

## VAL POLA LANDSLIDE

Observation point: from the path, crossing the crown of the landslide.

In this section of the route, the path climbs up, crossing the upper part of a wide bared scar, more than 700 m large; it deeply cuts Mount Zandila slope, reaching downward the valley floor, here characterized by a flight of steps shaped in gravels.

They are the remnants of a catastrophic landslide, one of the biggest in the Alps during last century; it occurred in 1987, 28 July, after a period of heavy rainfall.

The pre-collapse slope showed a high scarp parallel to it, connected with an older landslide and with upslope trenches widely opened; all the area was affected by deep-seated slope deformation due to gravity, loss of lateral glacier support during Olocene deglaciation and perhaps thawing of permafrost at the higher altitudes.

In the days before the collapse, at 2200 m of altitude, open progressively a fissure more than 600 m long, widening up day by day; the alert was set, and the villages around were completely evacuated, up to S. Antonio Morignone. Meanwhile, a debris flow fan coming from local Pola creek dammed the main Adda river valley, ponding the area upstream.

The final collapse started at dawn, with a huge rock slide moving slowly down from the fissure at 2200 m a.s.l.; it impacted against the left side of Val Pola creek, and changed into a rock avalanche falling towards Adda river at velocities up to 400 km/h. It climbed 300 m up the opposite side of the main valley, before splashing back into the muddy pond. The consequent up to 95 m high wave run upstream for about two kilometers, destroying everything on its way. In a few minutes, it reached and swamped Aquilone, the first village unfortunately not completely evacuated: here, 27 peoples were killed.

The debris mass - something like 3 million of cubic meters of blocks, gravel and mud, with a maximum thickness of 90 m and scattered through an overall length of 2 km - created a new quickly rising lake, and in the days after much work had to be done to prevent it from breaking down the natural dam, flooding the whole valley downstream.

The bare gravels that you see now in the valley floor are the results of all these works, after the lake was definitively discharged and ran dry.

Actually, Val Pola Landslide never has to become a touristic attraction. For geologists and related technicians, it was considered in some way as a success in prevention of landslide risk, for it was well monitored and alert was set just in time before the collapse. But nevertheless, 27 peoples died. Val Pola landslide has to be considered as a first, important, step towards a complete understanding and prevention of this kind of catastrophic phenomena, in order to obtain in the future that no one, nor a child, neither a woman or a man, will die for them.