

SUMMARY

Natural disasters do not respect settlement borders, as shown by the catastrophes caused by torrents and avalanches in the past few years, and above all, by the flooding disaster of August 2002. Even though it is possible to take extensive measures to prevent natural catastrophes and to minimize the risk potential, there are limits to what can be done to plan ahead. Thus, increasing incidents of flooding, avalanches and mudslides are threatening settlement areas and economic regions, and the people who live there.

Moreover, a number of factors are growing in influence such as scarcity of land for settlements, the tendency of increasing consumption of space and the entailing loss of natural retention areas. It is usually only when catastrophe hits that we see how far the land use in risk zones has advanced.

Spatial planning plays a crucial role in protection against natural disasters. The natural catastrophes of the past few years call for a generally accorded mode of procedure by all of the relevant expert bodies to take measures to prevent natural hazards. In addition to spatial planning, water management and forestry regulation are of crucial significance. According to the Austrian Constitution, these sectors are governed by law at several levels of competence: the relevant legislation is passed by the federal government and by the Land. Achieving closer cooperation among the players in spatial planning, management of protected waters, and protection against torrents and avalanches is a priority goal.

Overall, the way we deal with natural disasters has changed and this fact has become apparent in the recent past. Up to now, the protected objects were exclusively human settlements and other land uses in all of their manifestations. However, there is a growing awareness that nature with its risk potential also needs space. Thus, we have two important objectives: first, the goal of protecting human beings and land use against natural disasters, and second, the space required by nature, which will require a new culture of dealing with natural disasters in the future.

A closer look at the options for action of spatial planning in connection with natural disasters shows the legal framework is of critical significance for protection against natural hazards. This involves the influence of the various sets of legislation at the federal, Land and municipal levels.

The expert opinion **“Natural Hazards in Austrian Spatial Planning Law”** (*Naturgefahren im österreichischen Raumordnungsrecht*) by Dr. Arthur Kanonier (TU Vienna) investigates spatial planning legislation with respect to natural hazards in the relevant legislation of the *Länder*. The investigation reveals that the spatial planning and regional development legislation of the *Länder* regulates planning for natural disasters in a number of different manners, with the most important one being the attempt to achieve protection against the forces of nature by enforcing bans and restrictions on the use of risk zones.

Based on the legal provisions of the spatial planning legislation of the *Länder*, the expert opinion **“Preventive Spatial Planning Against the Consequential Damages of Natural Disasters”** (*Präventive Raumordnung gegen Folgeschäden aus Naturkatastrophen – PROFAN*) (prepared by the Austrian Institute for Regional Studies and Spatial Planning – *Österreichisches Institut für Raumplanung*, *ÖIR*, and by Regional Consulting) investigates the requirements for planning and the procedures for reaching accords under applicable legislation in the areas of spatial planning, management of protected waters and the construction of barriers against torrents and avalanches; it also makes recommendations with respect to the optimal use of living space, how to reduce potential damages and enforce preventive planning. The focus of the investigation was on the permissibility of land use in the regions concerned and the options available to avoid future flooding damages in built-up areas or areas zoned as building land. Furthermore, the study lists some options for reducing the potential risks and damages to settlements and infrastructure threatened by natural hazards.

The results of the two expert opinions and other studies conducted within the scope of the ÖROK project “Spatial Planning and Natural Hazards” have been compiled in the new **“ÖROK Recommendation No. 52 on Preventive Measures in Spatial Planning for Natural Hazards”**. This recommendation concentrates on common prevention and risk-reducing strategies and contains an overview of possible forms of action from the perspective of the experts for the construction of barriers for torrents and avalanches, the management of protected waters and spatial planning.

It stresses that preventive planning requires an assessment and presentation of the overall conditions

and measures as well as the risks and potential for damages to settlements, business facilities and infrastructure.

The recommendations comprise, among other things, planning documents, the area of coordination and cooperation as well as the application of other legal instruments of relevance for the prevention of natural disasters. Their implementation is based on the following considerations:

▲ High priority is assigned to risk avoidance as a task of supraregional and local spatial planning as well as the protection of settlement zones from natural hazards, and is defined as a binding goal when formulating regional spatial planning and development programmes, local development schemes, zoning and building regulation plans.

▲ There are huge discrepancies in the materials and data required for spatial planning due to the enormous differences regarding availability in digital form, processing status and processing time of missing, incomplete or outdated risk zone plans and high water marks; the processing of the materials and data is to be speeded up, completed and updated.

▲ Furthermore, a new instrument for securing floodplains (inflow, outflow and retention spaces in a regional context) is to be introduced within the HQ₁₀₀-mark that indicates areas of major significance for the outflow or retention of floodwater.

▲ Those areas that are required for the retention of water as a means to minimize damage or for transporting water volumes in the event of flooding are to be secured for these functions and kept free of any structures or changes that could hinder the outflow of floodwaters or floodwater retention. The zoning of land for building is to be made contingent in spatial planning law on the high water marks, the area required for floodwater outflow and floodwater retention, and the normative statements for natural risk area planning or equivalent expert opinions.

▲ For the purpose of protection against the risk of destruction, structures are to be generally prohibited in areas where they are exposed such risk. Among other things, it should generally not be permitted to zone land for building in flood areas (as far as possible in HQ₁₀₀) and, in particular, within the red risk zones. Exceptions may be made to these rules in the case of appropriate spatial structures – based on spatial planning criteria and water management criteria – but those areas that are indispensable for floodwater outflow and retention must be kept free of structures in any case. This also applies to areas that require flooding protection measures and areas that are exposed to high risk.

▲ The most important spaces for the outflow of floodwater or retention should be anchored in the regional

spatial planning laws as regional areas to be kept clear of structures and should include the appropriate bans and obligations regarding zoning and land use. These zoning and land use bans or obligations refer to any type of zoning for building as well as to greenland or special zoning variants that permit structures to be erected. The spatial planning laws should re-zone unbuilt areas for which no information on high water levels were available at the time these were zoned as building land. Generally, all building structures in areas of significance for the outflow of floodwater or floodwater retention are to be made subject to a permit.

▲ Furthermore, it is necessary for communities to reach agreement with respect to planning for developing settlements and defining retention areas, because spatial planning schemes follow the administrative boundaries.

Protection against natural disasters requires more than just a preventive approach to be implemented in spatial planning; there are numerous instances in which the provisions of building laws affect construction activity in risk zones. This was investigated in the study **“Natural Hazards in Austrian Building Law”** (*Naturgefahren im österreichischen Baurecht*) commissioned by the Federal Ministry for Agriculture and Forestry, Environment and Water Management within the scope of the project “Flood Risk” and conducted by Dr. Arthur Kanonier (TU Vienna). Just like spatial planning, building law is the judicial competence of the *Länder*, with each of the *Länder* having a different set of building laws.

The relationship between planning and building law is very close, because the building authorities are the ones who execute the provisions relating to planning in practice. Thus, legally binding spatial plans, especially those at the municipal level (zoning plan and building regulation plan), define the restrictions on land use based on spatial planning law, which are to be implemented subsequently by the building authorities within the scope of planning proceedings for concrete construction projects.

Almost all building codes of the *Länder* contain provisions relating to the avoidance or reduction of damages from environmental impacts, though these differ considerably. Basically, building law defines, among other things, where and how concrete construction projects are permitted, with the safety of the structure and of the site constituting the principle criterion for construction site and construction permit proceedings.

The definitions in the local spatial plans, especially in zoning plans, can have the effect of prohibiting the land use or building activity, and the provisions of the building codes also impose restrictions and construction bans in risk zones. Therefore, construction projects requiring permits and notifications are

examined in the construction permit proceedings with respect to the risk exposure to natural hazards. As a consequence, the construction of buildings in risk zones is not permitted at all or only under certain conditions.

However, not every construction project is subject to the provisions of the building codes and this means that when such projects are erected none of the restrictions of building law or, usually, spatial planning law apply.

Therefore, the goal should be to make as few exceptions as possible for construction projects in the risk zones from the building codes unless other legal provisions ensure that the interests of building law and planning law have been taken into consideration by the other competent authorities.

The building codes should contain clearly defined criteria for the conditions applicable to construction projects in risk zones. The criteria for rejecting or approving a building permit must therefore be defined very precisely in order to minimize interpretation problems in practice and improve legal certainty.

Exceptions from the legal effectiveness of the zoning plan and building regulation plan are to be avoided as far as possible in risk zones. In any case, when assessing construction projects for which a permit is being processed, the contents of the risk zone plans must be taken into account.

The construction of new buildings in high-risk zones (red risk zones, HQ₃₀ zones) should generally be prohibited under building law. The building site assessment should define conditions for the specific property for low-risk zones (yellow risk zones, HQ₁₀₀ range).

It should also be possible to impose conditions and restrictions ex post in all *Länder* in order to respond to (new) risks and order structural improvements to existing buildings. To this end, building codes should be examined and amended so as to ensure that in the event of imminent danger, decrees can be issued for areas and structures exposed to natural hazards.

Furthermore, building codes should contain minimum standards for the construction of structures in risk zones, including rules for finished floor levels that are commensurate with high-water marks and for the securing of oil tanks against floating.

In summary, we would like to state that the measures described above constitute a solid foundation for the options available. Moreover, it is clear that closer cooperation is needed among all of the involved experts at the federal, Land and municipal levels in order to make it easier to cope with future events that may cause damages, but also to promote preventive protection measures against natural disasters. It is in this spirit that the present collection of materials has been compiled: The result of the most diverse efforts and intense work of the past two years with the aim of promoting a preventive approach to natural disasters.