this seemed to be true as being located in a grey area, they only needed to get an architect's approval

before construction.

But then, an architect is not an expert on whether a hill can be cut or how it should be cut.

This was exactly what happened

during the construction of the Hidayah Madrasah Al-Tagwa orphanage, which led to two landslides last Saturday that killed 16 and injured nine, mostly children.

Explaining how it should be done, Arpah said all land must first be gazetted under Article 172 of the Town and Country Planning Act before coming under the purview of local councils.

"But this is usually done for urban areas only and they will then enjoy services like rubbish collection, street lighting, bus stops and drainage cleaning."

She said many did not realise that only 65 per cent of land in Malaysia came under the jurisdiction of local councils.

That means the other 35 per cent is not subjected to the stringent regulatory approvals needed for any development.

Arpah said the district offices only carried out upgrading works on basic infrastructure and periodical main-

"They cannot be monitoring all the

private land."

She said even if a landowner wanted to get approval for his building, there was nowhere for him to submit his plans.

25/5/2011: River bank retaining wall collapse near KEN 3 apartment, SS2, Petaling Jaya

On dangerous ground

Collapsed partition wall causing fear among condo dwellers

By EDWARD R. HENRY edward@thestar.com.my

Residents of Ken Damansara 3 Condominium, Petaling Jaya are going through a nightmare as the partition wall in front of the condominium has collapsed 10m into nearby Sungai Penchala.

To make matters worse, the wall opposite the condominium also collapsed due to erosion following continuous rainfall on Tuesday.

Three weeks ago, the perimeter wall surrounding the condominium had collapsed. Large amounts of soil and vegetation were swept into Sungai Penchala due to strong currents.

Part of a 40m retaining wall — from the condominium to the bridge near the SS2 Mall — also collapsed due to the strong currents.

Petaling Jaya City Council (MBPJ) councillor Mak Khuin Weng said the situation was not getting any better. "I am unable to get the developer to agree to rebuild the retaining wall. As an immediate measure, MBPJ has to take responsibility and rebuild the wall and bill the developer. MBPJ has to do it as the safety of the residents is paramount," he said.

Mak said there was a need to identify the cause of the

According to U. Chin, a resident there, the movement of soil has worsened and it has "narrowed and almost dammed" the river.

This could cause a major flood that threaten to wash away more earth closer to the back portion of the pillars of the condominium.

"It is a nightmare living in the condominium now. Officers from the MBPJ engineering department are keeping tabs on the erosion, taking photos and notes but nothing has been done.

"I believe it is due to the water flowing under the soil as there used to be a stream closer to the neighbouring mall that was covered up for the development," he claimed

Yesterday, it was reported that PJ mayor Datuk Mohamad Roslan Sakiman has assured residents that the situation would be discussed with the state government via the Selangor Economic Planning Council today

He also said that a consultant has been appointed to ascertain the cause of the soil erosion:

Residents from the neighbouring low-cost Baiduri Flats want MBPJ to act fast and this same sentiment was shared by dwellers of other high-end condominiums bordering the river as they feared the current erosion, if not attended to, could undermine the foundation of their condos too.

State executive councillor Ronnie Liu who visited the site yesterday authorised MBPJ to carry out immediate remedial work to strengthen the river bank.



Dangerous: The partition wall in Ken Damansara 3, SS2 Petaling Jaya has plunged 10m into the river.





Rise and fall of the new public buildings

I REFER to the article "Wall of illegal mall in Jitra collapses" (*The Star*, Oct 9) which reports of yet another case of a newly built building giving way, this time involving a shopping complex in Jitra, Kedah.

There is a litany of ceiling collapse lately in our country, in plac-

es lik Terer

9.10.2013

What is snocking and inginering is that it all involved public buildings such as mosques, hospitals, government offices and stadium.

The shocking part is that all these incidents happened in

recently completed buildings.

It is fair to say the public suspects that shoddy workmanship and inferior quality materials were used in the construction of such edifices not to mention about the possibility of cutting corners to complete these projects.

The government and the con-

hard on contractors such irresponsible actions.

They have to look into monitoring and enforcing stringently all building requirements that go into the construction of

public buildings.

These incidents are truly a disgrace to the image of our country. They are happening at an alarming and unacceptable regularity.

Do not wait till human lives are

lost before taking tough action against the culprits who contributed to the building collapse.

ILANCELOT Mantin

Two Indonesian workers crushed to death at JB site

JOHOR BARU: Two Indonesian workers were crushed to death when a slab of wet cement floor collapsed on them at a supermarket construction site at Taman Gaya, Ulu Tiram here.

Known only as Asmawi, 27, and Aripen, 24, they were working on a cracked cemented floor at about 3.30pm on Saturday when tragedy struck.

Johor Baru South OCPD Asst Comm Zainuddin Yaacob said the site supervisor had instructed the two workers to repair a cracked beam on the first floor of the building.

"While repairing the crack, the wet concrete ceiling above the beam collapsed on top of them," he said,

adding the inc

29.7.2013

(operations) acputy assistant ancetor Mohd Rizal Buang said a team of 24 firemen rushed to the scene after receiving a distress call at about 3.50pm.

"We had to use a crane and an excavator to retrieve the bodies which were trapped in a stack of

Deadly development: Fire Department personnel inspecting the scene of the deadly collapse in Ulu Tiram, Johor.

hardening cement.

"It took us almost six hours to find Asmawi's body among the huge pile of cement and another 10 minutes to free the body from the dried

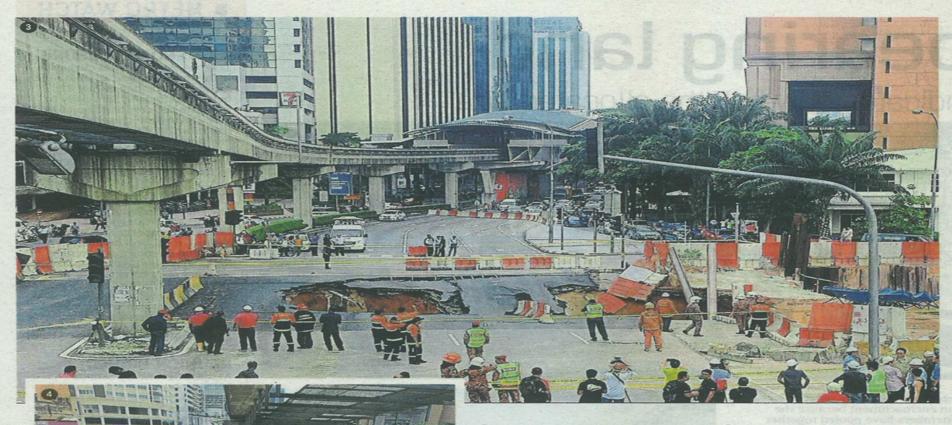
cement stack," he said.

He said that Aripen's body was only found at about 12.50am and it took the firemen another hour to retrieve the body.

The department is investigating the cause of the incident while the victims' bodies had been sent to the Sultanah Aminah Hospital for a postmortem.

27.6.2014





- An aerial view of the sinkholes at the Jalan Pudu-Jalan Imbi intersection.
- Ongoing construction of the tunnel is believed to be the cause of the road to collapse.
- 3 Local authorities and government agencies at the site assessing the situation and controlling traffic.
- Traffic has been diverted following the collapse of the tunnel.

Photo by MUHAMAD SHAHRIL

3.7.2014

MRT Corp says incident not related to project

> FROM PREVIOUS PAGE

operations.
"The Monorail is now making a H-turn at the Bukit Rintang

Artist impression of the completed Pudu Underpass

125

Breach in work procedures

Initial probe shows safety regulations were not observed

By NURBAITI HAMDAN and D. KANYAKUMARI newsdesk@thestar.com.my

PETALING JAYA: Initial inquiry into the fatal worksite accident that killed three workers at Sungai Buloh suggests that there has been a breach of safe work procedure, said the project owner, Mass Rapid Transit Corporation Sdn Bhd (MRT Corp).

According to MRT Corp CEO Datuk Wira Azhar Abdul Hamid, upon talking to some workers at the site, there are indications that certain quarters had disregarded safety regulations.

"We are, however, still investigating as this site is under the jurisdiction of our subcontractor. Svarikat Muhibbah Perniagaan dan Pembinaan Sdn Bhd, and the exact details will be disclosed as soon as the investigations are completed," he said during a press conference at the MRT site located on land that used to belong to the Rubber Research Insti-Buloh, just across Kota Damansara.

emphas where the org and th "wasn't

workers die was "not the norm" as soon as the paperwork is done. either, and added that he would see through the investigations and en- families and told them to make the sure the deceased and their families necessary arrangements to receive get the justice they deserve.

ing 650 tonnes at the site collapsed tute of Malaysia along Jalan Sungai at 8.30pm, pining them underneath.

The incident occurred while work

Azhar said MRT Corp had always to construct the parapet for the speculate how and why the workers

unable to escape in time. here is a lot of verification to be and it might take as long as weeks for all the details to be sed." he said.

Azhar said he did not wish to

38, and Mohammad Alauddin Mollik,

34, were all recovered yesterday.

erations at the site has been stopped and can only commence when authorities are satisfied with the safety standards on the site.

Bernama reported that Prime Minister Datuk Seri Najib Tun Razak has called for a full investigation into

"Shocked and sadde about the MRT site acc investigation must be immediately to ensure happens again," he said

The last high profile ac ving the MRT was on Ju a metal sheet pile being sat Bandar Damansara s moving car.

Though no one was incident, MRT Corp sack contractor and staff other than barring the st from bidding for futur



20.8.2014

"For now, we have informed the

the bodies," he said.

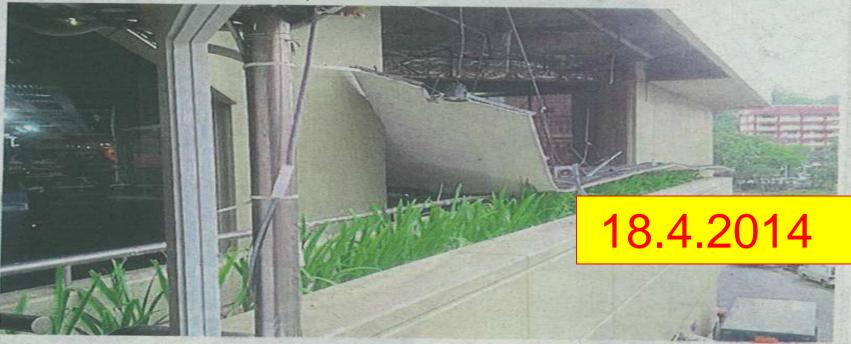
killed when a concrete span weigh- Hossain, 27, Mohamad Faruk Khan,

CEO resigns over fatal MRT site accident

PETALING JAYA: In an unpreceden- Azhar was appointed as the CEO Sion, he also served as chairman of this exit, he would con ted move, Mass Rapid Transit Corpo- on Sept 1, 2011, following the the Malaysian Palm Oil Association, through this case so that ration Sdn Bhd (MRT Corp) CEO Government's decision to set up the sits on the board of the Malaysian



Two hurt as ceiling at PWTC collapses



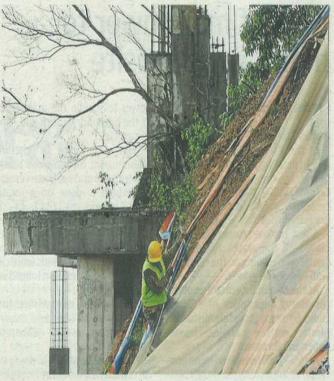
Fallen apart: The portion of the ceiling on the second floor balcony of the Putra World Trade Centre which collapsed.

Army personnel injured during live demonstration on last day of DSA show

Slope responsibility of landowners

Otherwise work in Bukit Gasing may cost council RM50mil, says MBPJ





For safety of residents: MBPJ has embarked on hill strengthening works in Jalan 5/64. The project should be completed within eight months.

By SHEILA SRI PRIYA sheilasripriya@thestar.com,my **Photos by SAM THAM**

HE Petaling Jaya City Council may have to spend RM50mil to strengthen several hillslopes in Bukit Gasing if the individual landowners fail to fulfil their responsibil-

Councillor Derek Fernandez pointed out the owners were legally responsible to ensure their land was well maintained.

"There are about 37 plots of land here.

"The state should seize the land of irresponsible owners if they fail to look after the slopes on their properties," he said during a visit to Jalan 5/64 in Section 5, Petaling lava.

MBPI has appointed contractors to strengthen two hill slopes in Jalan

5/64 and Jalan 5/66 following several neighbourhood to prevent further "MRPI should not have to strengthlandslides and soil erosion in the

It is estimated that the works will cost RM4.5mil and RM8mil respectively.

The hill strengthening work in Jalan 5/64 will be completed by June next year.

Meanwhile, the council has banned all major development, termed Class Three and Four, in the

DUKIC Gasing assemblyman Kajiv - the Dukic Gasing recreational area," Rishyakaran commended the council for the pro-active measures

He said he would raise at statelevel the issue of seizing the privately-owned land.

ng public

to ensure nd visiting

he said. The poor hillslope condition has

also resulted in clogged drains.

The hill strengthening works in Jalan 5/64 uses the "soil nailing" technique over 2,300sam of land.

Strategic Plan to minimize / mitigate failure of building

7 recommendation s:

- 1. General awareness of construction safety
- 2. Strengthening role of regulatory authority especially local authority
- 3. Ensuring quality and independence of Engineers
- 4. Upgrading competency of supervisors
- 5. Review Code of ethic of professionals
- 6. Clearer delineation of responsibility of certain 'structure' drawing between architect and engineer
- 7. Enhance accountability of contractor

Recommendation 1:

General awareness of construction safety

- 1. Publicity through circulation of pamphlets on risk of building failure
- 2. Make available easy access to professional associations CSR service counter (as practiced in Hong Kong)

Recommendation 2: Strengthening role of regulatory authority especially local authority

1. All Government (Federal or State) projects especially those designed and supervised by Consultants shall be submitted to the local authorities in the interest of public safety and accountability in particular those design by Consultants

Recommendation 2:

- Strengthening role of regulatory authority especially local authority
 - 2. To amend the Street, Drainage and Building Act, Act 133 and UBBL;
- a) Prescribed the minimum duties of Project Owners or Developers as they sit at the apex of the project organization chart.
- b) Prescribed the minimum duties of the Qualified Person, Site Supervision Staff and the Contractors.

Recommendation 2: Strengthening role of regulatory authority especially local authority

- 2. To amend the Street, Drainage and Building Act, Act 133 and UBBL;
- c) Prescribed the minimum requirements for Site Supervision Staff in terms of nos. of staff, qualifications and experience in relation to project size and complexity.
- d) Make it mandatory to appoint Accredited Checkers base in the size and complexity of the project.

Recommendation 2: Strengthening role of regulatory authority especially local authority

- 2. To amend the Street, Drainage and Building Act, Act 133 and UBBL;
 - e) To support the amendments, develop Codes of Practice for (i) Design of Temporary Works (ii) Site Supervision (iii) Risk Management & Assessment and (iv) Design for Safety.

Recommendation 2:

Strengthening role of regulatory authority especially local authority

3. Local authority engineers to undergo mandatory training courses every 2 years to update them with the new technological practices and code of practices in structural and geotechnical works.

Similarly, JKR being the largest employer of Consultants and acts as the Supervising Officer in many Government Contracts will need to improve their competence

Recommendation 3:

Ensuring quality and independence of Engineers

- 1. proposed amendment to REA to impose compulsory Professional Competency Examination (PCE) for engineer intending to be the Submitting Person to local authority /authority. (Now awaiting for it to be tabled at Parliament).
- 2. Selection of design consultant should be based on QBS (Quality Based Selection) process

Recommendation 3:

Ensuring quality and independence of Engineers

- 3. Enforce effectively against anyone who causes the failure of building or earthwork as provided in the Street, Drainage and Building Act. Local authorities to take action under the severest penalty
- 4. Project proponent's responsibility shall be properly defined in the Building Law to require proper selection of consultant among others and contractor who has relevant and similar experience.

Recommendation 4:

Upgrading competency of consultant's resident site supervisors (inspector of works)

- 1. Amend the CIDB Act to allow for penalty for Main Contractor's licensed Builder (or Project Manager) and or Consultant's Resident Site Supervisor/s who are found guilty of an offence arising out of failure of buildings.
- 2. To specify in all local 'Standard form of Contract' on the number and level of qualification of the resident site supervisors needed to act for the consultants.

Recommendation 4:

Upgrading competency of consultant's resident site supervisors

- 3. To amend UBBL on all Form G except G2 to require relevant consultant's site supervisor/s to sign on the relevant Form Gs that he has supervised the project and that he takes responsibility on the portion of works he is connected with. (amendment to CIDB Act)
- 4. To amend CIDB ACT to make it a statutory requirement for site supervisor (both contractor's and consultant's) to be registered with CIDB. No one shall employ any deregistered site supervisors unless the registration has been reinstated.

Recommendation 5: Review Code of ethic of professionals

BEM to review their processes of Disciplinary Action against defaulting engineers including guidelines and regulations in a more effective manner and strengthen the duty of care provisions in the existing laws in relation to safety.

Recommendation 6:

Clearer delineation of responsibility of certain 'structure' drawing by architect and engineer

- 1. a declaration from both the boards that any drawing submitted to the local authority with structural element would be the responsibility of any of the submitting person concern.
- 2. The two boards review the 3 appendixes on the rights to submit building plans.

Recommendation 7: Enhance accountability of contractor

1. To amend CIDB Act to allow CIDB to act against the director and Site/Project Manager found responsible for the failure of a building with punitive action such as fine and suspension from any construction activity within a specified period.

Recommendation 7:

Enhance accountability of contractor

To introduce QBS (Quality Based System) process for the appointment of contractors and the use of 2 envelope systems of to technical and financial system evaluate bidders for the projects. For government projects, greater transparency system should be practiced whereby representatives from relevant organisations such as MBAM, ACEM, IEM or PAM be invited to sit on the tender board. The tender bids and successful bidders should be displayed for public viewing.

Recommendation 7: Enhance accountability of contractor

- 3. contractor shall engage Professional Engineer to design, endorsed and supervise all temporary works on site. Temporary works shall be given the same due respect in terms of safety.
- 4. all temporary works endorsed by Professional Engineers and submitted to DOSH shall be constructed strictly according to the submitted drawings.

CONCLUSION

- 1. Bad publicity to local industry due to recent spate of building failures.
- 2. To beef up professional standing of all stakeholders regain confidence of public
- 3. This position is only a general framework programs and initiatives will be developed

