

*Climate Adaptation and Land Use:
Reconsidering the Federal Role*

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Article Proposal: Climate Adaptation and Land Use: Reconsidering the Federal Role

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Professor Sara Bronin stated recently: “No serious scholar supports an expanded role for the national government in traditional land use regulation.”¹ In light of the imperatives posed by both climate mitigation and adaptation, “serious scholars” might consider revisiting that proposition. I intend to write an article that examines how federalism principles, when applied to the problem of climate change adaptation, might undermine the presumed primacy of largely unlimited local control over land use law. The article will consider the appropriate allocation of authority based upon federalism principles grounded in both collective action and democratic theory. Recognizing that federalism theories are, at least to some extent, indeterminate, the article will also consider how substantive environmental and equal protection values suggest that the federal government can play a constructive role in ensuring that state and local governments are adequately preparing for the profound environmental challenges that climate change will pose.²

The Article will not propose to federalize land use planning. It will, however, suggest the need for new multi-level governance structures that require states and local governments to engage in overarching adaptation planning. Within the context of that adaptation planning, the article will suggest that the federal government should provide federal requirements, guidance, and resources for local land use planning notwithstanding that sector’s notorious resistance to federal intervention.

I. Climate Impacts

The first section of the Article will begin with an obligatory acknowledgement of relevant climate impacts. Sea level rise and higher-frequency extreme weather events are likely to lead to increased flooding and erosion. Increasing temperatures are already apparent, and will have significant health consequences due to unsustainable heat waves and heightened ozone pollution. And where increasing temperatures are combined with lower precipitation, wildfire risks are likely to increase. A changing climate will endanger not only human life, but also

¹ Sara C. Bronin, *The Quiet Revolution Revived: Sustainable Design, Land Use Regulation, and the States*, 93 MINN. L. REV. 231, 262 (2008).

² This Article will focus on the federal role in adaptation-related land use measures. An earlier article called for a greater federal role in ensuring that local governments adopt land use measures to help mitigate greenhouse gas emissions. Alice Kaswan, *Climate Change, Consumption, and Cities*, 36 FORDHAM URB. L.J. 253 (2009).

render existing habitats unsuitable for many species, increasing the rate at which species will become endangered.

II. Climate Impacts and Land Use Planning

As many have noted, adaptation planning to address these impacts will implicate multiple sectors and multiple legal regimes.³ One crucial component will be land use regulation. This section will address the role of land use planning in addressing disaster management, long-term migration shifts, heat and pollution, endangered species survival, and water conservation.

Land use regulation will play an obvious and central role in preparing for, responding to, and recovering from disasters, including floods and wildfires. Land use planning regulates exposure to direct risks. In adaptation planning, decision-makers will have to determine what areas to protect, whether areas should be abandoned and, if abandoned, where new development should be targeted. Land use also plays a role (though not an exclusive role) in the location of vulnerable infrastructure, like highways, power plants, and waste treatment plants. Land use planning can also impact exposure to indirect risks. For example, the closer that hazardous land uses are to residential areas, the greater the risk that flooding could result in toxic exposures. And land use regulation is central to one of disaster planning's most critical elements: recovery. Land use law will determine where to re-build, how to re-build, and whose needs are served in the re-building process.

Areas that remain relatively unscathed by climate-induced disasters are likely to encounter their own land use challenge: migration from less sustainable domestic and international regions. As an economic matter, certain coastal or flood plain areas may simply become unsustainable. Areas in the desert southwest may become too hot and too arid. Small island nations and low-lying nations will be drowned. Residents from heavily impacted regions and countries are likely to migrate to less impacted areas, presenting substantial land use challenges in the regions facing increased migration.

Land use planning is also likely to play a role (if a somewhat less central role) in a number of other contexts. Urban design affects the extent to which urban areas experience the "heat island effect," an effect of increasing significance in a world of potentially lethal temperatures. As current habitats become unsustainable, land use planning will have to create opportunities for newly endangered species to traverse inhabited areas in order to find more sustainable habitat. And as parts of the country face decreasing water availability, land use regulation can address sustainable landscaping.

III. Federalism Principles and the Federal Role in Land Use Planning for Adaptation

³ See, e.g., Robin Kundis Craig, "Stationarity is Dead" – *Long Live Transformation: Five Principles for Climate Change Adaptation Law*, 34 HARV. ENVTL L. REV. 9, 54 (2010); Robert Glicksman, *Climate Change Adaptation: A Collective Action Perspective on Federalism Considerations*, 40 ENVTL L. 1159, 1172 (2010); J.B. Ruhl, *Climate Change Adaptation and the Structural Transformation of Environmental Law*, 40 ENVTL L. 363, 410-12 (2010)

As Prof. Rob Glicksman has articulated in the adaptation context more broadly, the federal government could play three possible roles. (1) The federal government could play no role; (2) the federal government could set minimums and then share authority with state and local governments (in myriad possible forms presenting varying degrees of relative federal and subnational power); or (3) the federal government could preempt state and local authority.

This section will address the federalism values that cast light on the appropriate allocation of authority. It first considers collective action principles that help determine the governmental level most likely to lead to socially optimal regulatory decisions. It then evaluates the appropriate distribution of power from a democratic theory perspective. Finally, moving beyond the world of allegedly “neutral” federalism values, it highlights certain environmental and equal protection values that could inform a decision about the appropriate allocation of authority.

Socially Optimal Decision-Maker: Collective Action Principles

Collective action principles are designed to determine the jurisdictional level that can achieve the socially optimal regulatory decision. Under this approach, the scale of the problem determines the appropriate jurisdictional level. If the problem and the jurisdictional level match, then the jurisdiction has the capacity to resolve the concern. It has the motivation to act, since it is experiencing the problem directly, it has the relevant information, and it can fully account for the cost and benefit trade-offs endemic to most difficult regulatory decisions.

The land use implications of adaptation appear, at first blush, to present quintessentially local concerns best resolved at the local level. Flood, fire, infrastructure collapse, housing, landscaping ... what could be more local? The motive to act to address adaptation needs is likely to be much stronger than in the mitigation context, since climate impacts will be experienced locally and the benefits of action will, accordingly, accrue locally. Local governments are likely to be well informed about local land use issues and trade-offs. Moreover, the particular adaptation needs of each area are likely to vary tremendously. The federal government would not have the capacity to design adaptation land use policies to address every unique local adaptation problem.

Upon further inquiry, however, the broader implications of local land use become evident. In fact, many impacts will be experienced at a regional, not just a local level. As a consequence, local governments, divided between urban centers and numerous distinct suburban governments, will be unable to adequately address many of the consequences of climate change without coordinated and integrated planning and implementation. (The Article will present examples.)

Moreover, the regional nature of climate impacts means that local action and inaction will, in many contexts, present significant externalities that require action at a higher level. For example, one jurisdiction’s failure to preserve isolated wetlands (not under federal control) could

increase flood risks in a neighboring jurisdiction. Or one jurisdiction's adaptation measures, like armoring the coast, could increase erosion in neighboring areas. (The Article will present additional examples.)

Even where adaptation presents quintessentially local concerns, collective action problems could hamper a local government's capacity to respond appropriately. The "race-to-the-bottom" could lead local governments to fail to enact desirable land use measures, such as floodplain restrictions or stricter building codes to alleviate risk, due to concerns that such measures would drive desired development to other jurisdictions. In some cases, local governments might "free ride" on neighboring jurisdictions, hoping that they can benefit from their neighbors' adaptive measures. And, significantly, state or federal engagement could provide substantial resource pooling benefits. Although some local governments might have sufficient funds to engage in adaptive land use planning, others could lack the necessary resources. In addition, whatever the unique features of climate change adaptation in each area, the impacts, and best methods for responding to the impacts are likely to share common features across jurisdictions. Local governments could benefit from information-sharing.

In sum, while many climate change impacts might appear to have primarily local impacts justifying local control, many impacts will, in fact, cross jurisdictional boundaries, suggesting that higher levels of government should play a role in land use planning in order to facilitate more effective planning and to avoid undesirable externalities. Furthermore, even where climate impacts are primarily local, local governments could fail to act appropriately due to a series of collective action problems, including the race-to-the-bottom, free rider concerns, and insufficient financial and informational resources.

Democratic Theory Principles

Federalism values include not only collective action principles that point to the optimal regulatory actor, but broader political and democratic principles. A political perspective offers important insights both theoretically (in terms of the level of government that can best represent citizen preferences) and pragmatically (in terms of the allocation of authority that provides ancillary benefits, like opportunities for innovation and the prevention of stagnation).

I begin with arguments for local control. Democratic theorists have often posited a preference for local decision making. Local decision making is most likely to allow citizens to have their views expressed in government policy. This conclusion is premised on the assumption of regional and local diversity. The diverse views of distinct areas can be reflected in local law if decision making is local. If decisions are made at a larger scale, in contrast, those distinct local views could fail to find political expression. In addition, the democratic case for localism asserts that individual citizens can more easily and effectively participate in local decision making.

Local decision making also keeps local governments on their toes. Local governments, through their policies, compete for citizens. That competition ensures that local governments will be responsive to the electorate and avoid the stagnation that could occur if there were only one monopolistic legal regime.

The democratic case for local decision-making about land use is especially strong because local citizens have a particularly compelling interest in the outcome. Land use decisions impact local residents more directly and profoundly than many other kinds of governmental decisions. The higher the scale of a land use decision, the less control residents would have over the decisions affecting their immediate environment. The lower the scale of decisionmaking, the greater control residents would have over their community.

On a pragmatic level, the general federalism arguments in favor of local autonomy apply equally in the land use context. Allocating authority to the local level allows the proverbial “laboratories of invention” to flourish. Different local governments can experiment with differing approaches to land use, allowing other local governments to learn from their experience. In addition, if a given effort fails, its failure is limited to the local jurisdiction; the adverse consequences of a single failed federal approach would be much farther reaching. In addition, allowing local variation is preferable to creating a monolithic federal land use approach because it creates a more dynamic regulatory environment. A single federal approach risks policy stagnation, with little learning and evolution. Policies are more likely to evolve and improve by creating opportunities for experimentation and diverse approaches.

That said, arguments rooted in democratic theory are not unidirectional in favor of local decision-making over land use concerns. A key question is the interest to be served. If democratic decision making is intended to express the collective interest, then what is the relevant “collective?” Local decision-making would, arguably, serve local communities’ interests, but could do so in ways that undermine regional, state, or federal interests. Decision-making at higher levels could better meet the needs, and express the collective interests of, larger jurisdictional units. In the affordable housing context, for example, local suburbs have frequently zoned out affordable housing. Such zoning ordinances might serve the interests of the exclusive community, but they do not reflect the interests of citizens excluded from the community or reflect either the interests or will of the broader metropolitan area.

Moreover, voters or their representatives at larger jurisdictional scales could, arguably, better perceive and serve the long-term needs of the larger collective. In exercising local authority, citizens are more likely to defend their self-interests as residents or property owners, rather than acting upon broader principles. When operating at a larger scale, independent of particular consequences for themselves, voters and their representatives have a greater potential to act in the public interest, beyond immediate self-interest, and to take measures that address long-term concerns. For example, a regional or state government is more likely to develop a strategy for ensuring adequate affordable housing than a traditionally exclusive community.

In the climate adaptation context, many local communities are recognizing future risks and are engaging in robust planning efforts. However, many others could resist making the difficult policy judgments adaptation planning requires. Climate impacts are – or may seem to present- long-term rather than short-term concerns. It is notoriously difficult to ask voters to make immediate, difficult, and potentially costly decisions when the benefits seem remote and speculative. In contrast, state or federal policymakers could be at least marginally more likely to represent the collective interest in adequate planning because they are better suited to take a long-term perspective and to recognize the urgency of action for regional or state well-being. I am not arguing that cities will always do less than the state or federal government; in many instances, cities are doing much more. The argument, instead, is whether we can rely on all local governments to take appropriate action or whether, instead, state or federal requirements are necessary to prompt planning where local governments are not engaged.

Local adaptation efforts could also be held hostage to the endemic “parochialism” concern associated with local government control. Certain climate adaptation measures, like disaster recovery, will require the participation and coordination of large regions. If local governments address only their own concerns – armor their own coasts at the expense of others, or refuse to provide affordable housing for disaster victims, or refuse to accommodate future migration -- then local parochialism could undermine the collective interest in adequate adaptation.

While larger decisionmaking units might blunt the expression of local values, they would better facilitate the democratic preferences of larger jurisdictional units, preferences that could otherwise be thwarted by local inertia or parochialism.

Federalism values focus not only on the appropriateness of one or another level of government authority, but on their co-existence. Having federal, state, and local centers of power allows each level to check and balance the other, and prevent “tyranny” by any one level. This check and balance function suggests additional reasons why exclusive reliance on local land-use decisionmaking in the adaptation context would be inadvisable.

First, allowing multiple levels of government to address land use issues would reduce the risk of interest group capture at any one level of government. Certain interest groups could exert local pressure that would undermine local efforts. For example, real estate interests could undermine local floodplain restrictions. While such interest group capture is a risk at every level of government, pursuing climate adaptation measures at the federal and state level would prevent such capture at one level from preventing action at another level.

Second, an exclusive reliance on local decision-making creates risks for vulnerable and relatively powerless groups within local communities. Local power structures can, at times, disproportionately serve the interests of more powerful constituents and discount the interests of more vulnerable groups. In the land use adaptation context, disadvantaged neighborhoods are at

risk that local governments will fail to protect their interests sufficiently. Difficult decisions about what neighborhoods to protect versus abandon could disproportionately condemn poorer neighborhoods. Or decisions about where to develop in more sustainable locations or as a consequence of disasters could disadvantage poorer residents. A state or federal role may therefore be necessary to protect vulnerable groups in local settings.

The anti-tyranny argument provides insights, but does not dictate a state or federal role in land use planning. Anti-tyranny arguments could also be used to justify maintaining pure local control over land use. For example, a property rights advocate could argue that local control over land use is necessary to protect local landowners from the tyranny of state and federal interference with property rights. Thus, the anti-tyranny function of a federalist system does not provide a determinate answer to the choice of jurisdictional level. Ultimately, jurisdictional choices reflect not only “neutral” federalism principles, but also substantive value judgments. The next section addresses the substantive environmental and equal protection values that justify a federal role in adaptation-related land use planning.

Environmental and Equal Protection Values

As the first part of the Article will have made clear, from an environmental protection perspective, adaptation measures - including land use measures - are imperative. Citizens throughout the nation deserve adequate preparation and protection. Federal requirements for local action are needed in order to overcome local resistance that could put citizens in harm’s way. In addition to the collective action problems that could impede adequate local planning, certain local governments might not act due to the politicized nature of climate-related initiatives. The question of climate change has become politically charged. In some areas, any measures to address climate change, even adaptation measures designed to protect people, could be political non-starters. Federal requirements for local planning are necessary to ensure that local citizens do not become the victims of climate-denying politics.

Equal protection values also inform jurisdictional choices. Federal guidance for local land use planning could play a critical role in protecting vulnerable groups within communities. As noted above, the anti-tyranny principles discussed above only go so far in justifying a federal role.⁴ It is important to acknowledge, explicitly, the value of protecting the interests of disadvantaged communities, rather than relying solely on more abstract and presumably “neutral” federalism principles to justify a federal role. As Rob Verchick has articulated in the disaster policy context, a guiding principle for future policy-making should be: “Be Fair.”⁵

⁴ As noted above, our federalist system was designed, in part, to prevent tyranny by any one level of government, and state or federal requirements could protect the interests of disadvantaged groups in local adaptation planning. However, anti-tyranny principles could generate competing results, since other rights, like property rights, might suggest the importance of local, not federal control.

⁵ ROBERT R. M. VERCHICK, *FACING CATASTROPHE: ENVIRONMENTAL ACTION FOR A POST-KATRINA WORLD* 3 (2010).

Federalism Principles, Values, and the Appropriate Jurisdictional Level

The foregoing makes clear that no one level of government can single-handedly address adaptation-related land use planning. In Prof. Glicksman's range of choices between no federal control, shared federal and subnational control, and purely federal control, only the second option, of shared control, can reflect the federalism and substantive values articulated here. Local governments will always have the on-the-ground information to design plans that address locally-specific impacts and preferences. At the same time, the overriding national interest in protecting people from harm, and protecting vulnerable communities within local jurisdictions, suggests that a federal role is necessary to ensure that all jurisdictions engage in the necessary planning, and do so in ways that are effective and that protect vulnerable communities. (In the paper, I will make this conclusion more detailed, summarizing more of the arguments presented above.

IV. Multi-Level Governance Structures

Advocating shared governance is all well and good, but the devil is in the details. The Article will identify basic parameters without attempting a detailed federal legislative proposal.

The first point to clarify is that adaptation will involve more than land use. Federal legislation should require state and local *adaptation* planning that addresses all measures needed to adequately prepare for climate change, not just land use. This Article will focus on the federal role in land use only because that presents distinct federalism issues, not because that is the only sector where coordinated federal/state/local adaptation planning is needed.

Federal Land Use Requirements

Although a detailed list of requirements is beyond the scope of the paper, certain parameters can be identified. First, at the federal, state, and local level, the land use component should be coordinated with other adaptation planning elements. Housing policy, transportation policy, infrastructure policy, disaster insurance policy, water policy, public health policies, welfare policies: all have potential land use implications. Adaptation planning provides an opportunity to connect many disparate areas in order to create a comprehensive response to the challenges ahead.

Second, in the land use context, the initial role for the federal government would be to establish requirements and frameworks for comprehensive land use planning that would ultimately be translated into land use regulation. While there may some role for other forms of federal intervention in certain contexts, like national standards for sea walls or federal rules about the location of waste treatment facilities, the primary federal role in the land use context should be to require and monitor state and local land use planning.

The federal government could establish numerous constructive planning parameters. A first basic step would be to require state or local governments to identify climate risks and identify the local populations most vulnerable to those risks. The federal government could also establish a process for state and local governments to identify needs that transcend local governments, like affordable housing, housing for new immigrants, floodplain management, and endangered species habitat and migration paths (to name a few).

The federal government could also require state or local governments to identify land use measures that could address the identified risks, and require them to at least consider a range of adaptation measures.⁶ State and local governments should be required to assess and address the impact of planned measures on other jurisdictions. Where climate impacts cross jurisdictional boundaries, the federal government could create a mechanism for coordinated decisionmaking that facilitates the creation of collective objectives for the impacted areas combined with decentralized implementation by local governments.

The federal government should also establish criteria to guide the choice among adaptation land use measures. Inaction, or adaptation measures, that adversely impact other jurisdictions, should be limited. Decision criteria that protect vulnerable populations should be required. For example, local governments should not be permitted to rely solely on land value to determine what areas to protect since that metric would privilege richer areas at the expense of poorer areas. In addition, the federal government should establish participation requirements that ensure that all citizens have the opportunity to participate meaningfully in adaptation land use planning. Other federal values that local governments might discount, like protecting vulnerable ecosystems that provide larger ecosystem services, could be included in the decision calculus.

Ultimately, some sort of state/federal approval process would be necessary to ensure state and local accountability. Ideally, that process would be less rigid and time-consuming than the SIP approval process, but still detailed and substantive enough to ensure that state and local governments are complying with federal planning requirements.

For the moment, these ideas are at the “sketch” stage. I have not worked out, for myself, the extent to which the federal government should establish fixed criteria and rules for the planning process (e.g., no adverse impacts on other jurisdictions) versus taking a softer, more procedural approach that would primarily require local governments to consider a wide range of factors without imposing specific mandates. I suspect that resolution will vary depending upon the specific feature of the planning process at issue and that the questions might not be resolvable within the confines of this particular paper.

⁶ Such measures could include resistance strategies (such as sea walls), transformative strategies (such as shifting land uses to be more compatible with different environmental conditions), or abandonment of unsustainable areas. *See Ruhl, supra* at 385-87 (describing differing modes of adaptation).

Mechanisms for Inducing State and Local Compliance

Increasing the federal role in land use decisionmaking will not come easily. Federal requirements for state and local planning have come and gone, often without much efficacy. (Example: nonpoint source controls) Strong federal inducements will be necessary.

One federal inducement is money. As a practical matter, local governments are unlikely to have the resources to engage in the kind of planning envisioned here. Moreover, they are likely to resist what would otherwise be an “unfunded mandate.” Federal funding is likely to be essential.

But money alone is unlikely to be sufficient if local governments are resistant to the hard choices that planning will require. Significant federal sanctions are likely to be necessary. In the Clean Air Act context, the risk of federal planning, coupled with the loss of highway funds, has been a strong inducement to comprehensive state planning. While the SIP process has not been perfect, either in terms of air quality or procedure, the penalties for failure to complete an adequate SIP have prompted substantial state action that would otherwise have been unlikely to emerge. Similar sanctions would be appropriate in this context. Highway funds, or other forms of infrastructure funding, could again be on the table. After all, if a local government fails to plan adequately and puts federally-funded infrastructure at risk, the federal government is arguably justified in withholding federal infrastructure money. A more controversial suggestion would be to tie the availability of disaster-relief funds to adequate adaptation planning.

V. Political Feasibility

There’s a reason Sara Bronin said that no serious scholar would consider federal involvement in land use. It touches a political nerve even in environmentally friendly times. The question is whether it is worth writing about what we “ought” to do if it is politically infeasible.

But I’ll indulge in bit of foolish optimism: Perhaps at some point the risks posed by climate change will become so evident, and the inability of local governments to confront that risk on their own so tangible, that the political door will crack open. While local governments are unlikely to give up their autonomy easily, federal involvement could provide local governments with real benefits: coordination, financial and technical assistance, and even some alleviation of responsibility. If the benefits of federal assistance outweigh the loss of full autonomy, then, against all odds, federal adaptation legislation that guides local land use could emerge.