BULLETIN of the International Association of ENGINEERING GEOLOGY / de l'Association Internationale de GEOLOGIE DE L'INGENIEUR N° 17 45 KREFELD 1978

RENGERS N., I.T.C., Enschede, The Netherlands

I would like to ask some more information from Mrs. Radbruch-Hall about one of the interesting aspects of her panel report. She showed us the map of the USA, on which were not only plotted the areas of landsliding and other mass-movement, but also those areas which are susceptible for landsliding, etc.

My questions are the following:

1. Which are exactly the criteria, on which the determination of susceptibility for landslides, etc. is based?

2. There is no question about the usefulness of the landslide incidence mapping for a complete country as the USA, but what does Mrs. Radbruch-Hall expect to be the engineering geological importance of the susceptibility map that she has just shown us?

Mr. Chairman, I hope Mrs. Radbruch-Hall will do us the favor to treat these aspects in some detail in the printed proceedings of this symposium, which will be published in the Bulletin of the IAEG.

Reply by

RADBRUCH-HALL D.H., U.S. Geological Survey, Menlo Park (Calif.), U.S.A.

1. The criteria on which the susceptibility for landslides is based, as shown on the landslide overview map of the United States, is as follows:

a. Existence of landslides. At no place on the map was it assumed that susceptiblity was l o w e r than the incidence category indicated. For example, where incidence is high, susceptiblity was also assumed to be high. One reason for this assumption is that existing landslides generally indicate natural conditions that are favorable for landslides; moreover, if existing landslides are disturbed by the activities of man, they commonly are reactivated, unless special measures are taken to prevent movement.

b. Known performance of certain earth materials. In some map units or formations, susceptibility is known to be very high although incidence is low, for example where flat areas are underlain by the Pierre Shale in the northern Great Plains. In such areas the susceptiblity may be two categories higher than the incidence.

2. The susceptiblity to landsliding, particularly where it is higher than the incidence of landsliding would indicate (see above), is of great use in planning construction, especially excavations. Without such a map, planners and contractors might assume that because an area is flat, they would have no problems with slope stability, whereas deep excavations in formations susceptible to sliding may be very troublesome, dangerous, and costly.

THEME 3

Assessment of the effectiveness of corrective measures in relation to geological conditions and types of slope movements
Experiences with corrective measures applied to slope movements

Evaluation de l'efficacité des mesures de stabilisation par rapport aux conditions géologiques et aux types des mouvements du terrain
Expériences acquises par l'exécution des mesures de la stabilisation

BULLETIN of the International Association of ENGINEERING GEOLOGY / de l'Association Internationale de GEOLOGIE DE L'INGENIEUR N° 17 45-46 KREFELD 1978

E r r a t a

General Report on Theme 3:

ASSESSMENT OF THE EFFECTIVENESS OF CORRECTIVE MEASURES IN RELATION TO GEOLOGICAL CONDITIONS AND TYPES OF SLOPE MOVEMENT

by

J.N. HUTCHINSON

(published in Bull. IAEG No. 16, 131-155, 1977)

Page	Corrected version
133, 2 j), line 8:	affects
133, 3 c), line 8:	$\tan^{-1} \frac{(\tan \phi')}{F} = \phi'_{mob}$
134, 5, Line 8:	though
135, Righthand column, 3 lines up from bottom of page:	F_1 = ...(not F_i)
135, Righthand column, bottom line:	ϕ' (not Φ') (occurs twice)
136, Lefthand column, line 5:	Then $\sin a_n = (1-\bar{B})\ M_{1\,n} \frac{\tan \phi'}{F_0}$ (not M_{i_n})

Page	Corrected version
136, Lefthand column, line 6:	$\ldots . M_{1n} = M_{On}$ ..... (not M_{i_n})
136, Righthand column, line 2 (after Fig. 3 caption):	appropriate
141, Righthand column, (ii), line 2:	$h_{av} = \frac{h_d B + \bar{h} S}{A}$
142, Lefthand column, line 3 (after caption to Fig. 11):	$h'_{av} = h_{av} \cos^2\beta$ ......
142, Lefthand column, line 5:	$\bar{h}/h_o$ (not $\bar{h}/ho$) and S/h_o (not S/h)
142, Lefthand column, line 7:	$\frac{\bar{h}'}{h'_o} = \frac{\bar{h}}{h_o}$ and $\frac{h'_m}{h'_o} = \frac{h_m}{h_o}$
142, Lefthand column, final line:	$\bar{\eta} = \frac{h'_o - \bar{h}'}{h'_o} = \frac{h_o - \bar{h}}{h_o}$
143, Caption to FIg. 12, penultimate line:	$R_k \neq 1.0$
144, Righthand column, 18 lines up from bottom:	This is of special.....
144, Righthand column, bottom line (excluding footnote):	m/sec (not cm/sec) (occurs twice)
146, Caption to Fig. 15, 1st line:	Cross-section X-X of......
146, Fig. 17:	14 Dec 1976 (not 66)
152, References:	AYRES D.J. (1961): The treatment of unstable slopes and railway track formations. J & Trans. Soc. of Engrs, 52, 111-138.
153, References, EAST G.R.W. line 4:	Nelson (not Nelwon)

Contributions/Communications

BULLETIN of the International Association of ENGINEERING GEOLOGY de l'Association Internationale de GEOLOGIE DE L'INGENIEUR N° 17 46–48 KREFELD 1978

EFFICIENCY OF DRAINING AND RETAINING STRUCTURES FOR LANDSLIDE CONTROL

L'EFFICACITE DES OUVRAGES DE DRAINAGE ET DE SOUTENEMENT POUR LA PREVENTION DES GLISSEMENTS DE TERRAIN

BILEUSH A.I., Institute for Municipal Economy, Kiev, USSR

Summary:

The values of the increase in the slope safety factor produced by draining and retaining structures are considered to be an efficiency index of these structures. The relationships for estimating and choosing effective landslide control structures are proposed.

Résumé:

L'efficacité des ouvrages de drainage et de soutènement est définie par l'amélioration du coefficient de stabilité de la pente, obtenue grâce à leur construction. On propose des relations pour l'évaluation et le choix des ouvrages de protection efficaces contre les glissements de terrain.