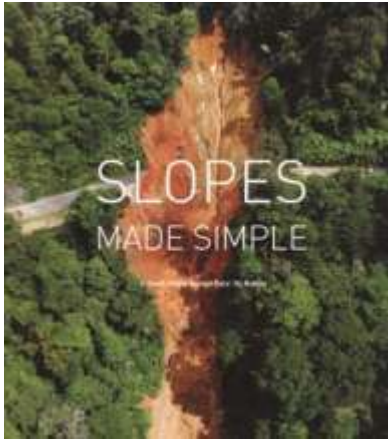


Slopes made simple

By KW Mak | 28 April 2010 | [Read \[4\] Comments](#) | [Print This Post](#)



DEVELOPMENT projects on hill slopes always draw the ire of residents living in the surrounding area. With the numerous stories of landslides and the lack of access to a developer's development plans, it is understandable that the public has little tolerance for such development projects. In far too many cases, hill slope development has resulted in the tragic loss of lives and damage to property.

But whether residents can present a good enough argument against a hill slope development depends on the information they have at their disposal.

For this reason, I am happy to recommend the book titled *Slopes Made Simple* by Sheikh Abdul Wahed Datuk Rahim.

Introduction and format

To the layperson, one landslide may seem no different from another since the result is a pile of rubble at the bottom of the slope. The book explains the different causes of landslides and the related technical terms in an easy-to-follow manner.

Technical issues involving slopes are introduced with simple graphics and step-by-step explanations. Each technical issue is broken down into its own chapter and is easily comprehensible.

The book also provides many examples of cause and effect resulting from good and bad practices involving slope design, construction and maintenance. Newspaper clippings and photos of actual slope construction and slope failures are used to great effect here.

Topics

Aside from the technical details of slopes, there are also chapters dedicated to all the various design factors that keep a slope from collapsing. These include drainage and retaining walls, and how they work or fail to work due to bad planning and design.

An entire chapter is dedicated to water as it is usually the main cause of soil erosion and landslide. With heavy Malaysian rainfall almost all year round, erosion and the added weight of water on a porous land embankment are some of the factors that must be considered and dealt with seriously.



Landslide at Hutan Pendidikan Bukit Gasing, April 2008 (Source: savebukitgasing.wordpress.com)

Tips on problem recognition and slope maintenance are provided, along with a pictorial guide on the telltale signs to look out for in the surrounding infrastructure. For example, the type of cracks in buildings, walls and roads that forewarn an impending landslide.

One particular chapter that I would like to excerpt concerns plastic sheets that we so often see around eroded hill slopes. The author warns that this exercise actually aggravates the erosion when sheets cover only part of the eroded surface. This is because water will not be absorbed into the ground. Instead, it will run off freely on the sheets and gather momentum as it hits the bottom, hence causing more widespread erosion.

Additionally, the book highlights the danger of not maintaining the support infrastructure around a hill slope development. Even if the support infrastructure is expertly designed and built, if it's not well maintained, it could become a catalyst in the future for a landslide.

It also bears remembering that the maintenance of a housing estate's infrastructure falls under the local council. Unfortunately, there is no proper inventory system to ensure that maintenance is carried out consistently. Hence, the public has every reason to be concerned about a hill slope development's safety many years after a developer has finished the job and moved on.

The fact that [local authorities](#) aren't liable for any loss of life or property damages because of a clause in the Streets, Drainage and Building Act doesn't help the situation, either.

Summary

Reading through the book has helped me appreciate the public insecurity and doubt over hill slope development projects. The numerous pictured examples of bad design and bad practices that result in landslides are staggering. Many of these examples involve federal government road projects. Indeed, if the authorities can be sloppy and do things wrongly, how can the public accept their safety assurances?



Damage caused by the Bukit Antarabangsa landslide on 6 Dec 2008 (Pic by Raj Kumar)

This is not to say that I am totally against hill slope development. Personally, I would propose a two-phase development for hill slope projects. The first phase would involve building the entire support infrastructure of drains and retaining walls.

Should the first phase be completed to the satisfaction of the public (residents should be provided funds by the local council to hire their own technical expert), the developer may then proceed with the next phase of development. The local council should also come up with a permanent maintenance schedule that can be double-checked by residents living in an area so their fears can be allayed.

Alas, my suggestions would probably increase the development cost many-fold, and property developers will no doubt protest. ■

MBPJ councillor [KW Mak](#) was not paid to promote *Slopes Made Simple*. Instead, he views this article as a public service announcement for residents who are keen to learn more about what causes landslides and take steps to prevent them. The book is available at most major bookstores and [online](#).

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4 Responses to “Slopes made simple”

1. [*Hwa Shi-Hsia*](#) says:
[April 28, 2010 at 10:35 am](#)

From the sample pages on the GEA website it looks like a very well-illustrated and laid-out book. I hate to say this in a negative way, but I’m surprised Malaysia can produce such an interesting-looking text about a relatively dry subject like engineering.

Yeah lah, coffee-table photo books about pretty things like wildlife or baju kebaya are one thing, but it takes real talent AND hard work to make educational books about “boring” subjects look cool. Will definitely consider getting it. Thanks for the review.

2. [*peter leow*](#) says:
[April 28, 2010 at 10:43 am](#)

Dear Editor,

Developments around hilly terrain have been well managed by Hong Kong (SAR) of China, and their experiences are very good models for Malaysians. [But] for too long, those who are entrusted to lead on this issue here have been not able to lead well.

[I am referring to] stakeholders [like] developers, local councils, buyers, related government agencies, and worst, the political leaders and law makers who [only do] ‘fire fighting’ [when] tragedies [occur] like the Bukit Antarabangsa slope failure on 6/12/2008, and the Highland Towers collapse in 1994.

Over the years, [we have] knowledge and experience BUT we [never learn] and never manage or minimise our problems. [It is so sad].

This kind of tragedy will repeat and keep on repeating. Good luck to buyers of hilly terrain developments.

Warmest regards,
Peter Leow

3. *Eriko Motoyama* says:
[June 9, 2010 at 12:09 pm](#)

The writer of the article did a nice summary on the contents of the book “Slopes Made Simple”. I just want to add one more thing regarding whose responsibility it is to take care of slopes.

Local authorities are not the sole caretakers. Depending on the situation, there are different owners and caretakers. For example, for a housing development: during construction and before CF handover, the developer is responsible for the safety of the slope. Once the developer hands over the housing development to the local authorities, all public property, including slopes, then goes under the care of the local authorities.

However, homeowners whose lot boundaries include slopes on their property are responsible for the maintenance. Thus such homeowners also have to take care of slopes.

Then there are institutional owners such as government agencies that also have slopes on their land. Likewise, they become responsible for their slopes.

The key to maintaining slopes is first to find out who is the owner. Then the onus is on the owner to carry out the slope maintenance. If they don’t and the slope shows signs of distress, it’s up to residents and the members of the public to point this out to the local authorities. It’s about your safety, so it’s worth it to make the effort of reporting it in.

4. *Babu* says:
[June 9, 2010 at 6:53 pm](#)

I am in total agreement with the author of this article.

“Slopes made Simple” explains the issues and especially the warning signs in an easy and useful manner. It really is a useful tool for all, not just those who live near slopes. We can all play our part in avoiding future disasters by simply understanding the processes involved.