

EDITORIALE

LEADER

by

PROF. GABRIELE SCARASCIA MUGNOZZA

Scientific Editor-in-Chief

LAND MANAGEMENT & GOOD GOVERNANCE

In this leader article, I will deal with two events involving very topical geological risks and apparently unrelated to each other.

The first concerns the floods that affected a wide area along the border between Germany, Belgium, and the Netherlands in mid-July of this year. On 14 - 15 July 2021, about 150 mm of rain fell in less than 12 hours over North Rhine-Westphalia and Rhineland-Palatinate, as well as in nearby areas of Belgium and the Netherlands. This record rainfall put a huge strain on the entire fluvial network of the affected area, triggering the flooding of many rivers and several landslides. The event claimed the lives of about 200 people and caused major damage to built-up areas and infrastructure. Media coverage of the disaster was focused on tragic scenes of death and destruction, especially in the village of Schuld, along the banks of the river Ahr, in Germany.

The media ascribed the cause of the event, with absolute certainty, to climate change. The front pages of some daily newspapers were dominated by headlines referring to the deadly effect of climate change as the sole culprit of the disaster.

A careful analysis of the event and related images (in particular aerial and satellite images) showed that, in almost all cases, especially in the village of Schuld, the epicentre of the disaster - the homes devastated and swept away by the flood wave - was located in the floodplain of the river. To make matters worse, a great part of the village of Schuld lies within a meander of the Ahr. Owing to the rapidly increasing discharge of the river, the so-called meander cutoff (a phenomenon very common in the evolution of fluvial networks and well known by experts of fluvial geomorphology or hydraulics) failed to occur. Furthermore, the presence of numerous bridges caused water overflow and subsequent flooding of the area bounded by the meander.

As I pointed out in a recent leader article, climate change - and its repercussions on our lives and our future - has become a kind of “alibi”, i.e. the tendency to invoke climate change as the single cause of all the disasters recently induced by extreme events. I have no intention of questioning the global and tragic

issue of the progressive warming of the planet Earth, as demonstrated by countless studies, investigations, and observations. However, as patently shown by the media coverage of these recent events, increasingly often we get the impression that people neglect the primary cause of the damage and casualties resulting from catastrophic rainfall and floods, i.e. the dramatic increase in the “risk exposure” of human lives and property, a phenomenon that has become beyond control in recent decades, even in a country like Germany, which is often mentioned as an example of good governance in land management.

The second event is the fifth anniversary of the seismic sequence that ravaged central Italy from 24 August 2016 to 18 January 2017, including the highest magnitude (Mw 6.5) earthquake that took place in Norcia on 30 October 2016.

Five years later, in spite of the efforts undertaken by central government and the local governments of the four affected regions (Lazio, Abruzzo, Umbria, and Marche), the reconstruction of the urban areas most damaged (or destroyed, such as Amatrice, Accumoli, and Arquata del Tronto) by the earthquake, as well as the restoration and seismic retrofitting of damaged structures and buildings, still lags behind schedule and even behind local communities’ expectations.

One of the main reasons for all the delays is the near total lack of or the failure to put in place land use planning instruments, as envisaged by the applicable legislative/regulatory framework. Today, the lack of these fundamental elements of knowledge for a sound, far-reaching, and locally sustainable reconstruction process is self-evident. These instruments include, for instance, hydrogeological restoration plans and seismic microzoning maps. It is only as result of the above-mentioned 2016–2017 seismic sequence that documents and maps are being updated (or at times rewritten/redrawn) to support both land use planning and emergency response.

As is obvious, the theme linking the above two events is prevention, the only approach to mitigate geological risks. Prevention and good governance in land management bring to my mind

the famous fresco panel “*Effects of Good Government in the Country*” by Ambrogio Lorenzetti, located in Siena’s Palazzo Pubblico: one of the masterpieces of the Italian Renaissance (Fig. 1). It is also by inspiration from the image posted below, which is part of Loren-

zetti’s “*Allegory of Good and Bad Government*”, that I would like to renew the appeal that prevention actions should play an increasingly important role in the strategy to mitigate the risks due to the so-called natural disasters.



Fig. 1 - Ambrogio Lorenzetti: *Effects of Good Government*. Palazzo Pubblico, Siena