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Talking 'bout a revolution: resilience and coastal policy in England

Christopher Thomas Blunkell

Business School, Canterbury Christ Church University, Canterbury, UK

ABSTRACT

Sea defence policy in England has proven contentious in the early twenty-first century, with government willing to defend the coast only where it is considered cost effective and not minded to compensate people for any resulting abandonment of homes.

Additional focus is brought to this position by the 2015 United Nations Sustainable Development Goals (SDGs) which reflect a growing emphasis on climate change effects and other environmental hazards, and the wellbeing of the current generation and those to come. This requires policy makers to seek to balance economic, social and environmental dimensions, and to tackle inequalities; with a central commitment of the goals to "leave no one behind".

Subsequent to publication of the SDGs, England was promised a revolution in the government's approach to Flood and Coastal Erosion Risk Management (FCERM). This paper seeks to understand the nature of this revolution with particular regard to extant issues around just governance. It finds that policy fails to deal with issues over the local acceptability of proposals for change and the bearing of risk, and instead lies principally in the elevation of the problematic concept of resilience and an accompanying ambivalence towards ideas of sustainability and sustainable development.

International agreement that compensation should be paid to those countries suffering the worst effects of climate change, including sea level rise, suggests that adoption of a similar approach to vulnerable homeowners might be the more appropriate revolution and bring policy more into line with the aspirations of the SDGs.

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Resilience; coast; risk; sustainability; sustainable development; decision making

Key policy highlights

- Policy makers have promised a revolution in FCERM strategy, but this does not address historic controversies such as the identification of risk and who should bear it, or how decisions are made. A minority of coastal dwellers continues to face the prospect of the uncompensated loss of homes.
- Any revolution lies in the deployment of resilience as the conceptual frame for FCERM prescription and activities. However, calls for conceptual clarity by policy makers have not been met in this regard.

CONTACT Christopher Thomas Blunkell  chris.blunkell@canterbury.ac.uk  Business School, Canterbury Christ Church University, North Holmes Rd, Canterbury CT1 1QU, UK

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- Resilience as employed in FCERM strategy largely avoids issues of social justice, with attention deflected away from the principles of sustainable development as enshrined in the UN Sustainable Development Goals (SDGs).
- Agreement in principle on compensation for coastal “climate losers” would better reflect an emerging global consensus on vulnerability and just adaptation, and help to facilitate locally acceptable change.

Aim and structure

This paper explores and evaluates features of what has been presented by government as revolutionary change in coastal strategy in England. The first section covers the context to which the strategy applies – climate and coastal change and policy responses, controversies and local responses to policy proposals, relevant international governance and the rise of the concept of resilience. The second part interrogates speeches from government leaders as well as policy documents, and in particular the implications of “resilience” in terms of its potential for delivering acceptable local outcomes. Finally, a discussion considers the utility of resilience in relation to shifting global approaches to climate justice and proposes alternative directions for policy, practice and research.

Introduction

A long-standing phenomenon, flood and coastal erosion risk in England is now expected to increase significantly as a consequence of rising sea levels associated with climate change and development in areas at risk (EA 2020). Global sea level rose throughout the twentieth century with further and more sizeable increases forecast into the twenty-first century. The Intergovernmental Panel on Climate Change (IPCC) reports that global warming will continue to increase between 2021 and 2040 (IPCC 2023) and 2018 forecasts for London predicted that by 2100 sea level rise will occur in the range between 29 and 115 cm, depending on emission scenarios and subject to caveats including the melting of ice sheets (UKCP18 2018).

In the early twenty-first century government policy for England shifted from a doctrine of flood defence to a policy framework of flood and coastal erosion risk management (FCERM) with a fresh emphasis on:

... actions that can be taken to manage these risks and reduce the impacts on communities (Defra/EA 2011, 1).

Sea defence is a permissive power under the 1949 Coast Protection Act (HMSO 1949) and Defra has made explicit that government will defend the coast only where it is sustainable to do so and that it will not compensate individuals for any loss of property (Defra/EA 2011).¹ In one respect, a policy not to defend everywhere is uncontroversial. The IPCC observes that:

Actions that focus on short term gains often lead to maladaptation over the long term ... For example, sea walls effectively reduce impacts in the short term but can also ... increase exposure ... in the long term. (2023, 25)

However, in the decades to come the number of homes expected to be lost grows significantly. Sayers et al. (2022) report that a combination of rising seas and coastal erosion could see between 120,000 and 160,000 properties – both residential and non-residential – at risk by 2050. Whilst the vast majority of coastal dwellers can expect to be defended into the future under current arrangements, others have learned through the development of a second generation of Shoreline Management Plans (SMP)² that defences are likely to be abandoned at some point through a process of “managed realignment” – and their homes with them (Defra 2009a). This has seen friction between government and affected communities (POST 2010), with Giddens ascribing “huge protest” to an absence of consultation with local interests (2009). Findings from a number of studies and government documents – many of these dating to the period in which the second generation of SMPs were set – are instructive on this point.

Governance arrangements have long been understood as complex and involving multiple stakeholders. Transparency and participatory processes are considered crucial if requirements for nature conservation, on the one hand, and the needs and preferences of coastal communities, on the other, are to be reached. Achieving this has proven difficult, however, with differences in stakeholder understandings accompanied by concerns over social and economic wellbeing and uncertainty as to predictions regarding coastal change (Milligan et al. 2009). Controversy has been most evident in cases where property is to be lost as a consequence of proposed change (Tubridy, Lennon, and Scott 2022), with changes to extant levels of defence in favour of realignment also likely to cause upset (Milligan et al. 2009; O’Riordan, Watkinson, and Milligan 2006). The example of Happisburgh on England’s east coast is instructive in this regard, with Girling explaining how the 1996 first generation SMP plan to “hold the line” – with its assurance of ongoing protection – was supplanted by a decision to allow the village to be “surrendered to the sea” just 8 years later (2007).

A consultation exercise on coastal change policy undertaken by Defra in 2009 drew responses from 15 individuals and community groups, all of whom argued for assistance for homeowners on the basis that coastal erosion is exacerbated by man-made climate change, a point subsequently supported by the IPCC (2023). This sentiment was accompanied by an appetite for funding being used for defence rather than adaptation (Defra 2010), echoing O’Riordan et al. who describe an expectation amongst local people and businesses in areas earmarked for change for “holding the line” (2006).

Creed et al. (2018) observe that there is only limited critical understanding of which participatory approaches work and under what conditions, with few relevant studies conducted on a local scale. Fletcher (2007) points to doubts amongst stakeholders as to the robustness of decision-making processes, and in particular how contributions are received from the wider community. More generally, van der Plank et al. (2022) characterise public participation in deliberative encounters as “problematic” and “tokenistic” whilst observing that the twenty-first century has seen a shift towards a “resilience” paradigm in coastal flood risk management, with increased interest in a (further) shifting of responsibility in governance towards households and local stakeholders. This, they argue, promises the negotiation of shared responsibility for risk which, in turn, places an onus on a genuinely inclusive engagement with individuals with potentially divergent views. Whether this has been achieved is questionable, and by way of remedy Tubridy et al. argue for policy that looks beyond the reduction of exposure to climate hazards and instead positions change with regard to social, economic and political structures (2022), thus reflecting the headline requirement of the UN 2015 SD Goals. (UN no date) to which the UK government has been an enthusiastic signatory (Cameron 2015).

Unsustainable development goals

The period between publication of the two most recent FCERM strategies (Defra/EA 2011; EA 2020) saw a shift in the UN’s framing of global development objectives. Between 2000 and 2015, these were codified by the Millennium Development Goals (MDGs) reflecting public concern about poverty, hunger, disease, education, gender inequality and environmental degradation. In 2015, the MDGs were replaced by 17 Sustainable Development Goals (SDGs) with objectives reflecting a growing awareness of the need for a response to climate change effects and other environmental hazards (Sachs 2012).

Sachs argues that whereas MDGs took as their focus the ways in which richer countries might help poorer countries, the SDGs consider what all countries – developed and undeveloped – should do for the wellbeing of the current generation and those to come. To this end, he argues for the importance of the quality of governance “from local to global ... At every level, government and official agencies should be responsive to the citizenry” (2012).

SDGs do not commit governments to prescribed courses of action. Rather, the UN’s 2030 Agenda for Sustainable Development is designed to be implemented “within ... countries and at the regional and global levels, taking into account different national realities, capacities and levels of

development and respecting national policies and priorities” with the expectation that policies will be consistent with relevant international rules and commitments (UN, [no date](#)).

Nonetheless, SDGs require policy to take an approach to meeting targets that is “integrated and indivisible” with regard to balancing economic, social and environmental dimensions, with the tackling of inequalities within as well as among countries – developed as well as developing. More specifically, the Agenda observes that “climate change impacts are seriously affecting coastal areas” whilst envisaging a world in which “no one is left behind” (UN, [no date](#)). This concern for vulnerable coastal dwellers (and implicit rejection of raw utilitarianism) – reflected in IPCC commentary ([2023](#)) – invites interrogation of FCERM strategy for England which in a report on social justice commissioned by the EA and Defra and published in 2008 was judged to favour utilitarian calculation and account inadequately for the vulnerable in FCERM decisions (Johnson et al. [2008](#)).

Contemporaneously, the UK government has embraced the concept of resilience as central to what has been described as a radically new approach to FCERM in England. In 2018 (then) Secretary of State for Environment, Food and Rural Affairs Michael Gove explained in a speech accompanying publication of the latest round of UK Climate Projections³ that:

Government will publish a long term policy statement next year, and the Environment Agency will issue a new 50-year strategy ... I believe these should explore new philosophies around flood and coast management. (Gove [2018](#))

Months later, (then) Environment Agency⁴ (EA) chair Emma Howard Boyd echoed the “new philosophies” line for an audience at Brunel University ([2019a](#)), and in 2020 EA Chief Executive Sir James Bevan confirmed that “*The Strategy contains a lot that is new, indeed revolutionary*” (Bevan [2020](#)).

Sustainable development and resilience

In 2019, on the subject of the anticipated 2020 FCERM strategy, Bevan told delegates at the Environment Agency Flood and Coast Conference:

The strategy lays out a vision which can be summed up in one word: resilience ... we need to move from a narrow concept of protection – essentially building walls round things we want to protect – to a broader one of resilience, which will still include walls but will also involve reducing the risks to the things we want to protect, and strengthening their ability to cope with flooding and coastal change ... (Bevan [2019b](#))

Thus attention is directed towards the rise in prominence of the concept of resilience in government FCERM discourse – and, given criticisms of extant policy, the implications regarding questions of governance and social justice as enshrined in the SDGs.

Though increasingly popular in academic and policy circles, resilience is not easily defined or used, and has been the subject of significant contest – not least with regard to the equity of outcomes achieved in its name. The concept emerged in the 1970s in academic scholarship with its application in policy increasing in the 1980s and 1990s before becoming pervasive in the twenty-first century (Zanotti et al. [2020](#)). Baggio et al. ([2015](#)) note a significant increase in use of the term in published academic papers from 2005 from disciplinary fields including ecology, environmental sciences, engineering, economics, social sciences and cognitive sciences.

Resilience is understood and applied variously (see [Figure 1](#)). It can be used descriptively or as a normative concept and can be put to different purposes say Baggio et al., with different definitions the result of different traditions and fields of inquiry ([2015](#)).

Engineering resilience

Drawing on work by Holling ([1973](#)), Davoudi ([2012](#)) conceptualises engineering resilience as the ability of a system to return to equilibrium after a disturbance, with key measures being resistance to the disturbance and the speed with which equilibrium is restored. A steel spring returning to its original shape is a commonly used example.

Resilience model	Characteristics	Social justice implications
Engineering	Bounce back to original stable state (protection)	Conservative – restores status quo
Ecological	Bounce forward to new stable state (adaptation)	Seeks new status quo – no clear normative component
Evolutionary	Change attended by experiment and learning (transformation)	Prospect of failure and loss – value free, no obvious normative component
Panarchic	Transformation	Encourages consideration of ecological, economic and institutional processes in concert

Figure 1. A taxonomy of resilience concepts.

Ecological resilience

Gunderson proposes that ecological resilience be measured by “the magnitude of disturbance that can be absorbed before the system redefines its structures” (2000), with Fünfgeld and McEvoy (2012) observing that such questions are typically raised in the context of biodiversity management and vulnerability to climate change impacts. Ecological resilience rejects the idea of return to a single equilibrium. Rather, it acknowledges that a different stability might be achieved under new conditions.

Davoudi (2012) observes that, despite their difference, the engineering and ecological renderings share a belief in equilibrium – bouncing back to a pre-existing one according to the engineering conceptualisation and bouncing forward to a new one according to the ecological. In this respect, a third conceptualisation – evolutionary resilience – is quite distinct and brings with it different implications with regard to questions of equity.

Evolutionary resilience

Davoudi argues that implicit to the concept of evolutionary resilience is that systems can change in response to stresses and strains. To embrace this concept, he suggests, is to see the world as chaotic, complex, uncertain and unpredictable rather than orderly and mechanical – resilience as becoming rather than being (2012). Failure and loss are central to this rendering (Leach 2008) which appears to be compatible with that favoured by Benson and Craig who argue that “sustainability” and “sustainable development” are difficult concepts to disentangle and that new approaches are required given the complexity of socio-environmental dynamics. Accordingly, they advocate that “resilience” should replace “sustainability” for ecological governance purposes (2014). Resilience, they argue, allows for “regime shifts” and “disequilibrium” and allows for consideration of exactly what should be valued and protected, and for “a more realistic approach to management” – whatever that may mean.

We should also note, however, that Benson and Craig consider resilience as value free and therefore to require a “transparent examination of social justice ... concerns” (2014), with the caveat that, used badly, the concept risks being dismissed as another tool of neoliberalism.⁵ Critics have proposed that resilience is conceptually vague. Fünfgeld and McEvoy (2012) argue that it is used inconsistently and is often left unexplained. Aradau (2014) considers it ambiguous and elastic, whilst Brown discusses its “malleability” and “plasticity” (2014). In addition, Davoudi (2012) argues that the concept brings with it the idea of self-organisation, which translates easily to the ideologically-charged idea of self-reliance – amply evident, he observes, in relevant policy literature.

Thus we might ask how Benson and Craig’s stipulation with regard to social justice concerns are to be satisfied. Berkhout (2008) proposes that we “must ask always whose resilience is at stake, and about its unequal distribution”, whilst Jasanoff stresses the importance of what resilience means for those faced with particular dilemmas and conflicts (Leach 2008). Pessimistically, Hornborg observes that the language of policy and management tends to steer clear of consideration of power, conflicts and inequalities, and instead emphasises “... the harmonious functioning of natural systems through adaptation, wise management, and appropriate technologies” (2009).

Although an evolutionary conceptualisation does not appear to embrace considerations of equity in any meaningful way, then, a fourth rendering of resilience appears to offer such potential.

Panarchy

Panarchy is distinctive in appearing to raise complex questions that must be considered in planning change, and so guiding attention to the processes through which decisions are made and the actors involved.

Gunderson and Holling developed “panarchy” as a theory of change in adaptive systems that sought to integrate across disciplines to better understand systems of linked ecological, economic and institutional processes.

As such, panarchy recognises that:

... the expanding influence of human activity intensifies the coupling between people and system of nature so that neither can be understood in isolation. (2002, 21)

In particular, the researchers sought to understand transformational changes, and by including consideration of social and institutional processes panarchy appears to make room for considerations of power, conflicts and inequalities that critics have argued are absent in other renderings of resilience. This conceptualisation also appears to allow for consideration of all manner of transforming events – not just those occurring on a grand scale or that might be termed disasters. Thus the slowly eroding beach and the growing vulnerability of those who live next to it becomes a legitimate subject.

The researchers’ rationale for framing the concept in this way is that issues connected with sustainable development are not just ecological, economic or social problems, but all three – a position in sympathy with the guiding principle of the 2015 SDGs.

Panarchic change, argue Gunderson and Holling, has seen learning, with degraded systems restored, organisations reshaped and management revitalised (2002). However, it is no panacea. As with evolutionary resilience it is transformative but not prescriptive in terms of outcome: failure, Gunderson and Holling argue, has seen erosion of the natural world and a loss of trust in institutions of governance, of which local protest might be considered a symptom.

Materials and methods

Through critical discourse analysis (CDA) this paper interrogates the 2020 FCERM strategy in comparison to its predecessor, as well as speeches from the EA leadership that trailed and contextualised it. In so doing it seeks to establish the nature of these “new philosophies” and asks whether historic concerns over policy in England have been addressed. Specifically, the study considers:

- Risk – the nature and causes of risk, who bears it
- Relocation and governance – who will have to relocate and under what conditions, and how decisions are made
- Funding – who pays for risk management measures
- Language, concept and discourse – how concepts of “sustainability”, “sustainable development” and “resilience” are understood and employed.

Taylor defines critical discourse analysis as aiming to:

explore the relationships between discursive practices, events and texts; the wider social and cultural structures, relations and processes.

In so doing, she proposes:

CDA explores how texts construct representations of the world, social relationships and social identities, and there is an emphasis on highlighting how such practices and texts are ideologically shaped by relations of power. (2004, 435)

In seeking to explore how power is exercised, then, the researcher looks at the things people say and do, and things that are written; and also at the structures and interactions which constitute their context. This is a good fit with our interest, which takes language as its subject whilst principally concerned with the social and power relationships codified within it.

The author follows Gee’s recommendation to consider:

... all that we can learn about the context that ... language is both used in and helps to create or construe in a certain way ... (2014, 53).

and his observation that:

... answers ... are always tentative ... we can nearly always learn more about the material, social, cultural and historical contexts in which the words were uttered or written. (2014, 54)

Accordingly, the resulting analysis is not presented as exhaustive but instead is intended to raise questions that official accounts appear to have neglected, stimulate discussion and propose a way forward.

Results

Risk

How is risk understood by policy makers in terms of how it is understood and who should bear it?

The 2011 EA FCERM strategy observed that the climate is changing and this is likely to have an impact in terms of flooding and coastal erosion. Notably, this statement is equivocal on the causal relationship between climate change and coastal loss, and it also fails to mention any anthropogenic component. Rather, both the problem (of flooding and coastal erosion) and the favoured solution are framed as exclusively “natural” with no reference to the effect on risk of, for example, a reversal of historic policy decisions to defend or not in particular areas. The strategy proposes not only that flooding and coastal erosion result from natural processes but also that this can have benefits. Sustainable approaches, we learn, “generally work with natural process” (2011).

The 2011 strategy also proposed that authorities re-engage communities in the risks they face and the choices that affect them, and that government should work with individuals, communities and organisations to develop better understanding and encourage them to “take action and manage the risks ... and make their property more resilient” (2011).

The 2020 strategy reinforces the “natural” change discourse. However, this is tempered by the statement that “Climate change, ageing defences, growth and other pressures mean the risk of

tidal flooding is increasing over time” (2020) – better reflecting, in part at least, the IPCC’s unequivocal ascription of global warming to human activities (2023).

Trailing the new strategy, speeches by EA leaders made between 2018 and 2022 stress that the risk must be borne by individuals, with the responsibility of government lying in helping people to both understand and reduce it (Bevan 2018a, 2019b, 2020; Gove 2018; Howard Boyd 2019b).

We need everyone to own their own flood risk. (Bevan 2019b)

The most EA recent strategy maintains the approach to public engagement of its predecessor in “seeking to build a nation of people who understand their risk to flooding and coastal change, and know their responsibilities and how to take action” on the back of the observation that only a third of people who live in areas at risk of flooding consider their property to be at risk (2020). Of note is that by 2020 the scope of such engagement had grown to “a nation of people” rather than the “communities” of 2011.

Whilst difficult to characterise as revolution, the comparison of the 2011 and 2020 strategies suggests a shift in government thinking toward the greater assumption of risk by individuals. Also of note in the later document is the ascription of risk, partially at least, to human activity and government intervention rather than climate alone (although, again, anthropogenic factors in climate change are conspicuous by their absence in this account).

Relocation and governance

Who will have to relocate and under what conditions? How are such decisions made?

In 2011, EA strategy had it that

Flooding and coastal erosion cannot be entirely prevented ... there is no general right to be protected from flooding and coastal erosion ... (2011, 35)

Implicit to this position is that people in areas at risk and which government will not defend (even if they have been defended in the past) should expect to shoulder any loss themselves.

The 2020 policy statement does not deviate from this position, nor have the ways in which decisions are made changed radically. The 2011 policy placed Localism⁶ at the heart of its strategy and acknowledged that communities deserve greater licence to inform management approaches in the light of criticism that the system has lacked local influence. We were told that authorities should “work in partnership with communities” and “encourage them to have direct involvement in decision-making ... and risk management actions. This includes giving communities a bigger say in what action is taken, greater responsibility for managing their own risks and decisions on local funding priorities ... ” (2011, 14)

The 2020 strategy echoes this position, proposing that:

Risk management authorities need to ensure that people are at the heart of planning and adapting to future climate risks. (2020, 97–98)

Bevan (2022) proposed that “interventions ... will all be better when they are designed and delivered as a common endeavour ... rather than as a take-it-or-leave-it solution handed down by the Environment Agency” (2022) – a sentiment echoed by Howard Boyd (2019b) who stressed the importance of giving people “control” and “choices”, and in line with both SDG prescription (UN, not date) and IPCC recommendation (2023). However, government acknowledges that not everyone is able or willing to participate in deliberative exercises, and that attention must be paid to developing engagement methods that consider both representation (of community groups and interests) and the extent to which participants represent the wider community. Although the strategy acknowledges that “some adaptation discussions and decisions about managing future flooding and coastal change will be inherently political and contentious”, the extent to which such exercises have foundered because local people will not accept the options available to them is not explored, nor solutions proposed (EA 2020).

In a 2018 speech, Bevan (2018a) considered the merits of moving houses and people from places at the highest risk rather than defending every inhabited location and concluded that we “should be prepared to

have the debate”, whatever that may be. He foresaw authorities “helping the communities affected to achieve a managed transition to different arrangements” (2019b). Whilst he deemed it too early to say which communities are likely to need to move, he proposed that the conversation should start immediately whilst stressing that it will be “difficult and controversial”. Again, why this should be problematic is not made clear, and we might also question his assertion that it is too early to identify those so affected given that EA had conducted precisely such an analysis 5 years previously (Carrington 2014).

Whatever may be revolutionary about the 2020 FCERM strategy, it does not lie in government’s approach to the ways in which important decisions are made about the allocation of resources or what happens to those displaced. However, we might pay attention to a shift in the way in the issue is conceptualised – notably through the observation that “some of these communities may choose to transition and adapt with support from risk management authorities” (EA 2020), which raises the question about the conditions under which abandoning one’s home uncompensated might reasonably be considered a choice and the nature of the promised support.

Notes

1. Contemporary debates around FCERM in England can be traced to the storm of May 1953 and resulting policy development. Sea defences suffered 1200 breaches, 140,000 acres of land were flooded, 24,000 properties were damaged and 307 people lost their lives. There was no national warning system, with response to the disaster – for example, search and rescue – predominantly undertaken by local people (Hall 2013).
Parliament subsequently passed the Coastal Flooding Emergency Provisions Bill in May 1953 which handed responsibility to regional River Board authorities and outlined where funding might be available. This also saw the formation of the Departmental Committee on Coastal Flooding and, notably, its publication of the Waverley Report in May 1954 which made recommendations for a Storm Tide Warning Service and a Thames Barrier subsequently completed in 1984 (Hall 2011).
2. SMPs are non-statutory high-level documents that provide a “route” map for managing coastal flooding and erosion risks. They provide the latest information on coastal changes, including social, economic and environmental data and balance these to set sustainable sea flooding and erosion risk management policies for the future, with plans covering specific areas of coast. Policy options for each SMP are broken down into time epochs, with four possible management approaches identified:
 - Hold the existing defence line – maintain or upgrade the level of protection
 - Advance the line – build new defences seaward of the original defences
 - Managed realignment – allow the shoreline to move backward or forward with management to control or limit movement, and
 - No active intervention – a decision not to invest in defences (Defra 2006).
3. <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp>
4. The Environment Agency is an executive non-departmental public body with a statutory duty to develop a National Flood and Coastal Erosion Risk Management Strategy for England. The purpose of the strategy is to guide the operational activities and decision making of practitioners supporting the direction set by government policy (EA 2020).
5. Thorsen argues that “neo-liberalism” be understood not as a catch-all description from a wide range of political theories that advocate “a sweeping ‘roll-back of the state’ and the creation of a society principally governed by unregulated market mechanisms” (2010, 203).
6. <https://www.local.gov.uk/localism>
7. Townend et al. (2021) note that there are conflicting ideas on how the concept of resilience might be understood and that its operationalisation in England remains limited.
8. The concept of adaptation has also been subject to conceptual drift. In 2019, Bevan offered an alternative rendering of adaptation that covered building stronger flood defences – an activity that we are later told falls under the heading of protection (Bevan 2019a).

Funding

Who pays for risk management measures?

The 2011 strategy observed that some coastal areas had benefited from protection at the general taxpayers’ expense, but that similar protection for everyone was unaffordable and that costs should not

fall to the taxpayer alone. Accordingly, government announced a new system of funding to include private and individual contributions, encouraging total investment to increase (EA 2020).

Subsequently, Bevan (2019b) estimated that £1 billion per year over the next 50 years would be required to “build and maintain the traditional hard flooding and coastal change infrastructure the country will need”, with considerably more on “the resilient infrastructure, houses and cities we need, and in some of the softer measures like natural flood management”. He also observes that “much of the future investment ... doesn’t have to come from the taxpayer in the form of government grants” but instead from new sources, such as businesses, green finance, individuals and communities. He proposed that adaptation is not just a problem but also an economic opportunity and that “We can cut emissions, enhance resilience, make money and create a better world, all at the same time” (Bevan 2019a).

Whilst Bevan has hinted at an approach broadly consistent with the SDGs, implicit to which is the requirement to balance potentially competing imperatives, Howard Boyd (2021) has argued that “Adaptation needs to be considered through a more strategic economic lens” and that “... resilience measures are too reliant on the public purse”. Bevan’s appeal to market forces may reflect Howard Boyd’s concerns about reliance on public funding, but must be tempered by his earlier statement defending the orthodoxy by which the bulk of flood and coastal erosion risk management is funded by central government. In 2018, he argued:

At the moment the bulk of the money that goes into flood risk management comes from the government, which means the taxpayer. Some argue that this is unfair ... Personally, I don’t agree with that ... we are all citizens of this country, and we all have a duty to support each other in the face of whatever threats different communities face. (Bevan 2018a)

Gove, too, stressed the importance of “sharing fairly the burdens and benefits of climate change and its impacts” (2018).

There is a tension, then, in the positions taken by those at the top of the EA. On the one hand, appeals to the market, businesses communities and individuals to fund infrastructure and resilience rather than government, and on the other what appears to be a contradictory position supportive of state funding.

Overall, there is no revolution on funding to be found in the 2020 strategy, which remains heavily reliant on the public purse. Around 90% of funding contributions come from local or other public authorities and the strategy confirms that in the future more partnership funding would be required from non-public sources (EA 2020).

In terms of the substantive parts of policy, then – those aspects that have provoked anger and confusion from coastal communities at risk and been the focus of criticism in academic literature – there have been subtle shifts in focus rather than the promised revolutionary change. For that we must look elsewhere.

Language, concept and discourse

How are concepts of “sustainability”, “sustainable development” and “resilience” understood and employed?

The 2011 FCERM strategy applies the concept of sustainability variously – for example to government investments, drainage, working with natural process, management of risks, funding, and reconstruction post flood. With regard to sustainable development it aims to make sure that Defra, the EA and partners work together to “achieve environmental gains alongside economic and social gains consistent with the principles of sustainable development” with communities, individuals, voluntary groups and private and public sector organisations included to the same end (2011). The adoption of “sustainable approaches”, we learn, can greatly improve both the environmental condition of rivers, wetlands, coastal areas, and the social and economic circumstances around and within settlements.

More recently, sustainability and sustainable development have been consistent features of speeches by EA leaders. These concepts are applied variously – as a characteristic of government

approaches to managing flood and coastal erosion risks (Bevan 2022) and also more discretely as a desirable attribute of, for example, businesses (Bevan 2018b) and flood defences, drainage systems, and land management practices (Howard Boyd 2021b). Bevan has spoken approvingly of the UK putting net zero at the heart of plan for “a greener and cleaner economy” (2022). Speeches also hint at economic, social and environmental considerations as they apply to coastal change being considered in tandem in line with the UN 2015 Sustainable Development Agenda. Bevan (2020) stresses that spending on resilience “should contribute to job creation and sustainable growth in local places”, whilst Howard Boyd (2020) stresses holistic thinking at national level.

However, the 2020 strategy reveals no great shift in the understanding or application of these concepts despite the implications of the MDGs having been replaced by the 2015 SDGs. “Sustainability” is applied selectively to growth “in the right places” and “local places” that is “climate resilient” as well as environmental improvements, infrastructure, investment, water management, natural habitats and landscapes, farming business and practices, food production, agriculture and spending [EA 2020].

Again, a somewhat bland commitment is made to sustainable development:

Risk management authorities should ... contribute towards sustainable development ... by seeking to reduce the risks to people and the environment in a way that balances social, economic and environmental outcomes. It also complements the UK’s commitment towards global initiatives, such as the United Nations Sustainable Development Goals. (EA 2020, 27)

Overall, government’s position to sustainability and sustainability appears to be ambivalent at best. Howard Boyd (2019c) has argued that the language we use to talk about the climate emergency – “sustainability” included – “muddy the water”. Bevan stresses that “The right language can frame the debate in the right way” (2019a), but considers “sustainable development” to be “a phrase at which many people quietly glaze over and switch off”, with additional focus brought by his proposal that “if words like “climate change” and global warming” have become a turn-off for most ordinary people, maybe we should change the words” (2018b). If this observation applies to “sustainability” and “sustainable development” – a reasonable assumption – then this risks undermining SDGs as a conceptual and ethical framework that might both inform and discipline domestic government policy.

With regard to formal FCERM strategy there is no great shift in either the nature or extent of government’s commitment to sustainability or sustainable development between 2011 and 2020 – this despite the considerable shift in emphasis represented in the SDGs. If anything, government has subtly distanced itself from those principles.

Tellingly, the statement that the principal aim of the EA in law is to “protect and enhance the environment, so as to contribute to sustainable development” (EA 2020) appears to both embrace the SDGs whilst directly contradicting the requirement that policy should take an approach to targets that is “integrated and indivisible” (UN, no date).

Resilience

“Resilience” is prominent in the 2011 strategy, featuring in the document’s title and in the first paragraph of the foreword. We learn that local resilience forums will develop, maintain and monitor flood plans to plan for coping with floods, and that “Householders and businesses at flood risk should take the appropriate steps to better protect their properties through property level resistance and resilience measures” (Defra/EA 2011).

Subsequently, the concept has become central to government policy thinking and is rendered in considerably greater detail. In a 2022 speech, Bevan identified resilience as one of three elements underpinning the government’s 2020 strategy and related thinking:

- Protection: building and maintaining flood and coastal defences to reduce the risks of flooding happening at all.
- Resilience: ensuring that when flooding does happen, as is sometimes inevitable, people are safe and communities can get back to normal quickly.

- Adaptation: recognising that in the face of climate change we will need to adapt both how and sometimes where we live – which is perhaps the most controversial of all. (Bevan 2022)

By this reading, resilience is quite distinct from the concepts of protection and adaptation and contains the potential for a variety of outcomes. In common with the 2011 strategy, more recent speeches stress either protection or getting back to normal as the purpose of action (Bevan 2022; Defra/EA 2011; Howard Boyd 2022) – the latter an example of “engineering resilience”. In contrast, some of the most recent policy references to resilience have as their end “building back better” with the idea that properties are better able to withstand future shocks (EA 2020) – an example, then, of an ecological conceptualisation of resilience. Finally, various statements from EA leaders suggest an orientation to an evolutionary rendering of resilience with Bevan equating enhanced resilience with the opportunity and loss associated with making money (2019a) whilst being content that some areas will be surrendered.

The concept is considerably more pervasive in the 2020 strategy, and more expansive in terms of scale, scope and timeframe. This strategy articulates the vision of “A nation ready for, and resilient to, flooding and coastal change – today, tomorrow and to the year 2100” (EA 2020). In terms of scale, besides national level prescription the strategy also pursues resilience for people and places. This, we learn, can be realised through the avoidance of inappropriate development in the floodplain; the use of nature-based solutions to slow the flow of or store flood waters; better preparing and responding to flood and coastal incidents through forecasting, warning and evacuation; and either helping communities and local economies recover more quickly after a flood or building back better so that properties and infrastructure are more resilient in the future. Resilience can be the result of investment in infrastructure, and is ascribed the potential to increase confidence in existing developments or attract new businesses and employment opportunities, and in places of economic importance to contribute to national economic growth.

Further interrogation of speeches suggests unevenness and even contradiction in the understanding and employment of the concept which is problematic if we are to identify intent in government statements.⁷ For example, In 2018, Bevan told his audience that “We are building new flood defences up and down the country, explicitly designed for climate resilience” (2018a) when his later statement (2020) confirms defences to be an example of protection, and thus quite distinct from resilience.⁸

Also confusing, given the heavy policy stress on people owning their own risk, Bevan (2022) tells us that resilience, along with protection and adaptation measures, “will ... be better when they are designed and delivered as a common endeavour”. Similarly, Bevan’s observation that the Strategy aims to ensure all relevant spending contributes to job creation and sustainable local growth is hard to reconcile with the idea of the individual owning and ameliorating their risk with government cast in the role of provider of information and support, and Howard Boyd (2021) telling us that “resilience measures are too reliant on the public purse”. Rather, Bevan’s statement appears to carry the promise of state funding and oversight – but of what and for whose benefit is not clear.

In whose gift do we now find resilience? In part it is a quality bestowed by authorities, it seems. For example, we learn that resilient places require a joined-up approach from risk management authorities and other partners, with authorities taking opportunities to work with farmers and land managers to help them adapt their businesses and practices (EA 2020). We might note that in this example adaptation is conceptualised as *supportive* of resilience rather than distinct from it as with Bevan’s 2020 rendering. A commitment to cooperation between authorities and the insurance sector in “place shaping” hints at a shared risk approach (EA 2020). Yet again, these examples appear to countermand regular imperatives for people to “own their own risk”.

For all of the 2020 strategy’s commitment to a widespread resilience, there also a strong suggestion that access to state funding to this end will be uneven, with risk management authorities and partners ensuring that spending is contingent on potential for job creation and growth. This being the case, we might ask how comfortably this idea – and that of people losing their homes uncompensated – sits with the aspiration that resilience should enable lives to be lived and planned comfortably (EA 2020) and the SDG vision of a world in which “no one is left behind” (UN, no date).

Discussion

If a revolution in policy for England is to be found it is in the deployment of resilience as the conceptual frame through which FCERM prescription and activity might be understood. Whilst the use of resilience in this context is not new, the nature and extent of its use marks a significant shift – and a problematic one.

Difficulties around definition aside, we might observe that both proponents and critics of the concept of resilience have identified its potential for co-option by – or at least alignment with – a neo-liberal discourse likely to attract criticism. This places a particular onus on policy makers to use it with the clarity they argue is so important, although their efforts have resulted in the opposite: the apparent meaning and implications of resilience in this context can change utterance by utterance and sentence by sentence.

For example, it is not hard to identify in speeches and policy statements concerning resilience an ideological orientation that bends toward neoliberalism in expressing a preference for a shrinking state, self-reliance and the individualisation of risk. However, it is similarly straightforward to identify a strand of communitarianism in stated enthusiasms for continued state provision and shared risk. Analysis predicated upon resilience thus leads us into a conceptual hall of mirrors: risk is owned by the individual, except when it isn't; the public purse can't be relied on to protect people, except when it can; protection is distinct from resilience but is also an example of it. At various times, we might identify the policy deployment of resilience as fitting engineering, ecological and evolutionary renderings (depending on their location and situation, coastal dwellers might find themselves subject to any one of these versions of resilience, with differing responsibilities towards it, and potentially facing wildly different outcomes). Nowhere, however, is the challenge of panarchy met, with the prospect of radical change accompanied by close attention to normative components and consideration of social and institutional processes.

Resilience as employed here, then, is an inadequate reference point for purposes of deliberation and action, further undermined by the subtle deflection of critical attention away from the principles of sustainable development as enshrined in the UN SDGs – the codification of principles that government could and should have placed at the centre of its FCERM revolution.

In line with an emphasis on addressing vulnerability, the SDGs challenge signatories to tackle inequalities within as well as between countries and specify coastal areas as deserving of particular attention. This principle was observed by the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27) which, following decades of deliberation (UN 2022a), has agreed that countries most vulnerable to climate disasters should be funded for “loss and damage”. The UN characterises loss and damage as arising from unavoidable risks associated with climate change such as sea level rise and embraces the principle that those vulnerable to such risks are not themselves principal contributors to them through, for example, emissions (UN 2022b).

On a global level, then – and echoed in the IPCC's observation that “Integrating climate adaptation into social protection programs including cash transfers ... is highly feasible and increases resilience to climate change” (2023, 37) – this establishes a principle for compensation of climate losers that sits at some distance from the evolutionary version of resilience that is the reality for some coastal dwellers in England. In as much as the UK government acknowledges that climate change is responsible, at least in part, for coastal loss then it must reconsider its position with regard to compensation if it is to be in step with this paradigm and satisfy the SDG requirement for national policies to be consistent with international rules and commitments.

The UK government has flirted with the idea of compensation for homeowners. A Coastal Pathfinder project that ran between 2009 and 2011 trialled compensation mechanisms in the shape of buy and leaseback options although these were rejected, at least in part, on grounds of cost (Defra 2011). A subsequent project scheduled to run between 2022 and 2027 – the Coastal Transition Accelerator Programme – is, like its predecessor, designed to identify tools and learning from innovative interventions. Publicly available information on the programme is scarce making critique difficult: official

commentary stresses that local authorities will collaborate with residents and businesses without stressing the mechanism through which this will be undertaken, whilst the list of proposed innovations is indicative only and does not include options for compensation for homeowners (EA [no date](#)). Overall, it is difficult to assess the potential of this initiative with regard to SDG alignment and the addressing of legacy policy issues.

There are precedents for compensation in the Anglo-Saxon world, with the buying back of properties in response to disasters policy in the United States and Australia (Sayers et al. 2022). Whilst following suit in England would represent a fundamental shift in government position, it might bring policy more obviously into line with UN SDG imperatives and could remove what appears to be a major obstacle to deliberative exercises devoted to coastal change – namely the acceptability of proposals for change to local people. In the same way that COP signatories now face the challenge of converting principle to action, so government would need to establish what compensation is available and to whom, and under what conditions. For example, it might address questions of moral desert by considering the case of property owners facing the loss of homes but with a historically legitimate expectation of ongoing protection. Difficult as this would undoubtedly be, mitigation of the prospect of catastrophic loss for owners of property in vulnerable areas would better allow for constructive negotiation over the ambition of a coastline that works with rather than against natural processes.

None of this would obviate the SDG requirement for signatory governments to be responsive to citizens, whilst the successful service of a fresh FCERM paradigm would require a stronger, and different evidence base than is currently available. Specifically, deliberative democratic exercises devoted to coastal change must be undertaken in which compensation for homes lost is available to property owners, and the results used to inform and refine subsequent actions. A reworked and more coherent conceptualisation of resilience, stripped of its association with uncompensated loss for a vulnerable minority, might then become possible as part of an FCERM strategy that is genuinely revolutionary and, importantly, in step with the UN SDGs.

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