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EDITORIALE

LEADER

by
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ANNIVERSARIES AND REMEMBRANCE

Fifty years ago, on 6 May 1976, at 9:00 pm, a region of northern Italy, Friuli Venezia Giulia, was hit by an Mw 6.5 earthquake. About 120 towns and villages, including Buia, Gemona, Osoppo, and Tarcento were devastated. The epicentral area covered roughly 5,000 km^2; 965 people were killed and 3,000 were injured. Around 17,000 homes were destroyed and nearly 200,000 people were left homeless. In addition to damage to buildings and infrastructure, numerous landslides were recorded; they were triggered by the shaking, and caused extensive direct and indirect damage, including road closures and disruptions to other lifelines (for this reason, we have chosen to use an image showing the effects of the 2016 seismic sequence in central Italy on the cover of this issue). The mainshock was followed by an extremely high number of aftershocks; the strongest occurred more than four months after the beginning of the sequence, on 11 and 15 September 1976, with intensities comparable to that of the 6 May mainshock, with further severe damage, additional destruction, and some casualties.

The Friuli earthquake marked a watershed in the history of so called natural disasters in Italy and in their management, in both emergency and reconstruction phases. This was due in particular to several concurrent factors, which I would like to comment on by recounting what happened.

In the hours that immediately followed the earthquake, rescue efforts were entirely spontaneous. Neighbours dug with their bare hands, farmers used tractors as makeshift cranes, and priests turned the still standing parish houses into improvised emergency care and support centres. In one way or another, local communities managed to organise the very first emergency response on their own, while waiting for the official search and rescue teams to arrive. Once the first few hours had passed, the time needed to appreciate the extent of the damage and of the affected area, the national government appointed a special commissioner with broad powers: the Undersecretary of the Interior, Giuseppe Zamberletti. From that moment on, the two phases of emergency response and reconstruction moved forward swiftly and without pause, thanks to the strong sense of community and solidarity among the people of Friuli and to Zamberletti's resolute and knowledgeable leadership. Indeed, although the subsequent shocks in September caused further damage and collapse and, above all, drained the energies of many people already exhausted by the first earthquake, the reconstruction of Friuli still stands as an example of community-driven disaster recovery. Nowadays, the terms resilience and resilient communities are widely used, sometimes even in entirely improper ways; yet the reconstruction of Friuli after the 1976 earthquake remains a benchmark and a widely recognised model of resilience.

The tragic experience of Friuli is significant not only because of the material reconstruction and the strengthening and development of the region's social and economic fabric. That tragedy served as a warning from which Italian policymakers were able, despite numerous and regrettable legislative delays, to learn, eventually managing, after a few years and other disasters (the Irpinia earthquake of 1980 and the Vermicino tragedy in 1981, in which a child, Alfredo Rampi, died after falling into a well near Rome), to write a new chapter in the history of natural disaster prevention in Italy. All this was made possible thanks to Giuseppe Zamberletti's vision and foresight. As a Commissioner, he succeeded in convincing national institutions (Government and Parliament) of the need for a national civil protection system provided not only with the organisation and resources required to respond rapidly to disasters, but also with the capability to adopt effective risk prevention measures. This led to the creation of the Civil Protection Department, which was eventually placed under the direct authority of central government. Today, the national civil protection system remains one of the best examples at international level. However, Zamberletti had another strategic insight: the establishment of a commission of experts tasked with providing technical and scientific support to the Government in its decisions concerning the forecasting and prevention of natural and technological risks, the so called Major Risks Commission.

Zamberletti's teaching can be summed up in these few lines of his: *Friuli made clear that Civil Protection could not be confined to emergency response, but had to extend to prevention as well… Prevention remains the most challenging issue… Unfortu-*

nately, a culture of prevention is hardly taking root in the country because it always entails economic costs, including for private citizens. People often lack a real perception of the usefulness of such investments… There is a genuine cultural battle that must be pursued. The national education and information systems should commit themselves to ensuring that a culture of prevention can finally become part of everyone's shared heritage."

This is a lesson that is more relevant today than ever.

In keeping with the anniversaries of "natural disasters", this year also marks the 70th anniversary of the Vasto landslide (Abruzzo, Italy). In February 1956, an entire section of that Adriatic coastal town was swept away by a massive landslide that destroyed numerous buildings and radically altered the local topography, from the town's built-up area all the way to the shoreline, and even beyond, beneath the surface of the sea. A further landslide followed in August of the same year. Fortunately, there were no casualties, but more than 100 houses were evacuated, and various public buildings (including the central post office) as well as churches were destroyed.

What is particularly interesting is that these landslides occurred on the same slope that, in April 1816 (210 years ago), was affected by an even larger and deeper landslide, according to the extremely detailed account written by the physician and historian Luigi Marchesani and included in his volume *Storia della città di Vasto.* These phenomena remind us that similar landslides, extending over several square kilometres and reaching depths of more than 100 metres, recur along the Adriatic coast. Indeed, in February of this year, a landslide of the same type was reactivated in the area of Petacciato. Petacciato is a village in Molise, located a few dozen kilometres south of Vasto, and having geological and geomorphological features similar to those of Vasto.

To conclude this leader, this issue also commemorates a prominent figure in the national and international landscape of Engineering Geology and Geotechnics: Professor Vincenzo Cotecchia, whose centenary was celebrated last year. Since the author of the relevant article in this issue is his daughter Federica, currently Professor of Geotechnics at the Polytechnic University of Bari, her tribute is both an intimate remembrance, rich in personal anecdotes, and a contribution dense with technical and scientific insights. All these elements highlight the remarkable personality and the substantial contribution that Vincenzo Cotecchia offered to the development of engineering geology and geotechnics, from the post–Second World War reconstruction through to the early 2000s. It was a particularly fruitful contribution, considering that his work was focused not only on southern Italy (the so called Mezzogiorno), but also resonated widely at both national and international levels. Indeed, Vincenzo Cotecchia was a leading figure, both academically and professionally, in the international community of Engineering Geology and Geotechnics, holding important positions within major international associations in the field. For this reason, as Editor in Chief, I am grateful to Federica Cotecchia for choosing to publish this remembrance in our journal. The article is drawn from the conference *Scienza e tecnica al servizio dell'avanzamento della conoscenza nel campo della Geologia Applicata: il ricordo del Prof. Vincenzo Cotecchia*, organised by the Italian Group of the International Association for Engineering Geology and the Environment at the University of Bari on 11 February 2026.