

Polycentricity in Disaster Relief

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The devastation of Hurricane Katrina prompted disaster relief efforts by actors at all levels of social organization, from individuals and local organizations in the New Orleans community to the United States Federal Emergency Management Agency (FEMA). This diversity of responses creates a unique opportunity to observe and compare the relative effectiveness of different types of disaster relief providers.¹ However, the clarity of institutional analysis is impeded by the fact that no one provider of disaster relief is operating in a vacuum. Rather, there are numerous individuals and organizations all acting with similar, though not identical, sets of goals in mind. The overlapping nature of both the actions and the intentions of different providers of disaster relief greatly obscures understanding of which institutional structures are best able to provide effective relief in response to crisis.

The Cultural and Political Economy of Recovery represents an important strategy for overcoming the problem of institutional comparison in those circumstances where the feedback loop between action and result is fuzzy at best. Specifically, Chamlee-Wright utilizes an interview process that unearths detailed information about the interactions between individuals living in the flood-damaged communities and the various local and federal attempts at post-disaster recovery. In comparing disaster relief providers even in the face of overlapping jurisdictions and indirect feedback mechanisms, Emily Chamlee-Wright lays the groundwork for a discussion of polycentricity in disaster relief. Polycentric orders are those in which decision-making power is dispersed across multiple organizations able to exercise autonomy within a shared rule of law. Although Chamlee-Wright does not explicitly address disaster relief in these terms, her analysis raises questions of self-governance and the interaction between overlapping jurisdictions that are closely related to notions of polycentricity.

The purpose of this paper is to explore some of the ways in which the provision of disaster relief is affected by the nature of the governing system, whether that system is primarily monocentric or polycentric. We begin (Section 2) by reviewing themes in the existing literature on the political economy of

disaster relief. We then move to a discussion (Section 3) of disaster relief in the U.S. in the context of mono- and polycentric orders. Section 4 provides a discussion of the benefits and costs of monocentric orders, while Section 5 explores the main benefits and costs of polycentric orders in the context of disaster relief provision. Section 6 concludes.

The Political Economy of Disaster Relief

To date, those writing in the political economy tradition have focused on three categories of arguments related to the government provision of disaster relief. The first is how relief fails to fulfill the traditional defining characteristics of a public good. The traditional theory of public goods requires that a good be non-rivalrous in consumption and non-excludable in order to be considered public. If the good meets these criteria the market ‘fails’ to supply the optimal amount of the good due to issues of pricing and free riding. In order to correct this market failure, it is argued that government intervention must intervene to increase production to move closer to the optimal level of output.

However, as argued by Shughart (2011), disaster relief fails to meet the necessary criteria because many components of disaster relief are scarce and, as such, rivalrous. The teams and tools needed to rescue survivors are in limited supply, and emergency provisions, such as drinking water and medical care, are also only available in finite quantities. These same goods are also easily excludable, which means that whole swaths of disaster relief efforts immediately fail to meet both criteria for being considered public goods (Shughart 2011). One particularly memorable example from Katrina is the purchase of trailers as substitute residences. Trailers are both non-excludable and non-rivalrous, positioning them soundly as private rather than public goods.

The next two categories of arguments focus on the incentive and knowledge issues which government officials face in efforts to supply disaster relief. One line of argument is that political institutions come with a set of incentives that are not compatible with the optimal provision of disaster relief. For example, the low probability that a disaster will occur during any single election cycle gives elected officials the incentive to delay the maintenance of long-run preventative systems and infrastructure in favor of projects with more immediate, and readily observable, impact (Congleton 2006; Shughart 2006, 2011; and Sobel and Leeson 2006). Further, natural disasters are inherently uncertain events, and this uncertainty creates opportunity for political corruption in the disbursement of funds (Boettke et al. 2007 and Leeson and Sobel 2008).

A third critique of the government provision of disaster relief is that political actors do not have the requisite knowledge to address the problem at hand. To the extent that the allocation of the goods required for rescue and recovery in a post-disaster environment is a problem of coordinating the plans of suppliers and disaster victims, public officials are expected to be at a disadvantage relative to local actors with better knowledge of the specific circumstances at hand (Boettke et al. 2007; Sobel and Leeson 2006, 2007).

The role of the knowledge of the market in allocating resources during and after disasters is perhaps the most basic lesson that economics holds for the question of disaster relief (Carden 2010). This is not simply an issue of gathering information that exists, but rather involves knowledge that is context specific and often cannot be articulated. From this standpoint, this category of arguments is an extension of Mises and Hayek's well-known 'knowledge problem' argument against central planning. Absent the market process, central planners do not possess the requisite knowledge to allocate resources in a manner which maximizes their value. This is important because absent the requisite knowledge, government officials have no way of knowing if they are providing the 'right' disaster relief in the 'right' amounts. Consider again the provision of trailers in the wake of Katrina. As predicted by the logic of the knowledge problem, there is evidence that the public provision of this private good indeed performs as expected, with trailers regularly either nowhere to be found or sitting unused (Chamlee-Wright 2010: 95, 98-9, 156-6; Sobel and Leeson 2006: 64-67).

The Cultural and Political Economy of Recovery contributes to each of these three categories of the political economy of disaster relief. However, it also makes a novel contribution in that it forces the reader to consider alternative means of providing disaster relief, as well as how those alternative providers affect one another for better or worse. Chamlee-Wright demonstrates that it cannot be assumed, *ex ante*, that government must provide disaster relief. Indeed, one of the most important insights from *The Cultural and Political Economy of Recovery* is that private disaster relief can be robust and effective. Government efforts to provide disaster relief can not only fail, but can retard private efforts to do the same. The power of Chamlee-Wright's analysis is that it considers the interaction of public and private disaster relief, allowing for a more thorough consideration of the strengths and weaknesses of each alternative structure for providing relief.

Disaster Relief in a Polycentric Order

The Cultural and Political Economy of Recovery considers the realms of polity, economy, and society as a single interconnected system. This approach puts

Chamlee-Wright in a position to compare the realities of public and private responses to Katrina. Rather than comparing political reality to political ideal, economic reality to economic ideal, or social reality to social ideal, she presents the disaster response behavior of individuals at all different positions in this institutional trifecta as occurring within a single framework, allowing for direct comparison. Consequently, the bidirectional interactions between private and public disaster relief efforts emerge as a recurring theme in nearly every chapter.

In focusing on the interactions between private and public responses to the disaster, Chamlee-Wright's research brings to the surface the polycentric nature of disaster relief efforts (see also, Storr and Haeffle-Bache 2011). Polycentric systems are those in which decision-making power is dispersed across multiple organizations, each possessing the ability to act autonomously within their own constitutionally allotted realm of authority. As such polycentric orders are systems of self-governance in which individuals or organizations holding power are constrained in their behavior by rules established by those they are authorized to govern. In contrast a monopoly of authority would imply a monocentric system with a single decision-making entity. There is no shared rule of law created by the individuals living within the order, because there is no 'shared' at all. Neither cooperation nor checks on power are inherent requisites of a single agent system (Ostrom, Tiebout, and Warren 1961; Boettke 2009).

It is important to note that polycentric orders are more than decentralized systems of dispersed authority. Decentralization occurs when the holder of some monopoly of authority believes it will be more economically efficient or politically expedient to manage a subset of their operations on a more local scale. In order to take advantage of these gains, the monopoly of authority is divided into smaller or geographically distinct units which are wholly subsumed by the central organization. In contrast, polycentrism is a form of voluntary association in which the actions of individuals determine the appropriate locus of power over a given decision. If a particular function of government reflects the will of the affected individuals, "expansion and contraction in the domains of various jurisdictions will reflect a general consensus among the participants" (Wagner 2005: 185).

Disaster relief in the U.S. is best understood as having both polycentric and monocentric characteristics. On the one hand, the simultaneous functioning of multiple disaster relief organizations seems to imply polycentricity. For example, in the case of Hurricane Katrina, multiple groups including FEMA, the state government of Louisiana, the city government of New Orleans, and private individuals and organizations all either held some right to direct resources towards disaster relief or appropriated the right after

disaster struck. However, in order for a system to be accurately characterized as polycentric, the acting organizations must be both autonomous and effectively constrained by rule of law. The encroachments of FEMA on the autonomous plans of lower level organizations (to be discussed in greater detail below) indicate that the U.S. system shares many of the characteristics of a monocentric order.

As such disaster relief in the U.S. would seem to be neither purely polycentric nor purely monocentric, and indeed this is in all likelihood the most reasonable interpretation. Polycentrism is a matter of degree rather than kind. Any given system can become either more or less polycentric over time, with moves towards polycentricity marked by an increase in the responsiveness of governing organizations to the desires of the individuals in the governed community. Thinking in terms of a spectrum with pure polycentrism on the one end and pure monocentrism on the other is useful for framing the various parties involved in Hurricane Katrina and other disaster relief efforts. For example, FEMA acted with near unilateral power, largely immune to the meta-rules designed to encourage cooperation with other organizations and maintain accountability to the community it purports to assist. This would place it closer to the monocentric end of the spectrum. In contrast, the community organizations analyzed by Chamlee-Wright operated with only so much authority as the individual community members would allow while engaging in productive cooperation with other individuals and organizations responding to the crisis. These organizations fall closer to the polycentric end of the spectrum. Given this spectrum of alternative organizational forms, we can use the tools of economics to consider the efficiency of relatively monocentric, versus relatively polycentric, organizations.

The Benefits and Costs of Monocentric Orders

In theory, relatively monocentric orders have three distinct advantages over polycentric orders. First, a monocentric system's expanded jurisdiction enables it to more easily reap the benefits from expanding production of a good with positive economies of scale. In contrast, a polycentric system requires a process of contract and cooperation to achieve the same outcome. In such instances smaller units must contract with other smaller units to exploit economies of scale. For example, a high fixed cost good like a power plant may be prohibitively costly for the residents of a small town, but the scale of production offered by a larger city would enable profitability.

Second, free rider problems are eliminated to the greatest extent possible under a monocentric system. The coercive power of the central governing body forces individuals to internalize externalities whereas a polycentric system may

have trouble commanding participation in their disaster preparedness and relief strategies. For example, a community that invests in a levee not only protects that community from flooding, but also neighboring communities as well. Given the positive spillovers associated with building the levee, economic theory would predict that disaster prevention would be undersupplied absent some kind of government intervention.

Third, political cooperation will be simpler under a monocentric regime that requires cooperation from no other parties in order to execute its plans. The responses of the many relief agencies following Katrina were often at cross-purposes. One striking example from Chamlee-Wright is that of Doris Voitier, Superintendent of St. Bernard Public School District, who was in such strong conflict with other jurisdictions that she violated local and federal law repeatedly in her efforts to protect her community. She not only ignored the mandatory evacuation order in order to stay and assist those unable to leave, but then went on to violate or ignore the regulations proscribed by a rotating roster of FEMA personnel so frequently that she was held under investigation for misuse of federal property. (Chamlee-Wright 2010: 90-6, 142-3). It is this sort of lack of cooperation that would be minimized if not eliminated within a monocentric order.

There are several costs to relying on monocentric orders for disaster relief. The first is the cost of bureaucratic hierarchy. The same hierarchy that allows monocentric orders to implement a centralized plan without securing cooperation also makes monocentric orders less likely to figure out what the most efficient plan should be. As nonprofit entities, government bureaucracies are unable to economically calculate (Mises 1944). Thus they're unlikely to discover solutions to economic problems of how to allocate resources in ways that make citizens better off.

This 'planner's problem' plagues all government bureaucracies, but it becomes increasingly more severe as the size of the bureaucratic hierarchy increases. The reason for this is closely connected to another cost of monocentric provision of disaster relief—the higher up in the levels of that hierarchy one goes, the more removed public decision makers are likely to be from the majority of citizens they are making decisions about disaster relief provision.

Yet another reason why monocentric orders are likely to make errors when providing disaster relief relates to information loss within the hierarchical decision chain. As Tullock (1965) points out, when bureaucratic hierarchies become increasingly large, so does the information chain from the top of the hierarchy to its lower levels. This increases the chance that noise will infiltrate the chain of communication as information is relayed between the bureaucracy's levels. Ostrom, Tiebout and Warren (1961: 837) capture this

logic when they note that a monocentric order is likely “to become a victim of the complexity of its own hierarchical or bureaucratic structure,” leading to inefficiencies and unresponsiveness to citizen demands.

Chamlee-Wright (2010) highlights a related cost of bureaucracy in the context of disaster relief. Her analysis notes that bureaucracies not only have a hard time developing efficient plans, but also that they can take a long time to settle on any plan at all (irrespective of the plans efficiency). This inertia emerges from the internal workings of government agencies as highlighted by Tullock, but also due to competition between agencies competing for resources and power. Chamlee-Wright (2010: 133-137) notes that the inability to coordinate on any plan can result in “signal noise” making it harder for private actors to function and engage in disaster recovery activities.

There is a final cost to monocentric orders. They preclude, or at a minimum restrict, local-level provision of disaster relief when smaller-scale provision is efficient (i.e., when economies of scale are absent, when free rider problems are absent, or when local knowledge is crucial to success). In doing so, monocentric orders remove the potential benefits associated with polycentric orders.

The Benefits and Costs of Polycentric Orders

Polycentric orders also involve both benefits and costs, which are the converse of those found in monocentric orders. There are two distinct benefits to polycentric orders relative to monocentric orders. The first is the flexibility of the polycentric system to adapt up to larger scale provision. The second is the unique relationship between polycentrism and the effective use of knowledge. We consider each of these benefits in turn.

While polycentric orders provide the option of contracting and cooperating to provide goods on a larger scale, a monocentric system offers no such alternative. This is because monocentric organizations are, by definition, the sole provider of the good. This effectively crowds out the provision of goods on a smaller scale even in situations where a small firm size would be optimal (Boettke, Coyne, and Leeson 2011). The potential deleterious effects of the necessarily large and sluggish nature of monocentric governance are seen clearly in the third chapter of Chamlee-Wright (2010), “Collective Action in the Wake of Disaster,” which focuses on identifying the mechanisms through which individuals within a community are able to coordinate their efforts to rebuild. The theme that emerges through this chapter and others is that many necessary aspects of coordination require an immediacy of response that a large organization cannot offer. For example, Sobel and Leeson (2006) discuss two reasons to expect federal response to be delayed. In addition to the time it takes

for full knowledge of the severity and nature of a disaster to reach a federal official, response is often further delayed by a bias towards inaction and avoidance of responsibility in the political arena.

The Cultural and Political Economy of Recovery is littered with examples that contrast the rapidity of local response with the sometimes shocking delay of higher levels of government. Businesses, schools, churches, and other community organizations were often back in operation within days and weeks. In addition to the provision of services to a community in need, at least one third of these businesses provided temporary living assistance or home repair loans. Father Vien of the Mary Queen of Vietnam Church, the hub of one of the most successful reconstruction stories in New Orleans, stayed with his parishioners through the flood and called them home to Mass only five weeks after the hurricane. Doris Viotier of the St. Bernard Parish School District re-opened her school to over 700 students barely more than two months later (Chamlee-Wright 2010: 49, 61-3, 90-6). Walmart had re-opened 113 of their 126 local stores within three weeks, and other important relief providers like Home Depot and FedEx were similarly quick on the uptake (Shughart 2011). In contrast the Bring New Orleans Back Commission, which worked in conjunction with the city of New Orleans to develop a centrally directed recovery plan, floundered until June 2007 to get even an initial plan approved (Chamlee-Wright 2010: 39-42).

The differences in performance between private and public providers of disaster relief are exacerbated by the ability of a monocentric force to quash the efforts of alternative providers. In a pure monocentric order with a complete concentration of power in one entity, there would not even be any other efforts to ruin. There would be a single player, and that single player would be FEMA or the Bring New Orleans Back Commission. However, even in the imperfect polycentric order within which we function, the player with a relative concentration of power can still interfere with the efforts of their smaller local competitors. For example, the actions of the federal government greatly interfered with the revitalization of the local economy in post-Katrina New Orleans in a number of ways. Congress extended unemployment benefits, discouraging workers from returning to their communities. In addition, the relatively high wages offered to low-skilled workers by FEMA distorted the labor market by subsidizing FEMA directed clean-up projects despite the fact that private projects may have been of greater value to the community (Chamlee-Wright 2010: 145).

The reverse of the rigidity and limitations of the monocentric order is the flexibility of a polycentric order to adapt to different scales of provision. Localities can capture the gains from economies of scale, and the associated elimination of externalities typically assumed to be only available through mass

public provision, by voluntarily contracting with each other to pool resources and authority. In the absence of restrictions on contract, a Coasean solution would be achieved through individual jurisdictions contracting until they reached the optimal scale of provision (Boettke, Coyne, and Leeson 2011). There is no such mechanism that would drive monocentric orders towards smaller scale provision because there is no means of contracting down.

Yet another benefit of polycentric orders over monocentric orders is that the former is better able to adapt to the local knowledge required to effectively respond to disaster. Sobel and Leeson (2007) highlight three types of knowledge that must be transmitted following disaster: (1) the facts of where disaster has occurred, its nature and severity; (2) who has which relief supplies and who needs those particular supplies the most; and (3) feedback as to whether or not a particular disaster relief effort is effectively accomplishing its goals. The mechanism typically expected to solve problems of economic coordination is the market, within which the plans of suppliers and demands are aligned through a process of response to price changes and profit and loss. The inherent advantage of a polycentric system in capturing knowledge lies in the local knowledge held by those governance centers that are smaller and more intimately aware of the impact of the disaster and needs of the survivors.

To illustrate this point, consider that FEMA and the Bring New Orleans Back Commission regularly and directly interfered with the plans of individuals seeking to rebuild their wrecked and rotting homes. This limited the ability of individuals to take advantage of their local knowledge of time and place. For example, Calvin Hampton's home was bulldozed in his absence by the city without any prior notification and despite the fact that according to his insurance company the house had only sustained minor damage. Some residents were not allowed to return to their property until months after the storm. Chamlee-Wright quotes a panelist from the Urban Land Institute, a Washington-based consultant to the Bring New Orleans Back Commission, as saying "[New Orleans] public housing is now a public resource...You can't think of it as private property any more" (Chamlee-Wright 2010:135).

As noted, monocentric orders face the 'planners problem' which face central planners in any context. Specifically, given that the planner is working outside the context of the market, they lack the access to the knowledge necessary to allocate resources to their highest valued uses. Moreover, as Chamlee-Wright (2010) highlights, there are alternative feedback mechanisms in private disaster relief—reputation, social networks, etc.—which are lacking under the monocentric provision of disaster relief.

Polycentric orders are not without costs. Specifically, these orders may be unable to generate the benefits associated with monocentric orders. For example, while delivering disaster relief locally permits for plans that more

closely reflect localities' particular needs, local providers may be unable to take advantage of economies of scale or be undermined by free rider problems if they act alone.

The relative efficiencies of monocentric versus polycentric orders will vary from case to case. When making these comparisons, it is important to weigh the relative benefits and costs of monocentric orders discussed in the previous sections against those associated with polycentric orders.

Conclusion

Emily Chamlee-Wright's *The Cultural and Political Economy of Recovery* raises important challenges to the assumptions about the benefits of centralization in disaster prevention and recovery. By highlighting the ubiquity and importance of interactions between the variety of potential disaster relief providers, her research suggests that further consideration of the nature of the dominant governance system will affect both the type and quality of disaster relief efforts. Given what is at stake in disaster situations, a deeper appreciation of alternative governance structures for providing disaster relief is of the utmost importance. Chamlee-Wright's work is a crucial first step in this regard.

Notes

¹ We use the term "disaster relief" in the broadest sense to include not only immediate disaster relief, but also long-term rebuilding and recovery efforts.

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