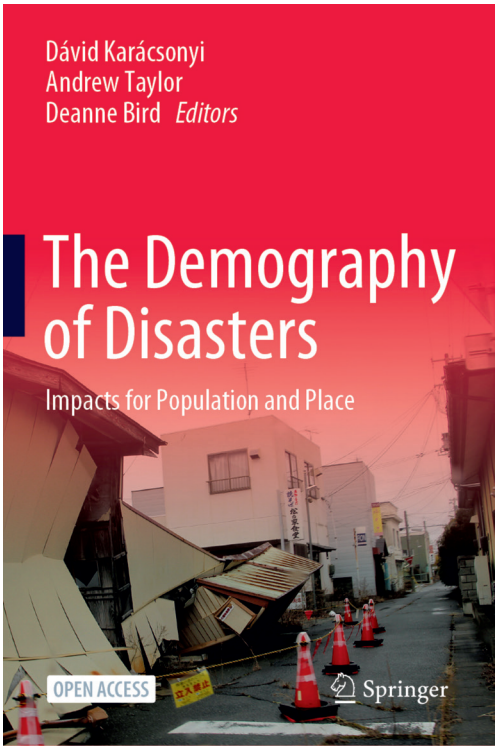
BOOK REVIEW SECTION

Karácsonyi, D., Taylor, A. and Bird, D. (eds.): The Demography of Disasters: Impacts for Population and Place. Cham, Springer, 2021. 268 p.

The impact of disasters on the population can be considered in terms of community/city resilience to shocks and stresses, i.e. the ability to return to the previous state. However, there are more and more calls to look at disaster resilience not in terms of 'bouncing back,' but as everyday practices to cope with ongoing and changing everyday pressures (Andres, L. and Round, J. 2015). Bouncing back after a disaster is not satisfactory at the community level, as some disaster-affected people do not want a return to 'how things were,' but desire changes addressing former inequalities and dysfunctions (Vale, L.J. and Campanella, T. 2005). Moreover, resilience could be seen as a metaphor for change, not against change (DeVerteuil, G. and Golubchikov, O. 2016). The key ideas of this volume fully meet these calls. The editors aim to conceptualise the demography–disaster nexus in a wider perspective, beyond the natural hazards' 'statistical' impact on demography, in order to improve disaster policy and planning process. The volume contains 13 individual chapters, which highlight case studies from developed (Japan, USA, Australia, New Zealand, Sweden, Island) and post-Soviet (Ukraine, Russia) countries covering a variety of disasters (nuclear disaster, cyclone, hurricane, earthquake, volcanic eruption, wildfire, crop failure, mine fire, and heat-related stress and lifeline failure).



In the introductory and concluding chapters (Chapters 1 and 13), Karácsonyi, D. and Taylor, A. discuss paradigm shifts in the field of disaster studies which "is constantly emerging and reshaping" (p. 4), focusing on the demography–disaster interdependency in connection with disaster policies. The declared ambition to traverse the disaster–demography nexus from both 'non-routineness' (holistic) and 'social embeddedness' (vulnerability) perspectives (McEntire, D. 2013) is successfully implemented in this volume. In line with Perry, R.W. (2007), the editors consider disaster as the intersection of extreme natural hazard with the vulnerable human population. They follow Oliver-Smith, A. (2009), arguing that different social groups can be differently exposed to risks and they can suffer differently from the same hazardous events.

Karácsonyi, D. and Taylor, A. summarise seven intertwined disaster–demography subthemes. They justly note that this classification is subjective, and others may separate or merge some of the categories in different ways (p. 263). But this is unquestionably a great generalisation and a very helpful frame for further studies. This volume covers all distinguished approaches. However, it offers not a rigid 'approach–case' sequence, but diverse approaches rather overlap and get intertwined in every chapter.

Most of the chapters deals with the 'disaster impacts on population' approach, exploring death toll and the number of injured, post-disaster changes in population size and composition, migration responses, and health impacts. It has strong links to the non-routineness perspective and the holistic school. 'Migration and mass displacement' authors are distinguished as a separate approach, apparently the most visible and aware one in disaster–demography studies. It is considered here as planning and survival strategies adopted by people and authorities facing disasters regardless their character and related issues–community destruction, loss of/search for social cohesion, conflicts with hosting communities.

Studies of 'demography as root cause' are equally important in the disaster–demography nexus. It is linked to the 'social embeddedness' perspective and the vulnerability school. Age, gender, ethnic and social class composition are investigated to assess the demographic impact in, and vulnerability of, disaster-prone areas. And such influences are ambiguous. As the authors show, more disaster-vulnerable elderly people are the most likely to be post-disaster returners.

In many cases it is not easy to separate mutual disaster–demography impacts. So, Karácsonyi, D. and Taylor, A. distinguish the 'impact of and adaptation to climate change' subtheme. Thus, climate change-induced migration can be both a problem and a solution. Another approach related simultaneously to disaster root causes and consequences is 'urbanisation and urban vulnerability'. On the one hand, growing urbanisation can lead to the concentration of population in hazard-prone urban areas and hence put more people at risk, including more vulnerable groups. But from another side, post-disaster processes display further population concentration in cities and towns as more equipped places to disaster risks.

A lack of reliable data on the consequences of disasters has led to a search for substitution procedures to be used for disaster impact assessment, such as school enrolment or mobile phone location data presented in this volume. This enabled the authors to distinguish an 'applied demography approach' in disaster–demography studies. Finally, the 'spatial-geographical approach' related to spatially uneven vulnerability and resilience runs through the entire book.

Two chapters in the volume are devoted to the worst nuclear disasters in Chernobyl and Fukushima. Karácsonyi, D., Hanaoka, K. and Skryzhevska, Y. (Chapter 2) rely on the assumption of Oliver-Smith, A. (2013) that geographically and culturally distanced societies present analogous issues during similar disaster events. They argue that despite essentially different long-lasting demographic trends, differences in emergency measures (scales of decontamination works, accepted radiation thresholds or the approach to the organisation of permanent resettlement sites), both post-Chernobyl and post-Fukushima mass displacements caused much more significant demographic shifts than the radiation itself (p. 19). In both cases, the regional disaster impact resulted in a dramatic loss of population in the contaminated areas and a strong spatial shift towards urbanisation. Although the Chernobyl disaster did not change the general direction of regional population dynamics, it accelerated the negative demographic processes that, in combination with the outmigration and mass resettlement, resulted in "a huge hole in the demographic space of the region" (p. 31). Interestingly, the main negative demographic impact of the nuclear disaster was not the high mortality or morbidity, but rather the distortion of everyday life, growing uncertainties and various hardships in the new environment for evacuees. I completely agree with the authors that the most significant lesson from their study is that a poorly planned mass displacement can cause a larger economic loss than the disaster itself.

Both case studies reflect power relations and the role of local community participation in disaster recovery management, in particular how and why affected communities were excluded from decision-making during the disaster recovery process (by Okada, T., Cholii, S., Karácsonyi, D. and Matsumoto, M. – Chapter 11). In both cases, resettled people faced difficulties to integrate into their new local communities, despite support from local administrations. Some interviewees and media platforms reported a different degree of tension between evacuees and host communities. While Chernobyl evacuee suffered from the split, fragmentation or destroying of their community, Fukushima evacuees established their neighbourhood councils at each temporary housing unit, which proved efficient while negotiating and working with authorities. This study demonstrates the importance of socio-political systems and financial capacity, but uncertainty is commonly identified as a major challenge at a local-scale recovery following the nuclear disasters. The authors emphasise that the community should play an active role in disaster recovery as a key driver, instead of remaining passive receivers of services and information provided by the authorities (p. 213).

Chapter 3 (by Sharygin, E.) is aimed to understand the outcomes of wildfire disaster outmigration in California in a record fire season of 2017. The analysis focuses on impacts in Sonoma County, where the fire displaced the greatest number of residents. The results of this study show the moderate scale and spatial extent of the displacement, while the majority of the displaced did not move far, mostly within the same county. As the wildfire hazard increases, the author emphasises increasing demand for reliable methods to estimate population impacts. In this way, Sharygin, E. argues to use the 'school enrolment proxy method', based on the assumption that public education capturing data in a timely manner is more representative than other government programmes. Indisputably, the bias effect can be expected. However, he suggests that these data offer a superior balance of timeliness, completeness, and representativeness compared to the alternatives (p. 61).

In contrast to the dominating discussion on demography responses to disaster, Nefedova, T. (Chapter 4) offers to examine a converse relationship–demography as a cause of fire disaster. She suggests that human activities and forest legislation are root causes of forest fires around Moscow – in particular, carefree, impunity, deliberate burning to hide deforestation. Another root cause is the organisation of demographic space, especially the rapid rural depopulation of peripheral

areas and the suburbanisation in urban cores. It has led to a combination of several fire risk factors previously subsidised by the state, but now abandoned agricultural lands are covered with high dry grass, growing logging instead of agriculture specialisation, and seasonal accumulation and incineration of garbage produced by overcrowding 'summurbanisers' from the city. Moreover, "the majority of peripheral villages are populated by old women and strongly drinking men" who are not capable of implementing even basic fire protection measures (p. 76). To trace the intensity of forest fires, Nefedova, T. uses media analysis. Although the media reports 'digest' is not quite full and reliable, it reflects general trends. Such an approach is promising and needs further in-depth researches.

Chapter 5 (by Carson, D.B., Carson, D.A., Axelsson, P., Sköld, P. and Sköld, G.) shifts the focus to sparsely populated areas and local conditions under which dramatic demographic responses to natural disasters occur. Additionally, to the 'eight Ds' explanation for sparsely populated areas development (Carson, D.B. and Carson, D.A. 2014), the authors introduce two new 'Ds' which reflect a potentially *disrupting* or *diverting impact* of natural disasters on demographic development. Two cases illustrate these impacts. The Great Deprivation crop failure in Northern Sweden during the 19th century caused temporary disruption in demographic development after which the pre-disaster pattern has resumed. Contrary to that, the cyclone caused flooding in the Northern Territory of Australia in 1998 led to longer lasting diversion to a new pattern clearly and substantially distinct from the pre-event state. The authors reveal both local urbanisation impact and consequences, when disaster impacts were less in higher urbanised areas, and affected areas became more urbanised after the disaster. The highlight, but also the weak point of this chapter, is the analysis of two case studies that occurred with an interval of more than a century in different parts of the world and had essentially different consequences. The authors' passage on natural disaster events labelling 'black swan' is rather unspoken as they underline later that such attributing is difficult, precisely because of the dynamic nature of populations in sparsely populated areas.

Bird, D. and Taylor, A. (Chapter 7) investigate the single-industry town of Morwell, Australia, which suffered from the Hazelwood mine fire disaster and, later, enterprise closure. They discuss demographic consequences of the disaster through the social capital concept, analysing cooperation among different groups of people and collective action to cope with the disaster impact. It was expected that the single-industry character of the town could strengthen demographic and socio-economic decline. Nevertheless, scholars revealed that the population size did not drop significantly, and the town showed a certain 'stoicism and resilience'. The lower than anticipated impacts they partly explain by the historical diversity of jobs, changing population composition, and the uncertainty of the label 'single-industry town'. However, the role of bonding and bridging social capital they see as another essential factor, when the population is collectively banded together around various community-led initiatives to produce a better future for their community (p. 147).

Zander, R.R., Richerzhagen, C. and Garnett, S.T. (Chapter 8) explore migration intention as a strategy of adaptation to climate change. Based on online survey results, they discuss the intention of people in different parts of Australia to move from their current place of residence to cooler places because of heat stress, as well as the temporal and geographical frames of this mobility. They revealed that the intention to move because of heat stress was affected by location, gender and mobility experience. Respondents living in the Northern Territories, and male and highly mobile people were more likely to intend to move because of heat stress. Instead, income, having children, workload and age did not have a significant impact. The latter was especially unexpected. While more than a third of those wanting to move because of heat stress did not know where they would move to, the most of them would cross the boundary of states (p. 162).

Singh, E.A. (Chapter 10) turns the attention of the readers to another side of disaster 'compounded impacts' showing through two case studies how natural hazards can cause lifeline infrastructure failure, which can become a disaster itself with demographic consequences. While extreme heat during the heat wave in South-eastern Australia collapsed region-wide electricity and rail transportation systems, the Eyjafjallajökull eruption in Iceland caused the closure of the European airspace and broke the supply chains that rely on airfreight for just-in-time deliveries and exports of perishable goods. The latter highlights that natural hazard impacts are not always confined to geographical or political borders. The impact on demography is not so clear, though the author talks about a direct impact when lifeline failure caused excess mortality (particularly in elderly age groups) and depends on the time it takes for the lifeline to return to operation. Singh, E.A. concludes that both responsible institutions and communities were "largely underprepared for an event of this magnitude" (p. 196). So, to improve urban-wide resilience to natural hazards, the author recommends improving communication, information sharing, collaboration and coordination between all stakeholders involved.

King, D. and Gurtner, Y. (Chapter 6) address post-disaster population decline and dislocation as an opportunity to re-appraise planning priorities, a chance to re-envision towns, cities or regions, to plan and manage them for 'a different community' (e.g. smaller, less dense, redesigned), and to produce a positive sense of place after the disaster for a sustainable future. The authors follow the idea of Hollander, J.B.

et al. (2009) on paradigm shifts to proactively plan for shrinkage and 'rightsizing' (i.e. planning for a different size and composition of community). They study three locations that have lost population following recent disasters in the USA (New Orleans), New Zealand (Christchurch) and Australia (Innisfail), damaged by a hurricane, earthquakes and cyclones, respectively. Because population movement after disaster has not been homogenous spatially, temporally and socially, and all cases have local specifics, the disaster impact and planning responses are different in terms of death toll, migration outflow, return rate, urban population decline and peri-urbanisation. King, D. and Gurtner, Y. conclude that the quality and good design of the post-disaster community is far more important than its demographic impacts or recovery (p. 120).

Chapter 9 deals with the intersection between gender, disaster resilience, and the design of the built environment. Barnes, J.L. discusses 'a male bias' in urban landscape and in disaster resilience when women and girls are often more marginalised and vulnerable to and after disasters, and tend to start off in worse conditions when a disaster occurs. Starting with the conceptualisation of women's disaster resilience, she delves into the questions of gender inequality covering women's transportation inconveniencies, lower access to safe public spaces, ignorance of women's specific health needs, and the lack of representation of women in leadership and decision-making roles. Barnes, J.L. asserts that listening to women's needs by including them into urban design processes can contribute to their disaster resilience. The analysis of individual case studies would significantly strengthen the author's argumentation.

Murao, O. (Chapter 12) shows that learning from past disaster recovery measures can be very useful to reduce disaster risks in the future. Considering cities as an artificial environment, he asserts that serious safety weaknesses remain unrecognised until the city faces a disaster (p. 234). That is why Murao, O. insists that past disasters and recoveries need to be examined carefully and the lessons learned have to be disseminated. Based on his own research experience from post-disaster recovery processes in cities with different social backgrounds in Taiwan, Turkey and Japan, the author discusses the effectiveness of urban recovery planning issues. One of his ideas is to represent the progress of recovery by creating "recovery curves" based on building construction data for the various building types. He shares experience in seeking collaborative relationships with local specialists, researchers, building good relationships with the local community and community hubs (such as restaurants in post-earthquake Chi-Chi, Taiwan).

The fascinating journey through the diversity of demography–disaster nexus studies makes the reader vulnerable to the desire to join this field of research. This volume is not organised into thematic sections, but it is not a problem, rather an advantage enabling free movement between the – thematically often interrelated – chapters. Despite many cases and quite comprehensive studies, the reader does not get lost in the details. On the contrary, one can easy step between the chapters and in the end gets a great overview in the form of seven approaches.

The impact of disasters on demography is obvious. But this volume often reveals unexpected sides and influences, as well as interlinks between places, communities, age groups, genders, and scales. Hence, for those who seek to understand the complicated nature of the disaster–demography nexus, it is advised to pay attention to the collection *The Demography of Disasters, Impacts for Population and Place*.

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