

**立法會**  
*Legislative Council*

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**Panel on Development**

**Meeting on 10 November 2015**

**Background brief on landslip prevention**

**Purpose**

This paper provides background information on landslip prevention and summarizes the views and concerns expressed by Members at the meetings of the Legislative Council and various committees on the subject since the 2007-2008 legislative session.

**Background**

2. Following a number of landslide disasters in the 1970s, the former Geotechnical Control Office (now the Geotechnical Engineering Office ("GEO") of the Civil Engineering and Development Department ("CEDD")) was set up in 1977 to tackle the slope safety problem. To manage slope safety work, the Administration maintains records of man-made slopes in Hong Kong in its Catalogue of Slopes. It has also implemented the Landslip Preventive Measures ("LPM") Programme for over 30 years, from 1977 to 2010<sup>1</sup>, to deal with man-made slopes at relatively high risk in the Catalogue.

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<sup>1</sup> The Landslip Preventive Measures ("LPM") Programme was launched in 1977. In response to the Kwun Lung Lau landslide of July 1994, the then Works Branch conducted a Slope Safety Review which recommended, inter alia, speeding up the upgrading of substandard slopes and maintenance of slopes. This led to the 5-year accelerated LPM Programme from 1995 to 2000. A territory-wide review conducted between 1994 and 1998 registered more than 40 000 sizeable man-made slopes which had not been previously included in the Catalogue of Slopes. In view of the additional number of slopes identified in 1998, the Administration drew up an expanded 10-year LPM Programme to deal with the high-risk man-made slopes for commencement in 2000 and completion in 2010.

## **Landslip Prevention and Mitigation Programme**

3. After the completion of the LPM Programme in 2010, the remaining landslide risks mainly arose from man-made slopes with potential hazards that affected developed areas and natural slopes with known hazards which were close to existing buildings and important transport corridors. In this connection, the Administration launched a rolling Landslip Prevention and Mitigation Programme ("LPMitP") in 2010. Under LPMitP, the most deserving man-made slopes and natural hillside catchments are selected for studies each year in accordance with a risk-based priority ranking system. The necessary landslip prevention and mitigation works, as identified by the studies, are implemented under the programme. According to the Administration, LPMitP upgrades 150 government man-made slopes; conducts safety-screening studies on 100 private man-made slopes; and conduct studies and implements risk mitigation measures for 30 natural hillsides annually.

## **Views and concerns expressed by Members**

4. The major views and concerns expressed by Members on landslip prevention at the meetings of the Council and various committees since the 2007-2008 legislative session are summarized in the ensuing paragraphs.

### Effectiveness of the Landslip Prevention and Mitigation Programme

5. In deliberating LPMitP at a meeting of the Panel on Development in 2007<sup>2</sup>, members expressed concern about how the Administration would identify problematic slopes. Taking into consideration that LPMitP would deal with landslide risks from considerable number of man-made slopes and natural hillside catchments<sup>3</sup>, but the risk prevention and mitigation works would only be implemented for a limited number of them each year, some members opined that it would take a long time to complete the works under the programme. They considered that the Administration should maintain public awareness of landslide risks and alert the public of the likelihood of landslides at appropriate places.

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<sup>2</sup> The meeting was held on 18 December 2007 to discuss the details of the Landslip Prevention and Mitigation Programme.

<sup>3</sup> According to the Administration in December 2007, upon completion of the LPM programme in 2010, the remaining landslide risks would mainly arise from about 15 000 man-made slopes and 2 700 natural hillside catchments.  
(<http://www.legco.gov.hk/yr07-08/english/panels/plw/papers/dev1218-devbcrw115072-e.pdf>)

6. The Administration explained that a risk-based priority ranking system was used under LPMitP to determine the rankings of man-made slopes and natural hillsides, and landslide prevention works would be carried out in accordance with the priorities on the ranking list. In conjunction with LPMitP, the Administration would continue to provide public education to maintain public awareness of landslide risks. Information about the natural hillside catchments with previous failure would be uploaded on the slope safety websites. Warning signs would continue to be erected at appropriate places, which included slopes already included in the list for implementation of risk mitigation works and slopes in respect of which Dangerous Hillside ("DH") orders had been issued to the private owners concerned.

#### Maintenance responsibilities for private slopes

7. While LPMitP targets mainly at slopes in public areas, the maintenance of private slopes is the responsibility of the owners. When a private slope is found to be dangerous, the Buildings Department will serve a DH order to require the slope owner to investigate and if necessary to rectify the slope.

8. At a special meeting of the Finance Committee to examine the Estimates of Expenditure 2015-2016, questions were raised on whether the Administration would assist private slope owners who had difficulties in acting on DH orders by undertaking the remedial work required and then charging the owners for the works concerned.

9. The Administration advised that the relevant government departments had all along provided assistance to private slope owners to help them comply with DH orders. The GEO Community Advisory Unit had been providing outreach services to advise owners on how to proceed with slope maintenance works. The Comprehensive Building Safety Improvement Loan Scheme (also known as the Building Safety Loan Scheme) administered by the Director of Buildings could provide loans to individual owners who might wish to obtain financial assistance in carrying out works for improving the safety of their private slopes. If an owner did not comply with a DH order within a specified period of time, the Buildings Department might carry out the investigation and undertake the required repair or upgrading works, and subsequently recover the costs from the owner.

#### Landscape treatment of slopes

10. When discussing a funding proposal on landslip preventive works at a meeting of the Public Works Subcommittee in 2009, members opined that the

Administration should select suitable tree species for planting on slopes and should avoid the use of sprayed concrete to stabilize the slopes. The Administration advised that sprayed concrete was used only as a last resort for slope safety reasons and mainly as emergency repairs. Under LPMitP, landscaping works would be carried out alongside upgrading works for man-made slopes and risk mitigation measures for natural hillsides. Vegetation cover would be used as far as possible to make their appearance more natural and blend with the environment in their vicinity.

11. As regards the measures that the Administration took to encourage private owners to carry out greening work on their slopes, the Administration advised that CEDD had an on-going public education programme to promote safe and green slopes through measures such as operating a public enquiry hotline, publishing education materials, etc. There were also guidelines which included the methods and requirements of slope maintenance works for reference by private slope owners.

### **Recent development**

12. The Administration will brief the Panel at its meeting scheduled for 10 November 2015 on the recommendations of a review of LPMitP.

### **Relevant papers**

13. A list of relevant papers with their hyperlinks is at the **Appendix**.

**Landslip prevention**

**List of relevant papers**

Date of meeting	Committee	Papers/Minutes of meeting
18 December 2007	Panel on Development	<p><a href="#">Legislative Council Brief on Post-2010 Landslip Prevention and Mitigation Programme</a></p> <p>Minutes of the meeting [<a href="#">Minutes</a>]</p>
4 November 2009	Public Works Subcommittee	<p>Administration's paper on Head 705 – Civil Engineering - Public Safety – Landslide Prevention -- Subhead 5001BX – Landslip Preventive Measures [<a href="#">Paper</a>]</p> <p>Minutes of the meeting [<a href="#">Minutes</a>]</p>
24 February 2010	Council meeting	<p>A written question (No. 7) on expertise in slope stabilization and maintenance in Hong Kong [<a href="#">Hansard</a>, "page 5316"]</p>
20 October 2010	Council meeting	<p>A written question (No. 15) on factors of consideration in selecting tree species to be planted [<a href="#">Hansard</a>, "page 343"]</p>
11 May 2011	Council meeting	<p>A written question (No. 15) on management and maintenance of slopes [<a href="#">Hansard</a>, "page 10159"]</p>
15 February 2012	Council meeting	<p>A written question (No. 20) on landslip prevention and mitigation works [<a href="#">Hansard</a>, "page 5816"]</p>

<b>Date of meeting</b>	<b>Committee</b>	<b>Papers/Minutes of meeting</b>
27, 30, 31 March, 1 and 2 April 2015	Finance Committee	<a href="#"><u>Report on the examination of the Estimates of Expenditure 2015-2016</u></a>