Printed in U.S.A.
Vol. 117, No. 1

CLIMATE CHANGE ADAPTATION AS A PROBLEM OF INEQUALITY AND POSSIBLE LEGAL REFORMS

David A. Dana

ABSTRACT—Climate change will necessitate adaptation in all parts of the United States, but some individuals and localities will be better able to adapt than others. Wealth inequalities among individuals and localities already are translating—and will continue to translate—into inequalities between the rich and poor in their capacity to adapt. Current federal disaster aid programs and policies exacerbate these inequalities by favoring the wealthy, and future government resource management decisions and investments also may broaden the gap between rich and poor in terms of the economic and other costs they will bear from climate change. Some have suggested broadening Takings Clause liability as a means to address the problem of inequality and climate change adaptation. However, these suggested doctrinal reforms, if anything, would skew government actors to provide even greater protection to wealthy communities and even less to low-income ones. Broadening the public trust doctrine could help address some of the inequality problems associated with climate change, but the most important reforms needed involve the integration of equality analysis and equality concerns into all levels of administrative decision-making. And those reforms, in turn, will require a climate-aware, equality-focused, and politically effective electorate.

AUTHOR—Kirkland & Ellis Professor of Law, Northwestern University Pritzker School of Law.

INTRODUCTION

The differential capacities of wealthy and poor nations to adapt to climate change is a phenomenon demanding study and attention.[1] This is an uncontroversial proposition. Indeed, although real action has not always followed rhetoric, major wealthy nations in international climate talks at least have agreed to subsidize and support the adaptation efforts of poorer nations.[2]

By comparison, the question of inequality and climate change adaptation within the United States has received little attention, especially from legal scholars.[3] This Essay seeks to address the gap in the literature by posing and (very tentatively) answering several questions regarding climate change adaptation and inequality in the context of the United States.

The first question relates to the ways in which existing wealth inequalities among individuals and localities will translate into disparities in how well—or how poorly—individuals and localities adapt to climate change. The United States is characterized by massive inequality in the assets

---

[1] *See generally* Joe McCarthy, *Rich Countries Need to Help Poor Ones Adapt to Climate Change*, GLOB. CITIZEN (Sept. 28, 2017), https://www.globalcitizen.org/en/content/rich-countries-pay-poor-countries-climate-change/ [https://perma.cc/PJV6-GZAK] ("[T]he poorest countries have contributed the least to climate change and have the least resources for adaptation.").

[2] *See* Jennifer A. Dlouhy, *Rich Nations Hatch Plan for $100 Billion Climate Aid*, BLOOMBERG (Oct. 22, 2021, 6:04 PM), https://www.bloomberg.com/news/articles/2021-10-22/deal-struck-on-100-billion-climate-aid-plan-for-poor-nations [https://perma.cc/9ZZ8-72W6] (explaining that rich countries have fallen short in pledged aid for previous years).

[3] A notable exception is Alice Kaswan, *Domestic Climate Change Adaptation and Equity*, 42 ENV'T L. REP. NEWS & ANALYSIS 11125, 11126 (2012) (arguing that "equity considerations should play a vital role in emerging U.S. adaptation initiatives" and identifying "a set of principles designed to achieve equitable adaptation and further climate justice").

owned by and resources available to households and localities.[4] These inequalities in wealth can translate into inequalities of welfare,[5] which also may be true with respect to climate adaptation. Wealthier individuals can do what less wealthy ones may not be able to: buy more insurance, renovate or rebuild to make their homes more resilient, finance repairs and other costs of climate adaptation, or relocate. Moreover, household wealth also affects property tax revenue, which in turn affects the ability of local governments to adapt. State and federal regulation can constrain wealthier people and localities from protecting themselves from climate effects such as flooding and fire in certain ways that may be counterproductive to society as a whole. However, it seems doubtful that regulatory constraints will substantially temper the advantages of wealth for individuals and households, including the biggest advantage of all—the ability to relocate to areas that are at lower climate risk and hence are more expensive than those susceptible to the effects of climate change.

A second question is: How will inequality with respect to climate adaptation be affected by state and federal decisions regarding resource management and adaptation investments? If those management decisions and investments skew in favor of wealthy individuals and localities who, without state and federal aid, are already at an advantage, such decisions will enhance inequality; if they skew in favor of low-income individuals and communities, the decisions will lessen inequality. There are theoretical and historical reasons to believe that the federal and state governments ultimately will favor the wealthy, and certainly our federal disaster and postdisaster funding system to date has done so.[6]

---

[4] *See* Gillian B. White, *U.S. Ranks 23rd out of 30 Developed Countries for Inequality*, ATLANTIC (Jan. 16, 2017), https://www.theatlantic.com/business/archive/2017/01/wef-davos-inequality/513185/ [https://perma.cc/QNC9-RSA3] (reporting that in terms of equality, the United States ranked twenty-third out of thirty developed countries); Katherine Schaeffer, *6 Facts About Economic Inequality in the U.S.*, PEW RSCH. CTR. (Feb. 7, 2020), https://www.pewresearch.org/fact-tank/2020/02/07/6-facts-about-economic-inequality-in-the-u-s/ [https://perma.cc/6EYL-MHRT] (stating that the United States has the highest level of inequality among G7 countries); Trevon Logan, Bradley Hardy & John Parman, *Long-Run Analysis of Regional Inequalities in the US*, 37 OXFORD REV. ECON. POL'Y 49, 49 (2021) (exploring regional inequality over time); Robert A. Schapiro, *States of Inequality: Fiscal Federalism, Unequal States, and Unequal People*, 108 CALIF. L. REV. 1531, 1533–36, 1538 (2020) (exploring the inequality in resources and wealth among the states).

[5] *See, e.g.*, Fabian T. Pfeffer, *Growing Wealth Gaps in Education*, 55 DEMOGRAPHY 1033 (2018) (addressing how differences in family wealth translate into different educational attainment); Vanessa Wight, Neeraj Kaushal, Jane Waldfogel, & Irv Garfinkel, *Understanding the Link Between Poverty and Food Insecurity Among Children: Does the Definition of Poverty Matter?*, 20 J. CHILD POVERTY 1 (2014), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4096937/ [https://perma.cc/856E-AQG7] (exploring the link between poverty and food insecurity).

[6] *See infra* Part II.

A third question, which follows from the first two, is: How should law be adapted to reduce or eliminate inequalities associated with climate change adaptation? Since so many of the effects of climate change will impact property, in particular property in real estate and water, it seems reasonable to consider whether property law should be adapted to take account of climate change. It has been suggested that takings doctrine should be modified in order to make government more evenhanded in protecting property and compensating property owners, those who are wealthy and those who are decidedly not. In particular, commentators have suggested two modifications: (1) a relaxation of the "action" requirement and (2) the curtailment or elimination of the emergency exception to liability in the kinds of situations that have arisen and will arise with climate change.

These proposed modifications, while superficially appealing, would be counterproductive from an equality perspective. The modifications would encourage the government to devote more resources to wealthy areas and communities with high-market-value properties, and would be a boon to wealthy, litigious property owners. Instead, a better alternative could be found in a modification to public trust law. Because climate change and adaptation may create a country with simultaneously less usable and much more expensive seashores and waterfronts, a modification to public trust law would allow more public access to and use of privately owned seashore and waterfront land.

However, property law is not the principal way in which law can and should be adapted to address the inequality problem in the climate context. Among other things, administrative law needs to include environmental impact review by agencies that is more meaningful than what the National Environmental Policy Act (NEPA) and its counterparts call for under current law. This review should place issues of equality regarding adaptation front and center and place the burden on the agency to explain why it is not choosing equality-enhancing alternatives. Relatedly, cost–benefit analysis as conducted by agencies should be modified to genuinely consider the costs of inequality. But such reforms possibly presuppose new legislation, certainly presuppose new legislative funding and programmatic regulation, and above all presuppose sympathetic, committed, and empowered agency leadership. All of that is achievable only with the election of officeholders who care enough about inequality in the climate context to institute reform. In the end, the answer to how to reform the law vis-à-vis adaptation thus lies, as it does with respect to the climate issue writ large, with an informed, mobilized, and

supportive electorate—an electorate that we do not yet have, except perhaps in certain states, in the United States.[7]

I. *EX ANTE* INEQUALITY AS A SOURCE OF CLIMATE ADAPTATION INEQUALITIES

Wealthy individuals and households are better able to adapt to climate-related phenomena such as extreme heat, drought, wildfires, and flooding. Consider renters and property owners near the seashore or any other body of water where there is flooding risk. Renters, who on average have less wealth than owners, may have no way to make the structures they live in safer. Wealthier owners, on the other hand, can do what less wealthy ones may not: buy more insurance (even at a high cost), renovate or even rebuild to make their homes more resilient against flooding, and finance postflooding repairs and other costs.[8] Wealthier people can afford better and more energy-efficient cooling systems in their homes, and they may have more opportunities to telecommute and thus avoid venturing outside or using public transport when there are heat waves.[9]

Individuals also can adapt by moving to a physical site, neighborhood, or locality that offers better protection from climate effects, whereas local governments must remain in place. As noted, wealth sometimes may allow property owners to make the necessary investment to remain safely and comfortably in areas subject to climate-related risks. But sometimes, in some locations, the investments may not seem worth it, or the climate risks simply may be so daunting that no investment can protect against them. The wealthy can afford to adapt by moving to places that have physical characteristics or government-backed protections that make them safer and, logically, more

---

[7] To date, the records of different states reflect varied levels of political will to address climate challenges. *See, e.g.*, *State-Level Preparedness Report Cards*, CLIMATE CENT. (Nov. 18, 2015), https://www.climatecentral.org/gallery/graphics/states-at-risk-a-preparedness-report-card [https://perma.cc/RZ9Y-9QDL] (explaining that the states that face the greatest climate change threats are very different from one another in how much they have invested in climate preparedness). Another indication of variation among the states vis-à-vis climate change commitments is that some states, such as New Jersey and Massachusetts, have up-to-date statewide adaptation plans, while many other states have no plan at all. *State Adaptation Progress Tracker*, GEO. CLIMATE CTR., https://www.georgetownclimate.org/adaptation/plans.html [https://perma.cc/HWY5-LB6J].

[8] *See* Kenneth A. Gould & Tammy L. Lewis, *Resilience Gentrification: Environmental Privilege in an Age of Coastal Climate Disasters*, 3 FRONTIERS SUSTAINABLE CITIES 1, 3–4, 9 (2021), https://www.frontiersin.org/articles/10.3389/frsc.2021.687670/full [https://perma.cc/HGL7-WA2S] (explaining how rebuilding sustainably in coastal areas is expensive and selects for wealthy owners and buyers).

[9] *See* Cutler J. Cleveland, Alicia Zhang, Jacqueline Ashmore & Taylor Dudley, *Telework Mostly Benefits White, Affluent Americans – and Offers Few Climate Benefits*, CONVERSATION (July 22, 2020, 7:58 AM), https://theconversation.com/telework-mostly-benefits-white-affluent-americans-and-offers-few-climate-benefits-142251 [https://perma.cc/GG2R-AAQJ].

expensive. For example, in Miami, which faces some of the most dramatic flooding risks in the United States,[10] there has already been a movement of high-income households to somewhat more elevated locations slightly inland.[11] Indeed, "climate gentrification"—the gentrification brought by high-income people moving to neighborhoods that have become more attractive because of climate change—is now an established term in popular and academic discourse.[12]

Household wealth also affects property tax revenue, which in the United States often accounts for the bulk of local budgets. Household wealth, through its effect on property tax revenue, thereby affects a local government's ability to adapt to climate risks by, for example, upgrading sewer lines for greater storm overflows or planting trees to provide shade. In the United States, localities tend to be stratified by wealth (although in larger cities and counties, the stratification may be within the locality[13]). Wealthier localities can raise more revenue to invest in adaptation than less wealthy ones. Thus, household wealth facilitates adaptation at both the household and locality levels.

---

[10] *Miami, Florida*, FLOOD FACTOR, https://floodfactor.com/city/miami-florida/1245000_fsid [https://perma.cc/5A3R-8SU2] (assigning a "severe risk of flooding" to Miami).

[11] *See, e.g.*, Patrick Sisson, *As Sea Level Rises, Miami Neighborhoods Feel Rising Tide of Gentrification*, CURBED (Feb. 10, 2020, 11:30 AM), https://archive.curbed.com/2020/2/10/21128496/miami-real-estate-climate-change-gentrification [https://perma.cc/MP2H-CJDG] (discussing the possible connection between flooding risk and gentrification of elevated inland neighborhoods); Mario Alejandro Ariza, *As Miami Keeps Building, Rising Seas Deepen Its Social Divide*, YALE ENV'T 360 (Sept. 29, 2020), https://e360.yale.edu/features/as-miami-keeps-building-rising-seas-deepen-its-social-divide [https://perma.cc/2NUM-LRC5] (explaining how rising tides in Miami could worsen inequality by displacing residents of high-ground low-income areas); Jesse M Keenan, Thomas Hill & Anurag Gumber, *Climate Gentrification: From Theory to Empiricism in Miami-Dade County, Florida*, 13 ENV'T RSCH. LETTERS 1, 9–10 (2018) (finding that land elevation could impact long-term home values in Miami, and consumers may prefer higher elevation land).

[12] *See* Michael Allen, *Protection for the Rich, Retreat for the Poor*, HAKAI MAG. (Oct. 14, 2020), https://hakaimagazine.com/news/protection-for-the-rich-retreat-for-the-poor [https://perma.cc/XV9Z-LNUF]; Casey Tolan, *High Ground, High Prices*, CNN (Mar. 3, 2021, 10:00 AM), https://www.cnn.com/interactive/2021/03/us/climate-gentrification-cnnphotos-invs/ [https://perma.cc/TH7E-WJJG]; *Climate Gentrification and Resilience Planning: What Is at Stake for At-Risk Communities?*, ENV'T L. INST. (Sept. 18, 2019), https://www.eli.org/vibrant-environment-blog/climate-gentrification-and-resilience-planning-what-stake-risk-communities [https://perma.cc/UWR2-ZJAC]; Isabelle Anguelovski et al., *Why Green "Climate Gentrification" Threatens Poor and Vulnerable Populations*, 116 PNAS 26139, 26139 (2019), https://www.pnas.org/content/pnas/116/52/26139.full.pdf [https://perma.cc/ZK6D-A3SF]; Gould & Lewis, *supra* note 8, at 5 n.3.

[13] *See* Estelle Sommeiller, Mark Price & Ellis Wazeter, *Income Inequality in the U.S. by State, Metropolitan Area, and County*, ECON. POL'Y INST. (June 16, 2016), https://www.epi.org/publication/income-inequality-in-the-us/ [https://perma.cc/BU8T-AREM] ("Fifty-four of 916 metropolitan areas had gaps wider than the national gap. In the 12 most unequal metropolitan areas, the average income of the top 1 percent was at least 40 times greater than the average income of the bottom 99 percent.").

The inequality among individuals and households in their relative abilities to adapt to climate change could be tempered by governments in two ways: (1) by directly subsidizing lower income households and localities so that they can undertake adaptation in ways similar to wealthy households and localities (which, so far, has not been a clearly articulated goal of federal or state legislation and programs[14]), or (2) by prohibiting wealthy individuals and localities from engaging in adaptation measures that are only possible because of wealth.

This second possibility obviously raises the question of how governments could justify stopping individuals or localities from using their wealth to better their circumstances in the face of climate change. Even if the United States were a wildly more egalitarian nation than it is, it would be difficult for any politician or regulator to support stopping an individual or locality from helping themselves solely in the name of fighting for overall equality. Rather, the politician or regulator would need to articulate a reason that the wealthy's adaptation actually would make the environment and society altogether worse off. Moreover, moving to a location that is better protected from climate-related harms—one of the biggest ways individuals with resources can adapt—is not something one would think the federal or state government would seek to prohibit.[15]

Seawall restrictions are one example of governments restricting adaptation by individual property owners. A number of coastal states prohibit or substantially condition the construction of private seawalls. And for good reason: seawalls may contribute to long-term coastal erosion and thus may be an environmentally problematic flood-control strategy. They also can directly intensify flooding in neighboring areas not protected by seawalls.[16] While property owners have argued these seawall restrictions

---

[14] One notable exception is the U.S. Department of Housing and Urban Development (HUD)'s recently announced "Climate Communities Initiative," which HUD explains will be a "partnership with local leaders," in which HUD will provide "a suite of resources, support, and tools to help cities respond to equitably [sic] the climate crisis." *Climate Resilience and Adaptation*, U.S. DEP'T OF HOUS. & URB. DEV., https://www.hud.gov/climate/resilience_and_adaptation [https://perma.cc/BA74-4FCG].

[15] Interstate travel is protected under the Fourteenth Amendment to the U.S. Constitution, but it is far from clear that intrastate travel is a federally protected right. *See* Mitchell Crusto, *Enslaved Constitution: Obstructing the Freedom to Travel*, 70 U. PITT. L. REV. 233, 236–40 (2008). Nonetheless, it would be remarkable and politically, if perhaps not legally, untenable if a state government were to directly restrict internal movement of people within a state.

[16] *See, e.g.*, Alex Brown, *Coastal States Seek to Limit Seawall Construction*, PEW: STATELINE (Oct. 28, 2021), https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2021/10/28/coastal-states-seek-to-limit-seawall-construction [https://perma.cc/B7MS-LSWD]; JESSICA GRANNIS, ADAPTATION TOOL KIT: SEA-LEVEL RISE AND COASTAL LAND USE: HOW GOVERNMENTS CAN USE LAND-USE PRACTICES TO ADAPT TO SEA-LEVEL RISE 5–6 (2011), https://www.georgetownclimate.org/files/report/Adaptation_Tool_Kit_SLR.pdf [https://perma.cc/C6KR-RHBM].

constitute takings, courts have rebuffed these claims, explaining that the government itself is not causing sea-level rise and flooding and that property owners often bought their property with specific notice of restrictions on the construction of seawalls.[17]

One could imagine analogous restrictions with respect to the retention and use of private firefighters. Faced with repeated fires threatening their properties, wealthy landowners (including, as the tabloids reported, Kim Kardashian) have hired their own firefighters to supplement local, state, and federal efforts.[18] Some of the private firefighters may have engaged in illegal use of backfires in an effort to protect the properties under their care.[19] More generally, private firefighters can complicate and confuse large-scale government efforts to contain and manage fires and ensure safe evacuations,[20] although as of yet no jurisdiction has restricted the use of private firefighters. It also seems conceivable that, in times of intense drought, governments would seek to curb the ability of private entities to buy water rights for adaptation uses such as private firefighting, as such purchases might undercut the ability of governments to ensure that the basic household water needs of the general public are met.

In sum, existing wealth inequalities will advantage wealthy individuals and localities in adapting to climate change, although some forms of private adaptation may be restricted or prohibited. As discussed below, government resource management and investment decisions may exacerbate the disparities in adaptive capacity that are rooted in and reflect wealth inequalities.

---

[17] *See* Nies v. Town of Emerald Isle, 780 S.E.2d 187, 192–93, 202 (N.C. Ct. App. 2015); Stevens v. City of Cannon Beach, 854 P.2d 449, 450–51 (Or. 1993); Shell Island Homeowners Ass'n v. Tomlinson, 517 S.E.2d 406, 409, 414–15 (N.C. Ct. App. 1999).

[18] *See* Vicki Newman, *Why Kim Kardashian and Kanye West Hired Private Firefighters to Save Their Home*, MIRROR (Nov. 13, 2018, 7:32 PM), https://www.mirror.co.uk/3am/celebrity-news/kim-kardashian-kanye-west-hired-13585495 [https://perma.cc/S8H3-8G4H].

[19] *See* Alexandra Ulmer, *Private Firefighters Fuel Tensions While Saving California Vineyards and Mansions*, REUTERS (May 14, 2021), https://www.reuters.com/world/us/private-firefighters-fuel-tensions-while-saving-california-vineyards-mansions-2021-05-14/ [https://perma.cc/37WS-CX3Z].

[20] *See* Ethan Varian, *While California Fires Rage, the Rich Hire Private Firefighters*, N.Y. TIMES (Oct. 26, 2019), https://www.nytimes.com/2019/10/26/style/private-firefighters-california.html [https://perma.cc/H58H-X5C7] ("Private fire teams that show up to protect homes sometimes neglect to coordinate with emergency agencies and can hinder evacuation efforts . . . ."); Chiara Sottile, *Wealthy's Use of Private Firefighters Ignites Debate in Wildfire Country*, NBC NEWS (May 4, 2018, 3:37 AM), https://www.nbcnews.com/storyline/western-wildfires/wildfire-prone-states-wealthy-pay-have-private-firefighters-protect-their-n869061 [https://perma.cc/UGM6-XA62] ("For some—including many firefighters from municipalities—protection from a deadly wildfire isn't something that some neighbors should be able to buy when others can't. Furthermore, many first responders express concern that a lack of oversight and communication with private firefighters could add risk in an already dangerous fire situation.").

II. FEDERAL, STATE, AND LOCAL MANAGEMENT AND INVESTMENT DECISIONS AS A SOURCE OF CLIMATE-ADAPTATION INEQUALITIES

The resource-management and investment decisions of governments may add to the inequalities associated with climate change. Governments—especially federal and state—manage the flood-control systems in the United States and make decisions about how to store and release water. Federal, state, and local governments also play a large operational role with respect to the management of water for household, commercial, agricultural, and other uses—all of which can come under strain with climate-related drought. Similarly, federal and state governments own and manage large swaths of forest that may play a role in climate-related fires. How governments manage these resources in an era of climate change can intentionally or incidentally have inequality implications.

Governments at all levels also invest billions of dollars in climate adaptation and resilience efforts, whether they call them that or not. The Federal Emergency Management Agency (FEMA), through its various programs, spends billions on weather emergency preparation and recovery, which is a kind of adaptation expenditure program (even if sometimes not a particularly good one).[21] Various states and localities also have extensive adaptation plans.[22] For example, in New York City, federal, state, and city governments are trying to collaborate on a billion-dollar-plus riverfront construction plan to protect the Lower East Side from the sort of flooding experienced during Hurricane Sandy.[23]

Will government adaptation investment and resource decisions (both long-term and emergency) skew toward protecting the least advantaged, or will they focus on wealthy households and communities? Will they be neutral, or provide some mix of favor? There are several reasons to suppose that decisions will not favor the least advantaged and will focus on protecting the assets held by wealthy people and corporations.

---

[21] *See* Bridget Johnson, *DHS Budget: FEMA Funding Request Focused on Climate Resilience, Incident Response*, HOMELAND SEC. TODAY (June 5, 2021), https://www.hstoday.us/federal-pages/dhs/dhs-budget-fema-funding-request-focused-on-climate-resilience-incident-response/ [https://perma.cc/QM6Y-2HUV] ("The $28 billion FEMA budget request is nearly $1.9 billion more than the amount enacted in fiscal year 2021, including more than $532 million more than the previous year to fight climate change.").

[22] *See, e.g.*, PEW CTR. ON GLOB. CLIMATE CHANGE, ADAPTATION PLANNING – WHAT U.S. STATES AND LOCALITIES ARE DOING (2009), https://www.c2es.org/wp-content/uploads/2009/08/state-local-adaptation-planning.pdf [https://perma.cc/P9P9-7Q4J] (describing how individual states are, to varying extents, engaging in a range of adaptation planning and activities).

[23] Michael Kimmelman, *What Does It Mean to Save a Neighborhood?*, N.Y. TIMES (Dec. 2, 2021), https://www.nytimes.com/2021/12/02/us/hurricane-sandy-lower-manhattan-nyc.html [https://perma.cc/X25C-7SEH] (describing billion-dollar plans for the Lower East Side).

First, as a general matter, business interests and wealthy people command outsized attention in halls of power, in part because they have the resources to organize to make their voices heard and to reward politicians and officials who listen.[24] Poor people in particular face disadvantages in the market for political attention and solicitude.[25] There is no obvious reason why this general pattern also would not hold vis-à-vis climate adaptation. Indeed, the history of large-scale public investments suggests that large-scale adaptation investments could disadvantage the already disadvantaged. Consider, for example, the great federal project of building the interstate highway system—a project of a grand scale and scope perhaps comparable to, if much less complicated than, the task of making the United States more climate resilient. Highways were sited in such a way that they often destroyed or segmented poor, working-class, and largely Black neighborhoods, while wealthy and politically powerful communities were spared and at the same time afforded the benefits of the new highways.[26]

Second, American agency policymaking has long embraced cost–benefit analysis (especially at the federal level). In practice, that approach has tended to prioritize readily quantifiable monetary or economic values and leave out or only pay lip service to distributive concerns.[27]

In addition, there are some recent examples of government adaptation initiatives and programs that seem to favor the wealthy. At least initially, government flood-control investments in Miami heavily favored the richest areas of the city.[28] Beach replenishment projects everywhere entail a very questionable adaptive practice that mostly benefits wealthy seashore owners

---

[24] *See generally* Martin Gilens & Benjamin I. Page, *Testing Theories of American Politics: Elites, Interest Groups, and Average Citizens*, 12 PERSPS. ON POL. 564, 565 (2014), https://www.cambridge.org/core/journals/perspectives-on-politics/article/testing-theories-of-american-politics-elites-interest-groups-and-average-citizens/62327F513959D0A304D4893B382B992B [https://perma.cc/RZS6-C2JY] (summarizing theories of U.S. political economy and concluding that the evidence supports the view that economic elites drive government policy).

[25] *See, e.g.*, Eduardo Porter, *Electing to Ignore the Poorest of the Poor*, N.Y. TIMES (Nov. 17, 2015), https://www.nytimes.com/2015/11/18/business/economy/electing-to-ignore-the-poorest-of-the-poor.html [https://perma.cc/YL4B-YTQM] (noting that "both parties, focusing most of their concern on the middle class, appear to be ignoring the Americans who need their attention most: the deeply, persistently poor").

[26] *See* Noel King, *A Brief History of How Racism Shaped Interstate Highways*, NPR (Apr. 7, 2021), https://www.npr.org/2021/04/07/984784455/a-brief-history-of-how-racism-shaped-interstate-highways [https://perma.cc/JRU6-N6E7]; Johnny Miller, *Roads to Nowhere: How Infrastructure Built on American Inequality*, GUARDIAN (Feb. 21, 2018, 2:30 AM), https://www.theguardian.com/cities/2018/feb/21/roads-nowhere-infrastructure-american-inequality [https://perma.cc/R8BS-3ZW6].

[27] *See, e.g.*, Susan Rose-Ackerman, *Putting Cost-Benefit Analysis in Its Place: Rethinking Regulatory Review*, 65 U. MIA. L. REV. 335, 335–36, 339 (2011) (criticizing cost–benefit analysis).

[28] *See* Ariza, *supra* note 11.

but is funded by the public at large.[29] Perhaps most notably, FEMA's postdisaster-recovery, building-resilience, and voluntary-relocation programs operate to support wealthy residential and commercial owners. Relatively speaking, they give short shrift to lower income owners and (even more so) to nonproperty owners affected by storms and the like.[30] Because FEMA uses a cost-effectiveness approach to decide which properties are worth repairing after a storm event, it tends to find that very high-market-value properties are worth repairing, while low-market-value properties may not qualify for any repair financing.[31] As a result, FEMA's voluntary buyout program has tended to focus on lower income owners; but even within that context, there is some reason to believe that the relatively wealthier owners fare better than low-income ones.[32] And, by definition, FEMA programs for repair and reconstruction of damaged properties and for

---

[29] Steve Strunsky, *Beach Replenishment Hurts the Environment, Subsidizes Wealthy Homeowners, Group Argues*, NJ.COM (Oct. 7, 2021, 5:38 PM), https://www.nj.com/news/2021/10/beach-replenishment-hurts-the-environment-subsidizes-wealthy-homeowners-group-argues.html [https://perma.cc/PW9X-L5AZ] (discussing the complaint that beach replenishment is "an exercise in futility that destroys natural ecosystems and subsidizes wealthy beachfront homeowners at taxpayers' expense, particularly as worsening storms resulting form [sic] climate change demand investment in more permanent solutions to beach erosion").

[30] *See* Rebecca Hersher & Robert Benincasa, *How Federal Disaster Money Favors the Rich*, NPR (Mar. 5, 2019, 5:00 AM), https://www.npr.org/2019/03/05/688786177/how-federal-disaster-money-favors-the-rich [https://perma.cc/B2T5-963W] ("Put another way, after a disaster, rich people get richer and poor people get poorer. And federal disaster spending appears to exacerbate that wealth inequality."); Junia Howell & James R. Elliott, *Damages Done: The Longitudinal Impacts of Natural Hazards on Wealth Inequality in the United States*, 66 SOC. PROBLEMS, 448, 461 (2019) ("Sociological research on disasters has long documented how less-privileged residents often suffer losses in economic as well as social and cultural resources after hazards hit, while more-privileged residents, by contrast, tend to recover more quickly and may even benefit financially.").

[31] *See* Kelly McGee, *A Place Worth Protecting: Rethinking Cost-Benefit Analysis Under FEMA's Flood-Mitigation Programs*, 88 U. CHI. L. REV. 1925, 1928 (2021) (analyzing and critiquing FEMA's approach as ignoring distributive consequences and enhancing inequality). As the Environmental Defense Fund explained:

> [T]he BCA for FEMAs BRIC program relies on avoided property losses to estimate benefits. The central challenge is that underserved communities, communities with both high flood risk and increased socioeconomic vulnerability, often do not have the property values to justify costs within [FEMA's BCA framework]. The result is that those in chronically underserved communities most vulnerable to losing their wealth and livelihoods in floods are largely unprotected.

ENVIRONMENTAL DEFENSE FUND, RESPONSE TO METHODS AND LEADING PRACTICES FOR ADVANCING EQUITY AND SUPPORT FOR UNDERSERVED COMMUNITIES THROUGH GOVERNMENT (2021), https://www.regulations.gov/comment/OMB-2021-0005-0443 [https://perma.cc/6EB5-EVQJ].

[32] *See* A.R. Siders, *Social Justice Implications of US Managed Retreat Buyout Programs*, 152 CLIMATIC CHANGE 239, 250 (2019), https://doi.org/10.1007/s10584-018-2272-5 [https://perma.cc/X3EM-WKKL] (explaining that the buyout program tends to disperse low-income households and leave them isolated, without the benefits of community ties).

voluntary buyouts do nothing for renters who have no property interest to use as a means of obtaining FEMA benefits.

There are arguable counterexamples, however.[33] And in reality, we cannot know yet how various governments will act with respect to equality, resource-management decisions, and adaptation investments, as climate change continues to demand more planning, emergency management, and investment. The answer almost certainly will depend on context, the governments involved, and the kinds of adaptation at issue, among other things. It also may depend on whether legal and political reforms, including those discussed below, are adopted.

III. TAKINGS AND PUBLIC TRUST LAW "REFORM" AS A RESPONSE TO CLIMATE-ADAPTATION INEQUALITIES

The Takings Clause provides for just compensation in response to takings of private property for public use.[34] At least in theory, takings doctrine could be modified to make it a better tool to protect lower income communities from the effects of climate change. Indeed, a few commentators have suggested two doctrinal modifications that would allow for a greater number of successful takings suits against the government where it fails to attend to or protect the needs of part of the population. Professors Christopher Serkin and Timothy Mulvaney, with great nuance and reservations, argue that takings doctrine should sometimes hold the government liable for its *inaction* that results in loss of property.[35] As one commentator summarized:

---

[33] *See* Aman Azhar, *After Hurricane Harvey, a Heated Debate Over Flood Control Funds in Texas' Harris County*, INSIDE CLIMATE NEWS (Apr. 4, 2021), https://insideclimatenews.org/news/04042021/after-hurricane-harvey-a-heated-debate-over-flood-control-funds-in-texas-harris-county/ [https://perma.cc/N5A9-UKQX] ("On the two-year anniversary of Hurricane Harvey in the summer of 2019, the newly Democratic [Houston County] commission passed a resolution directing the county's flood control district to ensure flood mitigation projects complied with an Equity Prioritization Framework. The framework was based on the U.S. Centers for Disease Control and Prevention's Social Vulnerability Index, which considers such factors as family income, unemployment, poverty, crowded housing, minority status, language barriers and vehicle access, among other factors."). However, community activists complain that actual funding plans to date do not follow this commitment to equity and instead privilege wealthier communities, as in the past. *Id.*

[34] U.S. CONST. art. V. State constitutions also contain comparable guarantees. *See, e.g.*, ALA. CONST. art. XII, § 235; ALASKA CONST. art. I, § 18; ARIZ. CONST. art. II, § 17.

[35] *See* Timothy M. Mulvaney, *Non-Enforcement Takings*, 59 B.C. L. REV. 145, 191–95, 197–200 (2018) (acknowledging arguments on both sides regarding whether nonimplementation of a government flood-control plan should constitute a taking); Christopher Serkin, *Passive Takings: The State's Affirmative Duty to Protect Property*, 113 MICH. L. REV. 345, 348 (2014) ("Sea-level rise provides an important real-world illustration of the potential payoff of this Article's central normative claim. . . . [I]mmunizing the government from the consequences of *inaction* actually discourages action. The category of passive takings therefore creates an important counterbalance to the threat of traditional takings liability and encourages governments to reduce the overall costs of sea-level rise.").

> The argument for using the Takings Clause to impose an affirmative duty to protect private property, at least in cases where the government's past actions create vulnerabilities to natural disaster risk, is emerging. Such cases could promote climate change adaptation by encouraging governments to weigh the costs and benefits of both action and inaction in the face of the increasing risk of natural disasters.[36]

Meanwhile, Professor Brian Lee argues that the "emergency" exception to takings liability should be substantially limited.[37] Expanding takings to government inaction affecting property values and removing the emergency exception to takings liability would, in combination, allow for more threatened and actual takings suits against the government involving flooding, fire, drought, and other climate-related phenomena. The question, though, is whether that would be a good thing.

As I argue below, the inaction and end-emergency-exception modifications of takings doctrine would either not do much for or harm lower income households and communities. It is important to articulate why this is so for two reasons: (1) the modifications have a superficial logic, coherence, and appeal, and (2) the judiciary, which is increasingly conservative, actually might embrace such modifications out of deference to "property rights" and not concern about climate change and equality. Indeed, at least one court opinion seems to adopt the inaction modification, although the opinion denies that this is what the court is doing.[38]

---

[36] JENNIFER KLEIN, POTENTIAL LIABILITY OF GOVERNMENTS FOR FAILURE TO PREPARE FOR CLIMATE CHANGE 32 (2015), https://web.law.columbia.edu/sites/default/files/microsites/climate-change/klein_-_liability_of_governments_for_failure_to_prepare_for_climate_change.pdf [https://perma.cc/E46Q-8TUV].

[37] Brian Angelo Lee, *Emergency Takings*, 114 MICH. L. REV. 391, 400 (2015) (discussing and criticizing the emergency exception vis-à-vis flooding); Susan S. Kuo, *Disaster Tradeoffs: The Doubtful Case for Public Necessity*, 54 B.C. L. REV. 127, 128–29 (2013) (arguing that the exception is unethical and should be eliminated); *see also* Jeremy Patashnik, Note, *The Trolley Problem of Climate Change: Should Governments Face Takings Liability if Adaptive Strategies Cause Property Damage?*, 119 COLUM. L. REV. 1273, 1276 (2019) (analyzing the exception and arguing it should be limited in the adaptation context, but also suggesting it will not be).

[38] In the case, *In re Upstream Addicks & Barker (Tex.) Flood-Control Reservoirs*, 138 Fed. Cl. 658 (2018) and 146 Fed. Cl. 219 (2019), plaintiffs were owners of properties located upstream from a reservoir. 138 Fed. Cl. at 661. Their properties flooded when the reservoir overflowed during Hurricane Harvey. The reservoir was built decades before Hurricane Sandy and most of the residential development in the area and before many or perhaps all of the plaintiffs bought in the upstream area. *Id.* The United States argued that the plaintiffs were seeking just compensation for the government's inaction—specifically its failure to buy flood easements or fee ownership in the upstream areas before they flooded during Sandy. *Id.* at 666. The Court explained, unconvincingly in my view, that there was government action tied to the flooding—the building of the reservoir in the first place, although that happened many years earlier and before intensive development coupled with climate change had intensified flood risks in the area. *Id.* The case is not a particularly sympathetic one for altering the law to allow inaction takings,

By contrast, as also discussed below, another property/constitutional law doctrine—public trust doctrine—will require some adaptation to take account of a new reality regarding natural resources, especially seashore and lakefront, in an era of climate change.

A. Inaction Takings

The first modification to takings doctrine that has been suggested is a relaxation of the "action" requirement for there to be a takings violation requiring payment of just compensation. The Takings Clause (and its state analogues) uses the word "take"; "take" is an active verb, suggesting that government failure to act to protect the value of private property is outside the scope of the Takings Clause.[39] Moreover, if the government were required to compensate for every reduction in property value it otherwise might have prevented but did not prevent, there would be no logical limit on the scope of government liability. Of course, the government may have a duty to protect private property as a result of some legal duty that is outside of the Takings Clause, such as a duty rooted in tort law. But then any government liability would be predicated on a violation of that legal duty—on the tort or other duty-to-act violation—and not on a violation of the Takings Clause.

The Federal Circuit in *St. Bernard Parish Government v. United States* (in my view, correctly) affirmed the action requirement in the context of extreme weather.[40] In that case, property owners in the Lower Ninth Ward of New Orleans sued the federal government, arguing that its failure to maintain and armor a shipping channel the government built in the 1950s caused the flooding of their properties during Hurricane Katrina. The Federal Circuit took issue with the causation findings by the trial court, explaining that if the federal government's flood-control efforts in and around New Orleans were considered in toto, it was entirely plausible that the federal government actually had reduced the flooding from Katrina that otherwise would have occurred in the Lower Ninth Ward.[41] But the Court also took issue with the plaintiffs' theory that inaction alone could constitute a taking:

---

because all or most of the plaintiffs knew or should have known that they were buying into an area that regularly flooded and was susceptible to more intense flooding in the future.

[39] U.S. CONST. amend. V. To be fair, however, one could argue that regulatory restrictions on property use do not "take" property in the most straightforward understanding of "take." But at least in the context of regulatory takings, the government is threatening to "take" an action—that is, to enforce the regulatory restriction with the imposition of penalties or direct action on the property to prevent the prohibited land use.

[40] *See* 887 F.3d 1354, 1357 (Fed. Cir. 2018).

[41] *Id.* at 1364.

> On a takings theory, the government cannot be liable for failure to act, but only for affirmative acts by the government. "The government's liability for a taking does not turn, as it would in tort, on its level of care." Instead, takings liability arises from an "authorized activity." In both physical takings and regulatory takings, government liability has uniformly been based on affirmative acts by the government or its agent.[42]

The facts of *St. Bernard Parish* could make one sympathetic to the plaintiffs' effort to modify takings law to allow for inaction takings. For one thing, if the shipping channel had been privately owned and operated and if it could have been shown that the channel was a "but for" and proximate cause of the plaintiffs' flood damage (as opposed to climate change, development, and Hurricane Katrina being the cause), then there might have been tort liability under Louisiana law. But the plaintiffs' tort claims, after protracted litigation and several Fifth Circuit opinions, were finally dismissed based on the Federal Tort Claims Act (FTCA)'s discretionary function exception to the United States' waiver of sovereign immunity.[43] It is, in fact, more difficult and complicated to sue the United States in tort than it is to sue private entities.[44] Moreover, the Lower Ninth Ward is an overwhelmingly poor ward,[45] so it is tempting to see the litigation as woefully ill matched.

At the same time, even assuming for the sake of argument that the FTCA bars some tort suits that should be allowed to proceed, such a rationale provides a basis for legislatively amending or judicially reinterpreting the FTCA, not for expanding the scope of takings. Moreover, it appears that the

---

[42] *Id.* at 1360–61 (citations omitted) (quoting Moden v. United States, 404 F.3d 1335, 1345 (Fed. Cir. 2005)).

[43] *See* In re Katrina Canal Breaches Litig. v. United States, 616 F. App'x 659, 660 (5th Cir. 2015). The history of the tort litigation is detailed in Edward P. Richards III, *The Hurricane Katrina Litigation Against the Corps of Engineers: Is Denial of Geology and Climate Change the Way to Save New Orleans?*, 40 U. ARK. LITTLE ROCK L. REV. 695, 707–08 (2018). The discretionary function exception shields the government from liability for "the failure to exercise or perform a discretionary function or duty on the part of a federal agency or an employee of the Government." *See* 28 U.S.C. § 2680(a) (2012). In practice, as interpreted by the courts, the exception has sometimes provided a very broad shield against liability. *See generally* Daniel Cohen, *Not Fully Discretionary: Incorporating a Factor-Based Standard into the FTCA's Discretionary Function Exception*, 112 NW. U. L. REV. 879, 881–82 (2018) (arguing for a more coherent and consistent judicial interpretation of the exception).

[44] *See* KEVIN M. LEWIS, CONG. RSCH. SERV., R45732, THE FEDERAL TORT CLAIMS ACT (FTCA): A LEGAL OVERVIEW 2–3 (2019) (discussing the limitations on suing the United States in tort).

[45] *See Lower Ninth Ward Statistical Area*, DATA CTR. (Feb. 24, 2021), https://www.datacenterresearch.org/data-resources/neighborhood-data/district-8/lower-ninth-ward/ [https://perma.cc/K6LM-DN4S] (comparing income and poverty rates between the Lower Ninth Ward, Orleans Parish, and the national average).

plaintiffs included landlords who mostly lived outside New Orleans and that a number of them owned multiple properties.[46]

There is no reason to believe, moreover, that jettisoning the action requirement for takings will incentivize governments to pay more attention to the needs of low-income communities and neighborhoods—that it will make Congress and agencies such as the Army Corps of Engineers do more to protect neighborhoods such as the Lower Ninth Ward. It is, of course, debatable how much possible future takings liability affects legislative or agency decisions at the federal or state level.[47] But assuming possible future takings liability does factor into these legislative or agency decisions, expanding takings to include inaction will encourage governments to devote their necessarily finite resources to the protection of high-market-value properties in commercial areas and wealthier neighborhoods.

Consider a stylized example: An agency is deciding how to spend a ten-million-dollar appropriation to lessen flood risk in a county. Under Plan A, the agency would partially reinforce levees protecting both a rich area and a poor area of the county, such that future flooding in both areas might be less than it would have been otherwise; however, the agency believes there will be some flooding in both areas notwithstanding the investment. Under Plan B, the agency would devote all its resources to protecting the rich area. Under Plan C, the agency would devote all its resources to protecting the poor area. In a legal regime with takings liability for government inaction as well as action, Plan B may well seem to entail less liability risk than Plans A or C because the takings claims of owners in the rich area would be for much more money than those of owners in the poor areas. To the extent they are driven by a desire to minimize future takings liability, government decision-makers will allocate their inaction toward areas with low-market-value properties—that is, generally residential, low-income areas.

Takings liability for inaction in wealthy areas may be greater than in poor areas not only because of the difference of the market value of the properties at issue, but also because wealthy people and corporations are much better equipped to successfully pursue takings claims. Wealthy people and corporations, who tend to be the owners of higher value properties, can

---

[46] *See* Court Exhibit B, St. Bernard Par. Gov't v. United States, 126 Fed. Cl. 385 (2016) (No. 05-1119 L) (listing the address of the owners of each of the properties at issue in the litigation and indicating that several plaintiffs owned multiple properties).

[47] *See* Daryl J. Levinson, *Making Government Pay: Markets, Politics, and the Allocation of Constitutional Costs*, 67 U. CHI. L. REV. 345, 375–77 (2000) (discussing why public officials may not be motivated by costs that will be dispersed among unorganized taxpayers); Daniel A. Farber, *Public Choice and Just Compensation*, 9 CONST. COMMENT. 279, 288–90 (1992) (noting that according to the public interest theory of government, political dynamics and costs, rather than monetary outlays, drive government decision-making).

pay attorneys' fees out of pocket. They also may be better able to attract the best contingency-fee lawyers. In the takings context, the contingency is a percentage of the "just compensation" award; therefore, the contingency upside will be bigger with respect to wealthy areas with high-value properties.[48] *Ex ante*, government decision-makers may assume this is so and hence overweigh possible takings liability with respect to wealthy areas.

Once inaction takings were recognized, moreover, wealthy people and corporations could and presumably would use their resources to threaten governments with future suits in an effort to pressure governments to take action on their behalf, even when, as a matter of sound climate-adaptation policy, inaction might be exactly the best policy choice. It is the wealthiest property owners who could best afford to hire lawyers, lobbyists, and experts to make the case that the government had led owners to believe that they would be protected by the government,[49] that protective investments by the government are sound policy and indeed necessary, and that the claims that owners would make against the government if it failed to act would be for large sums and would be successful. The threat of inaction takings claims thus would be added to the arsenal the wealthy now have in pushing the government to do what is in their best interests. Creative lobbyists would have a field day with inaction.

Of course, even if takings liability did not incentivize investments in or for the benefit of lower income communities, one could argue that at least such liability would provide low-income people compensation *ex post*, after the government failed to act and there was some climate-related phenomenon such as flooding or fire. However, the Takings Clause leaves out nonproperty owners altogether.[50] Moreover, for the reasons discussed above, owners of low-market-value properties will face substantial obstacles enlisting good

---

[48] Professor Patricia Munch's empirical work suggests high-value properties receive more than fair market value compensation, which is consistent with the assumption that the best lawyers are retained on contingency in the high-value cases. Patricia Munch, *An Economic Analysis of Eminent Domain*, 84 J. POL. ECON. 473, 495 (1976). Professor Yun-chien Chang's study focuses on appraisal errors, but his data is not inconsistent with Munch's theory. Yun-chien Chang, *An Empirical Study of Court-Adjudicated Takings Compensation in New York City: 1990–2003*, 8 J. EMPIRICAL LEGAL STUD. 384, 385–86 (2011).

[49] After all, "expectations" is a cornerstone of takings doctrine, *see* Serkin, *supra* note 35, at 350 ("The core cases and the broad outlines of regulatory takings doctrine all involve protecting property owners' expectations—expectations often reflected in existing uses of property."), and hence the ability of a property owner to marshal evidence that they had reasonably expected their property would be protected by the government would seem to be key to a passive takings claim.

[50] In theory, renters hold a compensable property interest, but such an interest has no real value in the case of one-year or at-will tenancies, which is how most residential tenancies are structured. Long-term commercial leases do have a value and might be included in takings litigation, but such leases are not held by low-income individuals. *See* Victor P. Goldberg, Thomas W. Merrill & Daniel Unumb, *Bargaining in the Shadow of Eminent Domain: Valuing and Apportioning Condemnation Awards Between Landlord and Tenant*, 34 UCLA L. REV. 1083, 1086–92 (1987).

lawyers and prevailing in the litigation. By contrast, wealthy owners and corporations are much better positioned to receive large compensation awards on top of whatever insurance payments they can receive. Plus, FEMA reconstruction assistance, as already discussed, already favors owners of high-market-value properties.

In sum, expanding takings liability for inaction takings would help create—or at least reinforce—a disaster-related legal regime that in effect redistributes wealth from the taxpaying populace as a whole to a subset of wealthy individuals and corporations.

B. The Emergency Exception

American law has long recognized an emergency (sometimes called public necessity) exception to takings liability. This exception relieves the government of liability when it invades or destroys property as part of an effort to contain a public emergency such as a fire, flood, or criminal threat to public safety.[51] In the classic emergency exception case, firefighters damage private property as part of an emergency effort to contain the spread of a fire. In such a case, the government is deemed not to have taken the damaged property.[52] The Federal Circuit recently held that this emergency exception to takings liability extended to the forest-fire context.[53] The original justification for the emergency exception seems to have been that, under natural law and common law, one who acts out of true necessity cannot be held responsible for the damage, and so too the government should be exempt from liability.[54] The more plausible, contemporary justification for the emergency exception seems to be that, in time-pressured emergency situations, we do not want government actors such as firefighters to hesitate in trying to protect the public from the emergency out of fear that doing so will result in liability for damage to private property that was necessary to invade or destroy as part of the emergency containment effort.[55]

Some commentators have questioned the fairness of the emergency exception's denial of compensation to property owners whose property was damaged through no fault of their own. In particular, some have urged the curtailment or elimination of the emergency exception in the kind of

---

[51] Lee, *supra* note 37, at 392–93, 393 nn.6–7.

[52] *See* Bowditch v. Boston, 101 U.S. 16, 18 (1879).

[53] TrinCo Inv. Co. v. United States, 722 F.3d 1375, 1380 (Fed. Cir. 2013).

[54] *Bowditch*, 101 U.S. at 19 ("In these cases the common law adopts the principle of the natural law, and finds the right and the justification in the same imperative necessity.").

[55] *See* Lee, *supra* note 37, at 411 (noting that a common justification for the public necessity exception is to avoid a situation in which a government official does not act in an emergency out of concern that the government—or she personally—may be held liable for a taking).

situations that arise with climate change—including, for example, where the government directs water during a storm toward and over one area of private property in order to protect other areas (and the people and property there) from the flood waters, or where the government allows a forest fire to harm a piece of private property in order to contain the fire and prevent it from consuming other areas.[56]

From the perspective of promoting equality, however, eliminating the emergency exception would be counterproductive for exactly the same reasons that acknowledging inaction takings would be. To the extent possible future takings liability could or would affect the decision-making of government actors during a time-pressured emergency such as a storm or forest fire, elimination of the emergency exception would encourage those government actors to direct the flood or fire toward areas where properties have a lower market value and away from areas where properties have a higher market value. And an outsized share of compensation made available because of the elimination of the emergency exception will go to wealthy property owners, because (as suggested above) wealthy owners will be better able to find good lawyers and litigate successfully. Nonproperty owners will get nothing.

Big Oak Farms, Inc. v. United States highlights why eliminating the emergency exception is problematic from an equality perspective. *Big Oak Farms* involved the Army Corps of Engineers' decision of where to direct Mississippi River flood waters during a storm.[57] The water had to go somewhere, and the choice for the Corps was between Cairo, Illinois, an impoverished small town beset by a range of socioeconomic problems,[58] and farmland. From a pure loss in value perspective, the damage to Cairo property from temporary flooding might have been less than the loss of crops due to the flooding of farmland. The elimination of the emergency exception, if it had any effect, could have affected the Corps' on-the-spot judgment to favor the farmers. As it happened, the Corps chose Cairo—and the impoverished people living there—over the farmland.[59]

Other scholars suggest that eliminating the emergency exception would enrich already-privileged owners. Professor Justin Pidot argues that

---

[56] *See* Kuo, *supra* note 37, at 179–82 (discussing how the emergency exception could reinforce social injustices); Robert H. Thomas, *Evaluating Emergency Takings: Flattening the Economic Curve*, 29 WM. & MARY BILL RTS. J. 1145, 1147 (2021) (arguing that there is no justification for the emergency exception).

[57] 131 Fed. Cl. 45, 46–47 (2017).

[58] *See* Nat Williams, *Struggling Cairo Epitomizes Rural Poverty in Illinois*, S. ILLINOISAN (Aug. 11, 2017), https://thesouthern.com/news/local/struggling-cairo-epitomizes-rural-poverty-in-illinois/article_f600f4c1-4cef-5a3b-8403-3dcc1ed0eea9.html [https://perma.cc/HXS6-DCVJ].

[59] *Big Oak Farms*, 131 Fed. Cl. at 50.

homeowners who live in the urban–forest boundary on the edge of state and federal forests implicitly receive a huge subsidy from the government in the form of free fire protection that is necessary for them to even consider living there at all.[60] Moreover, these (generally well-to-do) owners should know before taking title that even with good government forest management, fires do happen—especially, now, with climate change—and sometimes the government may need to take measures to contain fires that will harm some private property.[61] Elimination of the emergency exception would intensify upscale development at the edge of forests, as it would provide buyers even more government support for settling in what is unavoidably a hazard-filled setting.

Professor Robin Craig argues that the emergency exception could also allow government officials to combat drought during crisis situations by limiting water allocations currently enjoyed—but not necessarily sensibly used—by big agriculture in favor of domestic uses and environmental uses.[62] Some agricultural interests in California, for example, hold rights to massive allocations of water and have greatly benefitted from the subsidization of government infrastructure that delivers the water to them.[63] The emergency exception could be an important tool for regulators during extreme droughts in an era of climate change, especially if other avenues (such as greater development and reliance on water markets) are insufficient to meet compelling public objectives.

Like the extension of takings to inaction, the elimination of the emergency exception sounds like a very reasonable idea. But in reality, neither proposed modification of takings doctrine would further justice as we combat and adapt to climate change.

C. Public Trust Doctrine

While I disagree with suggested modifications to takings doctrine, I believe that another property doctrine—public trust doctrine—may need to

---

[60] *See* Justin Pidot, *Natural Baselines for Wildfire Takings Claims*, 75 MD. L. REV. 698, 699–700 (2016).

[61] *Id.* at 701.

[62] *See* Robin Kundis Craig, *Drought and Public Necessity: Can a Common-Law "Stick" Increase Flexibility in Western Water Law?*, 6 TEX. A&M L. REV. 77, 83 (2018).

[63] *See, e.g.*, John Lippert, *A Few California Farmers Have Lots of Water. Can They Keep It?*, BLOOMBERG (Nov. 4, 2015), https://www.bloomberg.com/features/2015-imperial-valley-water-barons/ [https://perma.cc/2HPV-ED69] (explaining that the farmers of Imperial Valley, California, own a third of the water used by California cities); Kirk Siegler, *California Farmers Gulp Most of State's Water, but Say They've Cut Back*, NPR (Apr. 7, 2015, 4:40 PM), https://www.npr.org/sections/thesalt/2015/04/07/398106067/calif-s-farmers-gulp-most-of-states-water-but-say-theyve-cut-back [https://perma.cc/8GQ8-ZXFN] (describing how farmers benefit from subsidized water).

be modified to address inequalities generated by climate change and adaptation. Climate change may result in fewer usable waterfront areas, including fewer beaches and usable coastal green spaces.[64] It may also mean that any structures near the shore will need to be highly adapted to flooding risks and will be owned by and primarily for the use of the relatively wealthy.[65]

One response to this situation would be coastal restoration and the creation of more sustainable "floating" public parks near or at the edge of the shoreline.[66] But another response would be to increase public access over private land, so that more people could at least enjoy the shore to some extent. Exactly what modifications in public trust law will be needed will depend on actual climate change and how various parts of the country adapt to it. One model for judicial updating of the public trust doctrine is the New Jersey supreme court's famous decision in *Matthews v. Bay Head Improvement Association*, in which the court understands the public trust doctrine as an evolutionary one that needs to take account of public needs that fit contemporary physical and social circumstances.[67] Just as the Supreme Court of New Jersey updated state public trust doctrine to account for the rise in population, urbanization, and popular demand for beach recreation, courts elsewhere could update the doctrine to take account of the physical and socioeconomic transformations resulting from climate change.[68]

---

[64] Denise Chow, *Disappearing Beaches: Climate Change Could Wipe Out Half of the World's Sandy Shorelines*, NBC NEWS (Mar. 5, 2020, 2:41 PM), https://www.nbcnews.com/science/environment/disappearing-beaches-climate-change-could-wipe-out-half-world-s-n1150841 [https://perma.cc/T8HQ-6HNM].

[65] *See* Rachel Layne, *In the U.S., Only the Wealthy Can Afford to Live near Rising Seas*, CBS NEWS (Oct. 1, 2021, 7:46 AM), https://www.cbsnews.com/news/climate-change-sea-level-homeowners/ [https://perma.cc/4UR5-JSLC].

[66] Michael Kimmelman, *The Dutch Have Solutions to Rising Seas. The World Is Watching*, N.Y. TIMES (June 15, 2017), https://www.nytimes.com/interactive/2017/06/15/world/europe/climate-change-rotterdam.html [https://perma.cc/DH64-LHZQ] (explaining how the Dutch plan to build parks, neighborhoods and other facilities that accommodate rather than contain rising waters); Koty Neelis, *One European City Made a Floating Park Entirely from Recycled Plastic Waste*, GREEN MATTERS (May 31, 2019, 12:24 PM), https://www.greenmatters.com/news/2018/07/25/1CcQTN/rotterdam-floating-park-recycled-plastic-waste [https://perma.cc/PT5M-NRW2] (describing Rotterdam's new floating park).

[67] 471 A.2d 355, 365 (N.J. 1984).

[68] For an argument that climate change requires a broad updating and expansion of the public trust doctrine, see Tim Eichenberg, Sean Bothwell & Darcy Vaughn, *Climate Change and the Public Trust Doctrine: Using an Ancient Doctrine to Adapt to Rising Sea Levels in San Francisco Bay*, 3 GOLDEN GATE U. ENV'T. L.J. 243, 245, 248, 250 (2010).

IV. REGULATORY REFORMS

As currently structured, the regulations and rules governing federal agencies already advise them to consider climate change effects and implications of their actions as part of impact statements.[69] At the federal level, agencies must consider the "environmental justice" implications of proposed actions on minority and low-income communities.[70] It would seem to follow that, in considering resource-management strategies and adaptation planning, agencies should consider how their proposed actions will affect not just net social welfare with regard to climate adaptation but also the implications for inequality and the costs of inequality. Even now, under recent federal guidance for cost–benefit analysis (CBA), an agency could in theory justify the regulation or project at issue not just in terms of net monetary benefits and costs but also in terms of the costs of increasing inequality.[71]

In practice, however, current agency regulations and rules are insufficient to assess the adequacy of adaptation efforts generally and in particular how they interface with questions of inequality. Some reforms are obviously needed: FEMA's version of cost–benefit analysis simply leaves out distributive concerns altogether, and it should not.[72] But telling an agency to consider distributive concerns is only part of what is necessary. An agency should ideally both (1) assess possible distributive impacts, including the qualitative and (to the extent possible) quantitative impacts on the welfare of low-income residents and communities, and (2) bear some kind of meaningful burden of explaining why it would select an alternative that may increase overall inequality. Without such a burden and at least the vague

---

[69] *See CEQ Issues New Draft Guidance on Consideration of Climate Change in NEPA Reviews*, SABIN CTR. FOR CLIMATE CHANGE L., https://climate.law.columbia.edu/content/ceq-issues-new-draft-guidance-consideration-climate-change-nepa-reviews [https://perma.cc/N6J9-BE58] (noting that the CEQ's new draft guidance acknowledges that "agencies should account for the effects of climate change"). Indeed, the EPA emphasizes impacts on low-income communities in its current adaptation plan. *See* Press Release, EPA, EPA Publishes Its 2021 Climate Adaptation Action Plan (Oct. 7, 2021), https://www.epa.gov/newsreleases/epa-publishes-its-2021-climate-adaptation-action-plan [https://perma.cc/D5UX-QQ3V].

[70] *See Summary of Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, EPA (Sept. 28, 2021), https://www.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice [https://perma.cc/9AXW-XNYX].

[71] Notably, the EPA's most recent CBA guidelines envision distributive-related costs as included in an agency's analysis along with traditional net-cost and net-benefit CBA. NAT'L CTR. FOR ENV'T ECON., U.S. ENV'T PROT. AGENCY, GUIDELINES FOR PREPARING ECONOMIC ANALYSES 10-7 (2014), https://www.epa.gov/environmental-economics/guidelines-preparing-economic-analyses [https://perma.cc/V5ZY-ABK4].

[72] *See* McGee, *supra* note 31, at 1929; Siders, *supra* note 32, at 249 (explaining that an "unintended consequence of CBA may be to create or perpetuate social inequity").

possibility of litigation challenging an agency for not having met that burden, new CBA requirements might have little impact.

In addition to taking distributive issues seriously in impact assessment and CBA, agencies also need to be required to assess holistically their role with respect to climate and adaptation, including both what they are considering doing and what they could potentially do. Under current law, impact assessment and CBA requirements apply only to specific proposed major agency actions.[73] But what agencies do not do—or even consider doing—matters a great deal for adaptation and inequality.[74] These holistic assessments, moreover, need to be periodic to be useful and must incorporate new data that the agency gathers over time. Ideally, the assessments would cross agency and jurisdictional lines, just as the problem of climate change and adaptation does.

Finally, public participation requirements aimed specifically at giving voice to low-income communities are important.[75] This means that there must be outreach and more outreach, as well as ready and accessible disclosure of information to the public. And public participation needs to be early in the agency decision-making process and iterative, with feedback provided as projects come closer to fruition and after they are implemented.

This kind of reform agenda would improve agency decision-making not only with respect to climate adaptation and inequality but generally with respect to the full array of issues agencies confront. But this kind of agenda would not be easy to realize. It would face opposition from those who would claim that it would slow agencies and further ossify rulemaking and that it

---

[73] *See generally* Sidney A. Shapiro, *Rulemaking Inaction and the Failure of Administrative Law*, 68 DUKE L.J. 1805, 1816 (2019) ("A judge's mood when reviewing agency inaction is that agency priority setting is above his or her pay grade . . . . [A]n agency can expect the courts will almost always permit inaction. [R]egulatory beneficiaries cannot sue agencies for inaction unless there is a mandatory duty to promulgate a regulation, which Congress seldom imposes . . . .").

[74] There is a large body of thoughtful scholarship suggesting how the regulatory process can be improved to meet the demands of climate change. *See, e.g.*, Daniel A. Farber, *Adaptation Planning and Climate Impact Assessments: Learning from NEPA's Flaws* 1–3 (U.C. Berkeley Pub. L. & Legal Theory, Research Paper No. 1341902, 2009), https://ssrn.com/abstract=1341902 [https://perma.cc/KF98-LRMX] (emphasizing that agencies must consider costs of inaction as well as action and engage in broad assessments and planning); Robin Kundis Craig, *"Stationary is Dead" — Long Live Transformation: Five Principles for Climate Change Adaptation Law*, 34 HARV. ENV'T L. REV. 9, 53–63 (2010) (emphasizing the need for cross-agency and cross-government coordination and long-term planning).

[75] Public participation allows affected groups and individuals in the relevant localities and communities a voice in the planning and implementation of adaptation, which commentators believe is essential to successful adaptation. *See* Andrea Sarzynski, *Public Participation, Civic Capacity, and Climate Change Adaptation in Cities*, 14 URB. CLIMATE 52 (2015), https://www.sciencedirect.com/science/article/abs/pii/S2212095515300158 [https://perma.cc/Z5CT-J84Q]; Stephan Hügel & Anna R. Davies, *Public Participation, Engagement, and Climate Change Adaptation: A Review of the Research Literature*, WIREs CLIMATE CHANGE, July/August 2020, at 18–19, https://wires.onlinelibrary.wiley.com/doi/full/10.1002/wcc.645 [https://perma.cc/7EHU-ED4Q].

would in effect raise costs of government. Indeed, many recently proposed NEPA reforms would minimize, expedite, or even eliminate impact reviews—even in domains such as infrastructure, where there are large and obvious implications for climate adaptation and inequality.[76]

The suggested reforms would require a transformation in our politics, which may be plausible in some states, but seems far-fetched at the federal level. Ultimately, both executive and legislative branches at the federal and state levels would need to commit to reform for adaptation to meaningfully address equality. Moreover, even with enlightened federal and state executive leadership, there need to be accompanying legislative appropriations so that agencies actually can meaningfully fulfill their agendas.

CONCLUSION

Inequality deserves a central place in the discourse regarding climate change adaptation in the United States. Inequalities surely will be intensified with climate change and adaptation. Existing inequalities in wealth will allow wealthy individuals and localities to adapt more readily than poor ones. Government resource management decisions and investments, and the current realities of our politics, could further the gap between rich and poor in terms of adaptive capacity. But expanding property rights via the Takings Clause is not the answer to this problem; in fact, eliminating the action requirement and emergency exception in takings doctrine would only enhance inequality in an era of climate change. A broadened public trust doctrine could address some of the inequality problems associated with climate change. Above all, however, we need an enlightened and invigorated politics that produces the needed support for a more equality-informed administrative process at all levels of government.

---

[76] *See* Shelby Dyl, William Fork, Sheila McCafferty Harvey, Rose Fowler Lapp, Jeffrey Merrifield & Reza Zarghamee, *Biden's Infrastructure Bill and the Promise of NEPA Reform*, JD SUPRA (Aug. 24, 2021), https://www.jdsupra.com/legalnews/biden-s-infrastructure-bill-and-the-9782709/ [https://perma.cc/MR8P-J7ZY].