

Reducing Flood Risks for Young People in the UK Housing Market

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ABSTRACT

Flooding is one of the most serious natural hazards faced in the UK. The Environment Agency estimates that in England alone, about 5.2 million properties are at risk of flooding, or roughly one in six (2009: 3). Flooding imposes significant financial, psychological and social burdens on households and these may be especially acute for young people in the property market, such as renters and first-time buyers. This paper examines how housing-related policy can help alleviate the burdens of flooding on young people in the housing market. First, it canvasses the kinds of damage inflicted when flooding affects properties. Second, it discusses the financial burdens imposed by such damage. Third, it enumerates the financial burdens and benefits of measures to protect against flooding. Fourth, it considers the non-monetary burdens of flooding, in the form of psychological and social burdens. Finally, the paper offers some policy recommendations in light of the preceding discussion.

Keywords

Flooding, housing, vulnerability, resilience, insurance.

INTRODUCTION

Flooding is one of the most serious natural hazards faced in the UK. The Environment Agency estimates that in England alone, about 5.2 million properties are at risk of flooding, or roughly one in six (2009: 3). Future climate change is likely to be a major driver of increased susceptibility to flooding; it is thought that an additional 1.3 million homes and businesses will be considered ‘at-risk’ by 2050 (Cantwell 2020: 3). While official Government guidelines do not recommend building on floodplains (*National Planning Policy Framework* s. 14, para. 155), in recent years property development has continued unabated in vulnerable areas. For example, about 70,000 new homes have been built in the highest-risk zones in England since 2009 (Halliday 2020). None of these are covered by the government’s Flood Re scheme—which aims to provide affordable flood insurance—and around 20,000 of them have no protection from flood defences (ibid.). Flooding imposes significant financial, psychological and social burdens on households and these may be especially acute for young people in the property market, such as renters and first-time buyers. Given that younger generations will bear the brunt of climate change, it is imperative to ascertain the implications of increased flood risk for these individuals. This will clear the path for ways to reduce younger homeowners’ vulnerability to flood damage.

Consequently, this paper examines how housing-related policy can help alleviate the burdens of flooding on young people in the housing market. It unfolds as follows. Section 1 canvasses the kinds of damage inflicted when flooding affects properties. Section 2 then discusses the financial burdens imposed by such damage. Section 3 enumerates the financial burdens and benefits of measures to protect against flooding. Section 4 moves on to consider the non-monetary burdens of flooding, in the form of psychological and social burdens. These burdens may be important to recognize, as they are often missed out in cost-benefit studies of flood risk. Section 5 offers a series of policy recommendations in light of the preceding discussion. These policy recommendations are as follows: subsidizing flood resistance measures for young people; creating a comprehensive socialized scheme of flood insurance; strengthening land use regulations to restrict property development in high-risk areas; ensuring young people have access to full information about flooding risks, particularly through social media; and investing in ways to offset the psychological and social impacts of flooding. Section 6 concludes the paper.

This research contributes to the literature by considering certain kinds of burdens, such as psychological and social burdens, which are often omitted in economic studies which stress the monetary burdens. These non-monetary costs are not as easily replaced as the economic literature tends to assume (cf. Morton 2019: 26-28). Moreover, this paper considers flood risk from an unusual standpoint: that of young people on the property market. While there is a large literature on children in disasters (e.g. Tatebe and Mutch 2015; Gibbs et al. 2014; Freeman et al. 2015), comparatively less attention has been placed on young people of working age under 35 and even less so on the specific needs of those young people seeking to buy or rent a property. This paper aims to fill this gap in the literature on flooding and disasters more broadly.

Before I continue, I should say more to motivate this paper's focus on young people, which I define as those aged under 35. This age group is least likely to be informed about flood risk and so are particularly vulnerable to the effects of flooding (Thrush et al. 2005: 4). They are also the group most likely to die in a flood emergency, as they are prone to taking unnecessary risks (Henry 2018), and are least likely to know how to ensure their homes are flood-resistant (Environment Agency 2018).

Furthermore, this age category suffers from disproportionate poverty; the empirical literature shows that a lack of income also predicts increased vulnerability to flooding (Thrush et al. 2005: 4). In 2013/14, 34 percent of 16-19 year olds, 29 percent of 20-25 year olds and about 20 percent of 25-34 year olds lived below the poverty line in the UK (Joseph Rowntree Foundation 2015). The low incomes of many young people will become salient when we consider the significant financial burdens of flood protection. Such economically marginalized individuals operate under conditions of resource scarcity, which may explain why they will choose to prioritize short-term objectives—such as paying the weekly rent—over expensive long-term goals such as taking out flood insurance (Morton 2017: 547-549; see also Mullainathan and Shafir 2013; Mani et al. 2013).

HOW FLOODING AFFECTS PROPERTIES

Flooding damages properties in a multitude of ways. We can make a useful distinction between 'overland' and 'overfloor' flooding, depending on the extent of the floodwater around an individual property and therefore the extent to which that property is affected. Overland flooding covers the physical land surrounding the house, such as gardens and patios, but otherwise does not actually inundate the property. Overfloor flooding occurs when floodwaters enter the interior of the property (Eves 2002: 216).

Overland flooding physically cuts off the house and thus impedes vehicular access, while also causing minor damage to sheds, garages and landscaping. Overfloor flooding is far more severe: apart from the problems caused by overland flooding, overfloor inundation can result in losses of equipment, furniture, contents and other personal objects. Moreover, overfloor flooding can inflict major structural damage, which ruins wall linings and exposes electrical wiring (ibid.: 216). A building's overall susceptibility to flood damage is a function of the construction techniques and materials used, the depth and duration of the flood and the velocity of the floodwaters (Joseph et al. 2011: 281). In cases where the water depth is greater than 1,000mm, water should be allowed to flow through the house; to do otherwise is likely to increase the water pressure on the external walls of the property, leading to major structural problems (ibid.: 281). Damage can also occur from lingering contamination and pollution in the aftermath (Carroll et al. 2009: 542). In the very worst cases, entire houses can be swept away no matter how well defended they are (Joseph et al. 2011: 282).

THE FINANCIAL BURDENS OF FLOOD DAMAGE

Damage from overfloor flooding is likely to pose the greatest financial burdens for homeowners. A study for the Department for Environment, Food and Rural Affairs (Defra) found that the repair bill for a flooded house can range from £10,000 to as high as £50,000, depending on how high the floodwaters reach (Bowker 2007: 3). Restoration work after a flood can lead to the property being *overcapitalised*: additional money is spent not to improve the house overall, but simply to bring it back to its original state. Thus restoration work is a sunk cost that cannot be recovered when the homeowner sells the property (Evers 2002: 216). In the case of young people and first-time buyers on the housing market, the sunk costs may be so exorbitant that (absent insurance) they may simply choose not to repair the property. This would avoid the sunk cost problem but still leave the homeowner worse off, as the property will lose value anyway due to neglect and structural depreciation (ibid.: 216).

THE FINANCIAL BURDENS AND BENEFITS OF FLOOD PROTECTION

A financial alternative to post-flood reconstruction is to install appropriate resistance and resilience measures within the home. Resistance measures are those designed to prevent water from entering a building or at least minimize the amount of water that does inundate the property. They may be temporary (e.g. barriers and

sandbags) or permanent (e.g. waterproof doors and windows, air bricks and automatic barriers) (Bowker 2007: 3-4; Joseph et al. 2011: 281). Temporary resistance may cost in the range of £2,000 to £4,000. Their effectiveness has not been proven in laboratory tests, but they may be useful in cases of flash flooding or short-duration flood events (a matter of hours) less than 900mm, where temporary barriers can be quickly deployed (Bowker 2007: 4). Permanent resistance is more expensive, ranging from £3,000 to £10,000, but does not need to be deployed with advance notice and likely requires less maintenance (ibid.).

Resilience measures are those designed to minimize interior damage. Because they are the most costly measures, at £10,000-£30,000 (Bowker 2007: 4), they are generally recommended only for buildings highly exposed to flooding or are installed during planned renovations (Joseph et al. 2011: 282). Such measures include water-resistant paints and solid concrete floorings, which prevent floodwaters seeping into the structure of a building (ibid.). A major advantage of resilience is the shortened recovery time. In one reported case, the homeowner was able to return and use the property just 24 hours after the flood (ibid.).

Flood resistance and resilience represent clear financial benefits for homeowners, in the form of damage that is mitigated and prevented. However, they also impose a significant financial burden, particularly for young people and first-time buyers entering the property market. Even so, there are weighty financial reasons that count in favour of flood protection. For example, the highest-end resilience measures, costing £30,000, are significantly less expensive compared to the damage wrought by a very severe flood event, at £50,000 (Bowker 2007: 3-4). Some resilience measures may not be any more costly than standard repairs, such as raising electrics higher than the likely inundation level (ibid.: 5). Indeed flood protection may well pay for itself even after a single event, in terms of the damage prevented next time round (Environment Agency 2009: 17; Bowker 2007: 5). This tallies with cost-benefit studies of other natural hazards, which show that pre-disaster mitigation is several times cheaper than post-disaster reconstruction (NIBS 2019).

Another important financial consideration is insurance. In the UK, private flood insurance is bundled with other kinds of hazard insurance; this ensures very high coverage, up to 95 percent (Crichton 2002: 122). But in some sense this figure is deceptive as it does not account for lower socioeconomic groups, who are least likely to be insured and also the most vulnerable, as they typically live on cheap land which is prone to flooding. As of 2002, only 30 percent of poorer households had flood insurance (ibid.: 123). Moreover, at-risk properties may face large flood excesses, which were as high as £5,000 in 2001 (ibid.: 122). Because of the bundle system of flood insurance, all households may generate a claim regardless of whether or not they live in a flood zone. As a result, private insurers have gone to great lengths to produce their own flood maps, which are more extensive than those in the public domain (ibid.: 122). Where citizens do not have access to private insurance, there is usually no state compensation available (ibid.: 123). In recent years, the government has introduced a Flood Re scheme to ensure that more economically deprived households are sufficiently covered. But properties built after 1 January 2009 are not eligible, which equates to tens of thousands of homes (Halliday 2020).

The precarious economic position facing many young homebuyers and renters, as made clear in the Introduction, will mean that they will have to opt for cheap at-risk housing. At the same time, they will be unable to afford expensive insurance, especially if they live in older buildings which do not qualify for Flood Re. This suggests the need for a more comprehensive socialized insurance system. As well as being a way to safeguard households from financial insecurity following a disaster, comprehensive insurance can also have wider social benefits beyond those that accrue immediately to the household, for example by enabling citizens to relate to each other on fair and equal terms (Voorhoeve 2018). Conversely, such an ability to relate on fair and equal terms may be severely hampered absent flood insurance. This kind of social burden of flood damage is one that I will explore in the next section.

THE NON-FINANCIAL BURDENS OF FLOOD DAMAGE

While it is clearly necessary to consider the monetary burdens and benefits of flooding on young people in the housing market, we must also account for non-monetary burdens which are psychological and social. Such non-monetary costs may be easily missed out in studies that purely focus on the financial costs and benefits involved. Let us first consider the psychological burdens of flood damage, before addressing the social burdens.

When floods wreak havoc in our neighbourhoods, they do not only destroy the physical properties, but also the rich psychological associations we have with those physical properties. Treasured personal possessions, such as photographs, craftwork and heirlooms, are essentially irreplaceable if they are lost to a flood. This was clear from interviews carried out in the wake of the Carlisle floods of 2005: “We had a lot of books, some first editions, and a lot of personal things you can’t replace” (Carroll et al. 2009: 542). Homebuilding can require years of financial investment and personal commitment, so it should not be surprising when flood victims

experience feelings of grief akin to losing a loved one (cf. Du et al. 2010: 270). This kind of deep psychological loss resonates with Marc Fried's classic study of displaced working class Bostonians, who reported grief-like feelings of depression, helplessness, direct or indirect anger, overwhelming sadness and an idealized nostalgia for their lost homes (1963: 359-360). And just as when we lose a loved one, many flood victims find the sudden interruption of normal life difficult to process: the stress can be compounded if people do not receive adequate mental health support (Carroll et al. 2009: 544). Moreover, we might think of our homes as extensions of our inner lives (Nine 2018) and therefore integral to our sense of self. When we are forcibly evicted from our homes due to a flood, we thereby lose an important connection to our sense of self. Many Britons still aspire to have a place of their own, even after the post-2008 housing crisis and in spite of a generally unfavourable housing market (Mostafa and Jones 2019). For young people trying to move up the property ladder, floods can threaten their aspirational sense of self, precisely because homebuilding carries strong connotations of social mobility. Renters, too, may find the rich personal associations with their surroundings irreparably damaged in the wake of a disaster.

The emotional toll of losing the home itself is compounded by the psychological damage inflicted in trying to recover a sense of normality. Many flood victims find it difficult to come to terms with the sudden interruption of everyday life. Survivors of the 2005 Carlisle floods, for example, report difficulties in adjusting to their 'new' properties, worries about being "stuck here" and the enormity of a year "lost" to the disaster. In short, the floods had "taken over their lives" (Carroll et al. 2009: 543). In a study of flooding in Hull, some residents described the work of recovery as akin to project management, juggling multiple tasks such as chasing quotes, phoning insurance companies, managing builders, contacting companies to correct snagging issues, redirecting the post and phone bills, sorting out paperwork and driving back and forth between rented and real houses, all while dealing with several government agencies and attempting to maintain normal routines such as caring for children (Whittle et al. 2010: 65-66). The psychological trauma inflicted by flooding may take longer to repair than the physical damage itself: in the case of the Carlisle floods, some homeowners never fully adjusted to their 'new' properties when they moved back after the disaster (Carroll et al. 2009: 543-544).

As well as damage to psychological wellbeing, homeowners and renters may also incur social harms insofar as their connections with others come under threat. Humans are social creatures almost by nature (see Brownlee 2020): we depend on our relationships with others for our own personal wellbeing and these relationships are eroded in the aftermath of a disaster. Disasters such as floods are major changes in our lives and so have knock-on effects on our occupations, our leisure activities, our caring responsibilities and all other kinds of ways in which we interact with others (Nine 2018: 243). Moreover, when households are physically cut off from each other due to flooding, such isolation can have impacts on society as a whole, such as a lack of trust, a loss of togetherness and an evaporation in community spirit. Sociological studies of disasters emphasize the importance of rebuilding relationship networks, restoring social cohesion and therefore on regenerating our wider communities as part of the recovery process (e.g. Ride and Bretherton eds. 2011; Silver and Grek-Martin 2015).

POLICY RECOMMENDATIONS

In light of the considerable monetary and non-monetary burdens imposed by flooding on young homeowners and renters in the property market, what are the implications for housing-related policy?

The financial impacts of flooding on young people must be a priority area. First, policymakers should *subsidize permanent resistance and resilience measures* for young people who cannot afford the hefty cost of flood protection. Residents should be aware of the range of available options and households should be assessed on a case-by-case basis to determine the most appropriate protection measures for their particular context, in consultation with surveyors, engineers and insurers (Broadbent 2004: 82).

Second, all vulnerable households should be entitled to *a comprehensive socialized scheme of flood insurance*. This should include an extension of the existing Flood Re affordable insurance scheme to include those built on or after 1 January 2009. Importantly, flood insurance should be seen as one component of a wider damage limitation policy that complements other protection measures, rather than being seen as the be-all and end-all (Lamond, Proverbs and Hammond 2009)

Third, *land use regulations could be strengthened* to actively discourage property development in flood-prone areas, rather than simply advising against construction on floodplains (as is currently the case with the *National Policy Planning Framework*). One way to do this would be to have a classification system similar to that in Australia, which rates properties from (1) very flood-labile to (4) flood-free, depending on the expected frequency of inundation within 100 years (see Eves 2002: 215). Planning authorities could then make it illegal to build in higher-risk zones and/or offer incentives to attract development in lower-risk categories.

Fourth, renters and homeowners should have *full information about flooding risks* when they enter the property market. This would require, for example, that the above-mentioned flood classification system should be made publicly available. Equally, landlords and developers should be required to declare their flood risk status to prospective renters and buyers. There should be regular awareness campaigns and clear information on what to do in the event of a flood, particularly for newcomers who are not familiar with their surroundings or who do not know where to access local resources.

Given the widespread popularity of social networking sites and apps among the target age group, opportunities to promote flood awareness online should be exploited to the full. In 2019 for example, 97 percent of 16-24 year olds and 93 percent of 25-34 year olds had a social media profile (Tankovska 2021). The UK government should partner with social media companies to create educational campaigns that will engage young people in taking steps towards flood protection. There are precedents for this: many emergency management organizations already use social media to disseminate readiness and preparedness advisories (Lindsay 2011: 3). But great care needs to be taken to ensure the information provided is accurate and up-to-date. This is perhaps the most important challenge, given the inherent lack of quality control on social networks and the potential for malicious falsehoods (ibid.: 7). As the COVID-19 crisis has shown, misinformation can increase the lethality of a disaster (Bridgman et al. 2020). While a full account of how social media should be used in flood risk planning is beyond the scope of this paper, it is at least clear that online campaigns should be authorized by an official source—as government announcements tend to enjoy particular authority when it comes to disasters (Enria et al. 2021)—and the materials should be thoroughly fact-checked in order to prevent abuse. Campaign literature can and should be targeted to meet the needs of specific users (ibid.), such as young people on the property ladder in this case.

Finally, policymakers should give due attention to the psychological and social impacts of flooding. This should include *investment in ample mental health support* for affected families, lasting well beyond the immediate aftermath of the disaster. This would address the ongoing mental trauma of losing a home, as well as the emotional toll of trying to resume normal routines while still coming to terms with such a life-changing event. Local authorities should emphasize the *importance of strengthening community ties* as a way of reducing flood risk. Young people should be encouraged to serve their neighbourhoods through undertaking first aid training, participating in flood campaign groups, raising awareness on social media or helping to organize flood drills. This will give young people a stake in the wider community, induce psychological preparedness for flooding and also ensure that they do not experience social and emotional isolation in the aftermath of a flood disaster. The benefits of such community interventions will likely offset the psychological burdens imposed by a flood.

CONCLUSION

This paper has sought to provide ways to reduce the flooding risks for young people in the UK housing market. First, it outlined how properties suffer damage from both overland and overfloor flooding. Second, it discussed the financial burdens accrued when households experience inundation. Third, it explored the financial burdens and benefits of various measures to counteract flood damage. Fourth, the paper widened the focus to include the non-monetary burdens of flood damage, which tend to be neglected in cost-benefit studies. Finally, the paper ended with a series of policy recommendations to alleviate the burdens of flooding. This research reveals the need for a comprehensive policy strategy to reduce flood risks, where authorities at all levels can act in concert to reduce the risks to both renters and first-time buyers on the property ladder.

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