

# Report No. 57 of the Director of Audit — Chapter 11

## SAFETY AND MAINTENANCE OF PRIVATE SLOPES

### Summary

1. Hong Kong has a mountainous terrain, with natural hillsides covering about 60% of the land area. Urban development over the years has resulted in the formation of a large number of man-made slopes. Both natural slopes and man-made slopes are prone to landslides, particularly during the rainy season. The Geotechnical Engineering Office (GEO) of the Civil Engineering and Development Department (CEDD) has the overall responsibility for slope safety. As of June 2011, 14,000 of the total 60,000 man-made slopes were private slopes, whose owners are responsible for the slope safety and maintenance. The Audit Commission (Audit) has recently conducted a review to examine the Government's measures for enhancing the safety and maintenance of private slopes.

#### **Promotion of private-slope maintenance**

2. Slopes without adequate maintenance may lead to landslides and cause casualties and damage to properties. In 1995, the GEO published the "Geoguide 5 — Guide to Slope Maintenance" which contained recommended good practices for the maintenance of man-made slopes for reference by government departments and private-slope owners.

3. *Maintenance surveys of private slopes.* The GEO conducts annual surveys of the maintenance conditions of 60 to some 300 private slopes to assess the effectiveness of its publicity campaigns on slope safety. In Audit's view, the survey results alone cannot reflect the effectiveness of the Government's publicity campaigns to promote slope maintenance. *Audit has recommended that the Director of Civil Engineering and Development should adopt additional appropriate methodologies for evaluating the effectiveness of the Government's publicity campaigns to promote slope maintenance.*

4. *Periodic opinion surveys on private-slope owners.* Audit examination revealed that, since its opinion surveys conducted in 1998 and 1999, the GEO had not conducted similar surveys on private-slope owners on matters relating to their slope maintenance. *Audit has recommended that the Director of Civil Engineering and Development should consider conducting such periodic surveys.*

5. ***Conduct of private-slope maintenance audits.*** In March 2001, the Administration informed the then Panel on Planning, Lands and Works of the Legislative Council (LegCo) that the GEO had planned to launch a new initiative of conducting maintenance audits on 1,200 private slopes a year, for the purpose of ascertaining the extent of private-slope owners' compliance with Geoguide 5. However, the CEDD did not proceed with the initiative. *Audit has recommended that the Director of Civil Engineering and Development should examine, in collaboration with the Secretary for Development, the cost-effectiveness of conducting private-slope maintenance audits.*

### **Safety-screening studies of private slopes**

6. The GEO conducts safety-screening studies of private slopes. For a private slope that is found to be dangerous or liable to become dangerous, the GEO will make a recommendation to the Buildings Department (BD) for issuing a Dangerous Hillside Order (DHO) under the Buildings Ordinance (BO — Cap. 123) to the slope owner, requiring him to conduct investigations and carry out necessary remedial works.

7. ***Information in LegCo papers.*** In 2010, the GEO launched the Landslip Prevention and Mitigation Programme (LPMitP) to dovetail with the Landslip Preventive Measures Programme (LPMP). However, in the paper submitted to the LegCo Panel on Development in November 2007 introducing the LPMitP, the paper only stated for Members' information the planned annual output under the LPMitP (including safety-screening studies for 100 private man-made slopes), but not that under the LPMP (including safety-screening studies for 300 private man-made slopes). *Audit has recommended that the Director of Civil Engineering and Development should, in collaboration with the Secretary for Development, endeavour to provide more pertinent information of a previous related programme in future submissions to LegCo on the introduction of a new programme.*

8. ***DHO recommendations made by GEO.*** Audit examination revealed that the GEO on average took 15 months to make recommendations to the BD for the issue of DHOs to the owners of a private slope, from the time of receiving a safety-screening study report from a GEO consultant. Audit noted that the GEO had not set a time target on the issue. Audit also noted that the GEO, the BD and the Lands Department took a long time to determine the slope maintenance responsibilities for issuing DHOs to private-slope owners. *Audit has recommended that the Director of Civil Engineering and Development should: (a) review, in collaboration with the Director of Lands and the Director of Buildings, the long time taken for determining the slope maintenance responsibilities; (b) expedite action to make recommendations to the Director of Buildings for issuing DHOs for the long outstanding cases; and (c) consider setting a time target for making recommendations to the Director of Buildings for issuing DHOs to private-slope owners.*

9. **Issue of DHOs.** The BD has set a target that it should issue a DHO to a private-slope owner within three months of the date of receipt of a recommendation from the GEO. However, Audit examination revealed that, from January 2005 to June 2011, 79% of the 510 DHOs issued by the BD exceeded the three-month target. *Audit has recommended that the Director of Buildings should: (a) review the long time taken for issuing DHOs after receiving recommendations from the GEO; and (b) expedite action to issue DHOs to private-slope owners of the long outstanding cases.*

### **Administration of Dangerous Hillside Orders**

10. As specified in a DHO, the BD allows a private-slope owner to appoint a consultant in two months, and another five months to conduct an investigation and submit a works proposal to the BD for approval. If the owner does not carry out the required tasks by the dates specified in the DHO (specified dates), the BD may, under the BO, carry out the investigation and any subsequent works (default works) and recover the costs plus supervision charges from the owner. Furthermore, if the owner fails to comply with the DHO without reasonable justifications, he may be subject to prosecution.

11. **Publishing performance targets.** As at 31 March 2011, there were 724 outstanding DHOs with specified dates for action having elapsed. Audit examination revealed that the specified dates of many of these cases had elapsed for a long time, with 14% for more than eight years. Audit also noted that the BD did not publish on its website information on its performance on clearance of outstanding DHOs. *Audit has recommended that the Director of Buildings should: (a) expedite action to deal with long outstanding DHO cases with a view to clearing them as early as possible; and (b) publish targets and actual performance against targets on clearance of outstanding DHO cases.*

12. **Time for enforcement action.** Audit examination revealed that, as at 31 March 2011, in some of the 38 outstanding DHO cases with prosecution taken against the slope owners, the BD only commenced prosecution action a long time after the issue of DHOs, with 32% more than four years. Audit also noted that, in some of the 56 outstanding DHO cases with default works in progress, the BD only commenced action to carry out default works a long time after the issue of DHOs, with 18% more than six years. *Audit has recommended that the Director of Buildings should: (a) consider taking prosecution action or carrying out default works on long outstanding DHO cases at an earlier time; and (b) conduct a review of BD internal guidelines to clearly specify the time and circumstances for taking prosecution action and carrying out default works after the issue of DHOs.*

13. ***Assistance provided for meeting DHO requirements.*** The GEO has set up the Community Advisory Unit (CAU) to provide assistance and advice to private-slope owners on carrying out slope maintenance and upgrading works. However, Audit noted that the number of DHO cases with slope owners approaching the CAU for assistance decreased from 59 cases in 2001 to 4 cases in 2010. Furthermore, the BD has provided loans through a loan scheme to individual owners of private buildings who wish to obtain financial assistance in carrying out works for improving the safety of their buildings and/or private slopes. However, Audit examination revealed that there was on average only one loan application a year for slope works related to DHOs in the past ten years. *Audit has recommended that the Director of Civil Engineering and Development should conduct a review of the significant reduction in the number of slope owners approaching the CAU for assistance. Audit has also recommended that the Director of Buildings should conduct a review of the low loan application rate for slope works related to DHOs under the loan scheme.*

#### **Management of default works on private slopes**

14. In relation to the execution of default works for a private slope, the BD will appoint an engineering consultant by tender for conducting an investigation and preparing a detailed design of the slope works, and issue a works order to a term contractor for carrying out the works. The BD has set a target that default works for a private slope should be completed within 44 months.

15. ***Completing default works.*** Audit noted that while the time target set for a slope owner to appoint a consultant for slope works was 2 months, that for the BD for default works was 5 months. Similarly, while the time target for a slope owner to complete the design work was 5 months, that for the BD was 20 months. Furthermore, Audit examination revealed that, as of March 2011, 67% of the 18 completed default works cases (under the consultancies awarded from January 2000 to March 2011) exceeded the BD's 44-month time target (see para. 14). *Audit has recommended that the Director of Buildings should: (a) conduct a review of the differences in the time targets set for private-slope owners and for the BD relating to the appointment of consultants and completion of design work for slope improvement works; and (b) strengthen controls over the execution of default works with a view to ensuring that they are completed within the BD's time targets as far as possible.*

16. ***Appointment of consultants.*** The BD has set a target that it should appoint a consultant for a default works case within five months. However, Audit examination revealed that, as of March 2011, the time taken for 9 of the total 15 default works cases (for which the BD was taking action to appoint consultants) already exceeded the five-month target, with extra time taken ranging from 1 to 14 months. *Audit has recommended that the Director of Buildings should expedite action on appointments of consultants for default works.*

17. ***Controls over performance of consultants and term contractors.*** Audit examination revealed that, for execution of default works by consultants, the BD did not fully comply with its guidelines on holding monthly meetings with the consultants, and issuing written warnings to and adverse performance reports on them. Audit also noted that the BD did not fully comply with its guidelines on compiling quarterly performance reports on term contractors, issuing adverse performance reports on them, and conducting site visits and site audits. *Audit has recommended that the Director of Buildings should take measures with a view to ensuring that the BD's monitoring guidelines on the performance of consultants and term contractors are complied with.*

### **Recovery of costs of default works**

18. Upon completion of a default works case, the BD will finalise the account of the works and issue demand notes to the slope owners for recovering the costs. For a slope owner who does not promptly settle a demand note, the BD will serve him with a certificate under section 33 of the BO (s.33 certificate), and register the certificate with the Land Registry (LR). The BD may also refer appropriate cases to the Department of Justice for taking debt recovery action.

19. ***Time targets for cost recovery actions.*** The BD has set targets that it should issue a demand note to a slope owner within six months of completion of a default works case, and register an s.33 certificate with the LR within four months of issue of a demand note. However, Audit examination revealed that, as at 31 March 2011, of the 34 completed default works cases with demand notes issued and s.33 certificates registered, 79% exceeded the six-month target for issue of demand notes, and 88% exceeded the four-month target for registering s.33 certificates. Audit also noted in many cases that the delays in issuing demand notes were attributable to the long time taken by contractors and consultants to submit final accounts of default works. *Audit has recommended that the Director of Buildings should take measures to ensure that: (a) BD targets on issuing demand notes and registering s.33 certificates with the LR are met; and (b) contractors and consultants promptly submit final accounts of default works to the BD.*

### **Response from the Administration**

20. The Administration agrees with the audit recommendations.

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