

Selection of appropriate landslide mitigation measures - LaRiMiT

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There are several ways to mitigate the landslide risk and using physical measures to reduce the hazard or the landslide consequences may be one option. However, the selection of the most appropriate mitigation measure is a complex process depending on many factors, including the characteristics of the expected landslide event (type, intensity) and economic, environmental, and social constraints of the affected site.

In order to help the practitioners in selecting appropriate landslide mitigation measures, a dynamic web-based portal called LaRiMiT (Landslide Risk Mitigation Toolbox) is developed by Norwegian Geotechnical Institute within the Norwegian research project Klima2050 (www.klima2050.no). The selection criteria is based on user inputs and expert scoring of an extensive expert-based set of candidate mitigation measures. Users are allowed to remotely input site-specific information related to landslide characteristics (type and depth of movement, material, rate of movement) and site features (groundwater and surface conditions), as well as, optionally, a comparative assessment of the relevance of potential impact on the physical, economical, institutional, environmental, cultural and societal vulnerable assets.

The portal provides users with a hierarchized list of mitigation measures based on their inputs and on expert-assigned scores and ratings for each candidate mitigation measure. Scores and ratings are retrieved from a database which can be dynamically and continuously updated remotely through the portal by a panel of experts.

At the time being a total of approximately 80 mitigation measures are included in LaRiMiT. These are grouped into 11 categories depending on the physical contribution they give to the landslide mitigation, 8 of them are active types of measures (methods for ground stabilization to reduce the hazard) while 3 of them are passive types (methods for controlling the landslide movement to reduce the consequences). Of special interest are the mitigation measures grouped into two new categories related to the Nature Based Solutions.

The types of mitigation measures included in LaRiMiT will be presented in more detail. A demonstration of the web page will also be included.