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Natural hazardmanagement in the Wagrainer valley (Salzburg / Austria)

High water-protection and slope-stabilization as well as their Monitoring

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In the hazard-zone map of the district-capital St. Johann in the Pongau is for numerous of buildings a big high water - and debris flow danger through the Wagrainer Ache documented.

Furthermore, annually big set-tongues were registered with the Wagrainer Landesstraße. This street-piece, as important inner-Austrian East-west-connection, leads through the graywacke zone. The slopes are a mass-movement still in active movement. In the near of St. Johann this slopes are densely populated. Several residences and the Landesstraße show bigger damages since decades.

On reason of the endangering through debris flow, high waters and landslide was from the Austrian Service of torrent and avalanch controll in 1993 an extensive protection-project worked out. After his transaction the endangering could become essentially reduced.

Five check dams were erected in the individual up to 20 m high and four bed sills in order to get a bed aggradation and to give the slope a toe. In the relatively flat, extensive deposition zone behind the check dams, the energy of high water and debris flow decreases itself and a accumulation of big sediment and woody debris takes place.

In the deposition zone became biological measures, through which can refine through natural Sukzession niches for different creatures, enforced.

Furthermore will enforce intensive drainage-measures to the slope stabilization in the hillsides. It had to become guarantee that all sources were grasped and loss-free that receiving channel are supplied. That this is difficult because the solpes are relatively steep and the hydro-geological unclear terrains, lies on the hand. The drainage developed in the Gebietsbauleitung Pongau with steel-shafts, that has proven itself very well, was used.

At present, one tries to find a geologically hydrological model, that the effectiveness of the executed precautions appraises and can recognize possible source of danger in time, in order to have a corresponding Monitoringsystem for the future to the disposal.

The lecture will comprise following main focuses:

- Representation of the nature realities
- Details of the protective measures (check dams and drainages)
- Monitoring
- Outlook on future measures