GLOBAL FEDERATION OF INSURANCE ASSOCIATIONS

Planning for the future: a road towards resilience

Recommendations from the insurance sector to adapt to increasing natural catastrophes

Introduction

Changes in historical weather patterns have profound economic, social and environmental consequences for humanity. Indeed, increased frequency and severity of natural events are already being felt and are forecasted to worsen. To prevent significant human and economic loss, communities around the world must find ways to adapt to mitigate growing risks and vulnerabilities.

Between 2000 and 2019, the United Nations Office for Disaster Risk Reduction[1] recorded 7 348 natural disasters, twice as many as between 1980 and 1999. In 2023, natural disasters caused unprecedented devastation, resulting in 74 000 deaths, vast population displacements and damage estimated at $250 billion.[2] 2024 has also seen significant natural disasters, with severe thunderstorms, flooding and two major earthquakes causing tragic loss of life and overall economic losses of approximately $120 billion in the first six months, of which roughly $60 billion were insured. In October 2024, hurricane damage in Florida is estimated to push the year's insured losses over $100 billion in that state alone. Eastern Europe has been exposed to floods in summer and fall 2024. The estimated losses of June floods in Central and Eastern Europe are $5 billion of which $2.2 billion were insured.

For insurers, more frequent and severe disasters result in a growing number of losses which, in certain cases, put the question of affordability of insurance on the table. From both a societal and insurance standpoint, it is therefore vital to develop the resilience of communities and their residents, limit the impact of disaster events, strengthen the ability to rapidly restore vital functions, and deploy avoidance strategies.

Land-use planning holds significant potential as a key strategy in mitigating the impact of increasing natural catastrophes. It is a well-established approach and serves as a vital tool for managing competing interests in land use, balancing the needs of various groups, communities, and traditional rights holders with those of state authorities or private companies.

I. Land-use planning: definition and key concepts

Unlike urban planning and design, which can sometimes prioritise built environments over natural landscapes, land-use planning takes a more balanced and regulated approach. Usually regulated by government authority, land-use planning forms the basis of zoning laws and restricts certain land uses to promote orderly development that prevents excessive artificialisation. It does so by employing specific strategies and tools to mitigate risk and build resilience, including:[3]

- Limiting development in hazard-prone areas.
- Ensuring that the built environment can withstand a range of natural disasters.
- Preserving natural ecosystems that protect communities.
- Promoting nature-based adaptation measures.
- Educating stakeholders and decision-makers about risks and opportunities.

1 UNDDR (2021),The human cost of disasters: an overview of the last 20 years (2000-2019)

2 MunichRe (2023), Record thunderstorm losses and deadly earthquakes: the natural disasters of 2023

3 Climat-ADAPT (2024), Integration of climate change adaptation in land use planning

This holistic approach considers factors like population growth, management of scarce resources, land degradation and unsustainable urban development, guiding decision-makers and land users to select land uses that address community needs while preserving natural resources and ecosystem services. Collectively, it ensures that development protects the environment, conserves resource, encourages social gathering, improves communities, and addresses transportation, industrial and economic needs.

Increased climate events add further complexity to land-use planning, on top of other non-climate-related challenges. Its role in resilience [4] is essential, helping communities manage increasing climate-related risks. From the earliest stages of construction planning, it is crucial to incorporate resilience measures to ensure resistance to climatic hazards.[5]

This involves incorporating adapted design and construction, applying universal design principles, standardising building materials, as well as retrofitting and rebuilding. Additionally, promoting a culture of maintenance and considering economic, social, structural, technological, and environmental impact assessments are essential for sustainable resilience.

II. An approach focused on adaptation and better resilience of ecosystems

There are two key benefits to integrating land-use planning into national action plans for adaptation to the effects of extreme weather events:

1. **Opportunity to integrate adaptive policies into land-use planning:**

   Land-use planning processes offer a unique opportunity to incorporate adaptive policies, generating long-term benefits. These processes facilitate the coordination of diverse activities while respecting government frameworks.[6] They also enable reflection and action across different spatial, temporal and governance scales, while considering local particularities.

2. **Cost-effectiveness in mitigating future risks:**

   Land-use planning can be considered as a medium- and long-term cost-effective method of reducing the future impacts of extreme events and a proactive approach to adapting to future climate risks.[7] The integration of various policy instruments and tools into land-use planning will facilitate the development of adaptive infrastructure, thereby reducing risk and community vulnerability. Collaboration between public authorities and insurers is essential; public authorities would provide financial and material support, while insurers would act as communicators for educational purposes.

III. What are the challenges related to land-use planning?

The challenges associated with land use planning[8] are both numerous and complex, requiring a holistic and integrated approach.

- A growing **need for accurate and up-to-date information**. Current systems do not always incorporate natural hazards, climate projections and decision scenarios, which means that decisions are often based on outdated assumptions and unreliable data. Moreover, multiple forms of support coexist without harmonisation or coordination between the actors involved. It is imperative that

4 Resilience refers to the capacity of urban and rural environments to withstand, adapt to, and recover from extreme weather events and climatic hazards.

5 United Nations Office for Disaster Risk Reduction (2015), Sendai Framework for Disaster Risk Reduction 2015-2030

6 Anna C. Hurlimann, Alan P. (2012),The role of spatial planning in adapting to climate change

7 European Union (2009), Adapting to climate change: towards a European framework for action

8 OECD (2024), Infrastructure for a climate resilient future

decision-makers have access to **high-quality accurate information, consistent updated data and the ability to use it** effectively to inform planning. Natural phenomena evolve and knowledge of these phenomena should be updated regularly by integrating claims experience.

- **The fragmentation of competencies**[9] is a major obstacle, compounding the challenge of access to information. **Strategic alignment,**[10] coordinated governance and shared responsibility between various level of decision-makers are essential to the consideration of disaster resilience in land-use planning. Limited government coordination leads to ambiguity in risk responsibility, as there are not clearly designated ***risk owners*** to manage risk. This leads to risk neglect and prevents coherent strategic planning in the face of uncertainty.[11]
- The **relocation of populations**[12] is a very complex issue and should be looked at very carefully considering that it is a potential emotional and personal issue. This sometimes involves moving people who have been settled for generations, resulting in strong emotional attachments. Despite campaigns focusing on risk culture, it should not be confused with risk awareness. Sometimes, due to the attachment of communities or families to a land through heritage or tradition, some are reluctant to leave the exposed territory to settle elsewhere. It is not always possible to relocate populations. In some cases, it will be necessary to weigh the owners' willingness to relocate against the feasibility of a resilient in-place approach, the cost of each solution, and other relevant factors. There is also a potential conflict between individual interests (eg landowners) and the broader public interest. Thus, work needs to be done on risk awareness and the responsibility of risk-taking. Furthermore, there is not one risk culture, but several risk cultures, because the risk culture depends on the peril in question, the vulnerability of the property and the socio-economic environment.
- Climate issues and natural catastrophes increase the need for profound reflections on **new legal framework**, including **a modernised building code**.

IV. GFIA recommendations for a renewed approach to land use planning

The insurance sector is equipped with robust expertise in risk management, which it is willing to share with public authorities. Involving insurers in land-use planning can improve overall outcomes while also strengthening the sector's ability to insure risks. In this perspective, land-use planning plays a role in adaptation by integrating disaster risk management strategies to enhance resilience. Insurance of climate losses and investment in prevention and resilience are essential levers of adaptation. [13]

GFIA's renewed vision for a resilient land-use strategy

GFIA proposes a vision for a resilient land-use planning strategy built on the active involvement of the insurance sector. This vision is driven by **four key action levers:**

1. **Prevention and education**
2. **Collaboration including stakeholder engagement and exchange of information**
3. **Risk-based approach**
4. **Building better and 'Building back better'**

9 OECD (2020),Towards sustainable land use
10 Real Estate Society (2011), Climate change adaptation through land use planning and disaster management
11 OECD (2023), Climate adaptation: Why local governments cannot do it alone, Environment Policy Paper No.38
12 Insurance Australia Group (2023), Addressing resilience in land use planning
13 Insurance Australia Group (2023), Addressing resilience in land use planning

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1. PREVENTION AND EDUCATION

GFIA supports a culture of prevention at all levels, starting at a local scale by involving all relevant stakeholders.

- **GFIA suggests improving communication and public awareness** to effectively explain the risks to citizens through engaging educational content. Through knowledge sharing and proactive education, **communities** can preventatively save substantial resources by mitigating future climate related damages. GFIA also proposes involving community education[14] to sensitise all citizens, including younger generations, to natural risks, establishing a deeper understanding of climate risks and prevention strategies.
- **GFIA supports the implementation of training courses** in natural catastrophe and disaster risk prevention for all appropriate **local elected officials, professionals and civil servants** at the beginning and throughout their mandate or function.
- **GFIA supports prevention actions** addressed to **various sectors whose activities affect or relate to land-use planning.** Prevention actions addressed to real estate professionals, for instance, may result in making hazard information a standard feature of contracts for property purchasers and renters. Emphasising the economic benefits of resilience and adaptation measures can drive public engagement.
- **GFIA believes that public authorities should adopt prudent land-use planning** practices that prohibit new developments in high-risk areas susceptible to natural hazards. This proactive measure can significantly reduce the potential impacts of disasters and enhance community resilience.

2. COLLABORATION INCLUDING STAKEHOLDER ENGAGEMENT AND EXCHANGE OF INFORMATION

GFIA encourages increased collaboration between the private sector – including the insurance sector – and public authorities.

- **GFIA supports promoting coordination among governments**, local authorities, private sectors and communities for a renewed approach of land-use planning and disaster risk management backed by the support of the insurance sector. GFIA recognises that there may be competing interests and priorities among various stakeholder groups. For example, local jurisdictions may have an incentive to maintain or increase their property tax base, which may conflict with an objective of limiting development in high-risk areas. Similarly, some jurisdictions may face a highly fragmented regulatory landscape for land use decision making. By focusing on the long-term benefits of building with enhanced resilience in mind, stakeholders can reduce the need for costly repairs or reconstruction post-disaster. Many organisations have highlighted the long-term cost savings of resilient infrastructure, with benefits estimated at up to 13 times the initial costs.[15]
- **GFIA suggests reviewing building codes and urban plan standards involving various stakeholders, including insurers.** Such standards should foresee periodic[15] forward-looking assessment of risk to incorporate climate risk considerations and resilience of infrastructure to extreme weather events. Integrating climate projections into urban planning allows decision-makers to anticipate future environmental conditions and adapt development policies, improving resilience to climate hazards. Urban plan standards should cover post-disaster

14 Insurance Council of Australia (2023), Building Australia's resilience: policy recommendations

15 AON (2025), Climate and catastrophe insight

resilience diagnosis in high exposure areas prior to any reconstruction or new building projects. Both building standards and mitigation measures, such as emergency planning, should be assessed for their effectiveness and accuracy. Finally, once established, building codes should be effectively enforced by local authorities, including adequate funding and capacity for enforcement to ensure compliance and achieve the desired level of resilience. Local or national-level tax incentives could also be used to promote greater resilience and desired land use objectives.

3. RISK-BASED APPROACH

GFIA supports integrating risks into insurance underwriting policies.

- Insurers must be allowed to accurately assess risks and set risk-based rates. Adjusting premiums based on implemented adaptation measures, when actuarily justified, incentivises individuals and businesses to invest in resilient infrastructure and practices. Additionally, by integrating risk considerations into their underwriting policies and offering climate discounts[16] for prevention initiatives, insurers encourage proactive behaviours that strengthen overall community resilience.
- Insurers offering significant premium differentiation based on implemented climate adaptation measures may encourage the swift adoption of these measures and help maintain affordable total premium costs.

4. BUILDING BETTER AND 'BUILDING BACK BETTER'

GFIA supports the promotion of resilient infrastructure. Three aspects should be explored on the topic of resilient infrastructures:

- The repair and maintenance of existing structures are crucial, so is the option of retrofitting and sustainable refurbishment.
- To support societal adaptation, new construction should follow an approach aligned with climate adaptation goals.
- Post-disaster reconstruction should prioritise resilience, as reflected in the of 'build back better' approach. This concept revolves around resilient building practices, such as using materials resilient to extreme weather events (eg hurricane-resistant roofing, fire-resistant cladding) or adapted architecture (eg construction with elevated foundations to mitigate flood risk). It not only helps prevent damage from natural events but also improves access to insurance for a wider population, supporting overall economic stability and growth. The 'build back better' strategy strongly considers the construction location to minimise exposure to extreme weather events by identifying and demarcating areas at risk. Several zoning options can be considered: identifying and preserving areas less vulnerable to climate impacts for housing and critical infrastructure; restricting new construction in high-risk zones; and establishing buffer zones around high-risk areas, such as coastlines and floodplains, to reduce the impact of extreme weather events.

16 OECD (2024), Infrastructure for a climate resilient future

These three aspects must be considered holistically to make sure that solving one issue does increase another risk (eg the UK's experience of cladding in tower blocks - Grenfell).

- As an example of a 'build back better' strategy, "Initiative Sécheresse" is a project launched in 2023 by France Assureurs, CCR and MRN to protect houses against the effect of drought. The first phase of this experiment will analyse 200 homes to assess the evolution of repair solutions over time. In phase two, 100 homes will be assessed on the impact of preventive solutions and the approach over time. The first phase promotes the resilience of the buildings against the drought while the second phase promotes awareness and prevention before the occurrence of damage.
- The Babcock Ranch housing development in Florida, touted as the first fully sustainable and "hurricane-proof" community in the US, received considerable attention as it sustained no damage from Hurricanes Ian (2022) and Milton (2024) due to key design features such as structural hardening, flood control and resilient infrastructure.
- California's wildfire building standards, outlined in Chapter 7A of the California Building Code, establish requirements for construction in areas designated as Very High Fire Hazard Severity Zones (VHFHSZ). These regulations aim to improve a structure's resistance to wildfire exposure by mandating the use of ignition-resistant construction materials and design features. Key provisions include the use of fire-resistant roofing, exterior walls, windows and vents, as well as restrictions on combustible decks and fencing. The goal is to reduce the vulnerability of homes to ember intrusion, radiant heat and direct flame contact during wildfires, thereby enhancing public safety and minimising property damage.
- Following Hurricane Katrina in 2005, Louisiana undertook significant zoning reforms to support long-term recovery, resilience and equitable development. The city overhauled its Comprehensive Zoning Ordinance (CZO), which took effect in 2015, introducing new land-use categories, promoting mixed-use development and encouraging higher-density and transit-oriented growth. Key goals included reducing sprawl and incorporating stormwater management into land-use planning. These reforms aimed to create a more adaptable and sustainable urban fabric and better prepare the region for future environmental challenges and disasters.

Finally, the 'build back better' concept relies on leveraging innovative technologies such as advanced modelling techniques that predict the likelihood of future disasters and their potential impact. These tools guide the reconstruction process to prioritise the most effective resilience measures.

5. CONCLUSION

Land-use planning offers a meaningful and highly necessary approach to shape built environments that are better prepared for the growing risks of natural catastrophes. In the face of increasing climate pressures, it is essential to continue along this path with determination. Involving insurers in this process helps translate risk knowledge into practical, forward-looking decisions that support long-term resilience. With thoughtful collaboration and clear strategies, land-use planning can become the foundation for safer, more sustainable communities.

Contacts

Christian Pierotti, chair of the GFIA Climate Risks Working Group (c.pierotti@franceassureurs.fr)

Marianne Willaert, GFIA secretariat (secretariat@gfiainsurance.org)

About GFIA

The Global Federation of Insurance Associations (GFIA), established in October 2012, represents through its 43 member associations and 3 observer associations the interests of insurers and reinsurers in 69 countries. These companies account for 89% of total insurance premiums worldwide, amounting to more than $4 trillion. GFIA is incorporated in Switzerland and its secretariat is based in Brussels.