Environmental Justice and Hydraulic Fracturing: The Ascendancy of Grassroots Populism in Policy Determination

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Abstract

Exploration and development of natural gas resources includes the use of hydraulic fracturing, a process that can potentially contaminate domestic water sources. While industry seeks access to BLM leases for new wells, their proximity to communities can have serious negative consequences on their health and life style, raising questions of how sites are selected and concerns about environmental justice. This case scenario explores the manner in which the residents of Delta County, Colorado, organized in response to proposed lease sales, and how grassroots mobilization uses technology and proactive mechanisms to affect public policy.
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Environmental justice addresses the inequity experienced by those who bear the ecological consequences of industrialization; a relatively new focus of study, it is being addressed globally with more frequency as increasing numbers suffer adverse health effects from cumulative environmental hazards (Reed & George, 2011). The Environmental Protection Agency (EPA) defines environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies” (Environmental Protection Agency [EPA], 2010, p. 3). The primary focus since 1994 has been on pollutants and their disproportionate impact upon poor and minority populations (Gracia & Koh, 2011). The Department of Health and Human Services (HHS) is developing guidelines for federal “interagency” and “intra-agency” collaboration to create policies that address the problem holistically, while the National Stakeholder Strategy for Achieving Health Equity is developing partnerships with public entities and industry to correct environmental equity disparities (Gracia & Koh, 2011).

Millner (2011) argued that when developmental policy can adversely affect a community’s natural environment and health, it is a matter of social justice and as such, must be subject to the community members’ review and approval. Five central aspects of environmental justice include acknowledging the rights of those affected by the proposed risks, allowing their contribution in the decision-making process, using all due caution to minimize hazards, spreading risk to diminish local concentrations and concurrent severity, and compensating victims (Millner, 2011). If the public is to participate in this process, it must have access to
pertinent information on the component aspects of the decision; it can then decide which
informal approaches (protest, public debates, community education) it will use to influence
policy deemed to have potentially serious adverse effects (Millner, 2011).

Increasingly, communities are organizing partnerships and collaborative associations to
address environmental inequity issues, using shared values, advocacy, community power, and
carefully conducted research to actualize desired outcomes at the policy level (Minkler, Vasquez,
Tajik, & Petersen, 2008). This paper is a case scenario of such a situation, currently evolving in
Delta County, Colorado. The Bureau of Land Management (BLM) has proposed to offer for sale
a number of natural gas leases that are problematic because of their proximity to important water
sources for the affected communities. This scenario focuses on process, as opposed to outcome,
and includes community response in the context of environmental justice, Community Based
Organizations (CBO) as mechanisms for citizen involvement in policymaking, and an
examination of the manner in which CBOs recruit members, collaborate, and use technology to
influence public policy.

Background

The Root of the Problem: Hydraulic Fracturing

Natural gas production in the United States has grown since the introduction of drilling
techniques that allow for extraction from difficult terrains, such as shale formations (Rahm,
2011). Concerns about the environmental impact of hydraulic fracturing include not only the use
of chemical contaminants in the water, but also the need for extensive quantities of water (Rahm,
2011). The process involves vertical drilling, up to depths of 12,000 feet, and from the vertical
shaft, cutting horizontal shafts up to 1800 feet in length (Rahm, 2011). Fracturing fluids are then
forced into the rock at high pressure, effectively rupturing it; compounds then “hold” the fissure
open until the gas has escaped the layers of rock and been captured (Rahm, 2011). The procedure utilizes between two and five million gallons of water per well, of which between 15% and 80% returns to the surface as contaminated wastewater (Rahm, 2011). The primary concerns about hydraulic fracturing involve the chemicals used that can, and sometimes do, contaminate wells and municipal water systems adjacent to natural gas development areas (Rahm, 2011). In November of 2011, the EPA issued notice of its plan to study the environmental hazards connected with hydraulic fracturing (Environmental Protection Agency [EPA], 2011).

The Policy Issue

The North Fork Valley of Delta County in western Colorado is an agricultural area fed by the Gunnison River; the mild climate and fertile soil have ensured the success of numerous organic farms, orchards, and wineries ("North Fork Valley," n.d.). On December 12, 2011, the BLM notified Delta County of a pending oil and natural gas lease sale encompassing 30,720 acres primarily located in the North Fork Valley (Bureau of Land Management, 2011). The BLM’s prospective lease sale map includes numerous sites adjacent to reservoirs, municipal water sources, creeks, and springs that provide for these farms and the nearby communities of Paonia, Somerset, Crawford, and Hotchkiss (Bureau of Land Management, 2011).

Under the Mineral Leasing Act of 1920, the BLM is required to consider offering tracts for lease four times every year; companies seeking to develop natural gas and oil resources purchase these leases. The sales thus involve two different sets of stakeholders, the natural gas industry, and residents of communities affected by hydraulic fracturing and its concurrent environmental impacts. The concerns include not just water contamination, but also increased traffic from trucks and heavy equipment causing additional stress to the infrastructure, reduced
land values, and air and noise pollution (Hydraulic Fracturing and Horizontal, n.d.). Under the new rules outlined by the Department of the Interior in 2010, oil and gas lease sales must undergo a rigorous review process before approval, including extensive public comment opportunities and citizen participation in creating Master Leasing Plans (MLPs). This revision was designed to prevent litigation and retroactive lease reviews due to flawed or incomplete approaches, both of which the BLM has confronted in the recent past ("Interior Finalizes," 2010). Stipulations of the new review process include coordinating or consulting with “stakeholders” before the lease sale takes place, preparing and offering for public comment an environmental review document, and using these environmental and public reviews as lenses through which to examine the lease for potential problems and benefits (Bureau of Land Management, 2010).

Immediately after the December 12, 2011 BLM sale announcement, a number of community-based organizations began urgently organizing their response. On December 19, they presented the Delta County Board of Commissioners with a petition asking the BLM to extend the comment period by thirty days, convene a public hearing on the proposed sales, and perform an Environmental Impact Study (EIS) to determine the potential damage natural gas exploration and development could cause to the area (Eddins, 2012). Citizens for a Healthy Community (CHC), a community-based organization, posted on its website a call for local residents to send comments to the BLM before the February 9 deadline, and a petition, signed electronically, opposing the lease sales (Citizens for a Healthy Community [CHC], 2012). Three public meetings were scheduled, in Hotchkiss, Paonia, and Crawford, so residents could voice their concerns and begin a discourse about effective opposition strategies ("Community Groups," 2012). State Senator Gail Schwartz and representatives from the offices of United States Senators Mark Udall and Michael Bennett also conducted a public hearing in Hotchkiss on
January 28, 2012, at the behest of the communities in question, to record objections and listen to testimonies in opposition ("Public Hearing," 2012; "Transcripts," 2012). Whereas the BLM refused to hold such a hearing when asked to do so, it did send a representative to that held by Senator Schwartz, and granted the public comment deadline extension to February 9, 2012 (Bureau of Land Management, 2011). The CHC and other CBOs scheduled a rally for that date, to occur in front of the BLM local headquarters in Montrose ("Join the Rally," 2012).

**Desired Outcomes**

Taking into account the stakeholders in this scenario, determining favorable outcomes means acknowledging the rights of both parties to equity and a just determination. While the most favorable result for the community organizations would be for the BLM to cancel the sales, it is the least likely development. Residents of the North Fork Valley instead asked for a moratorium until an Environmental Impact Statement (EIS) had been completed (Eddins, 2012). In 2009, the courts required the BLM to withdraw 77 parcels already sold at auction in Utah, spurring Secretary of the Interior Ken Salazar’s call to reform the process (Ashley, 2009). If the communities of the North Fork Valley can demonstrate the need for an EIS, and if it supports their contention that the proposed hydraulic fracturing adjacent to their water supplies in fact endangers their health and livelihood, they might succeed in forcing the withdrawal of many of the lease parcels from the proposed sale.

**Variables**

Understanding the variables that might affect an outcome can assist policymakers in predicting how similar scenarios might evolve, and in determining procedures to avert negative results. As hydraulic fracturing use increases in the United States, with concomitant water and air pollution events, the BLM and regional policy makers will confront more communities opposed
to lease sales, or challenging them in court. The fundamental conflict lies in the national policy for achieving energy independence, its approach to promoting this agenda, and the response it receives by those subjected to the industrial intrusions into their communities. In this section, I outline a number of variables, as well as their potential influence on the outcome of the policy dispute.

**Localities and National Energy Independence Policy**

Energy resource development is being encouraged on the national level, but its impact on localities creates a tension between idealized narratives of energy independence and the prospective sacrifices required of those localities within which natural gas development is taking place (Lewin, Strutton, & Paswan, 2011). While these extractive industries can provide jobs and community development, both much sought after in the current economic environment, they also bring considerable cost to communities, including air, water and soil pollution, health risks, safety hazards, and decreasing property values (Lewin et al., 2011). Government officials and policy makers must balance federal requirements for offering lease sales, with citizen rights to participate in the process of deciding which areas to subject to these potentially severe repercussions.

Lewin et al. (2011) have argued that individuals in these situations are also confronted with a complex set of considerations, involving cost/benefit calculations; if potential personal costs (reduced property values, noise, pollution, loss of income) are greater than the perceived benefits to themselves or the community, their concern about environmental hazards increases. Recent discoveries about contaminated water and the EPA’s decision to investigate these under the Clean Water Act (EPA, 2011), have created an environment wherein BLM agency officials, mandated to encourage public comment on the sales, are confronted with a rapidly expanding
opposition. The actions of the North Fork Valley communities represent a dynamic and proactive approach to resistance, which might become a template for future citizen efforts to ensure greater consideration of environmental justice when writing energy policy.

**Community Based Organizations**

Policy networks are a growing phenomenon that reflects the increasing complexity of governance; these networks can be semi-permanent organizations with a centralized structure, or a loose construct of members whose commitment might be short lived and based on perceived need (Thatcher, 1998). Much of the research has focused upon formal policy networks and structural linkages that support their functionality and effectiveness (Thatcher, 1998); the relationships between actors, their common interests and the manner in which they promote these are designed to influence policy development (Jordan, 1990). Aspects that affect their effectiveness include interdependency among the actors, the resources each individual or organization brings to the network, the manner in which they organize to optimize their effectiveness, and how they manage conflicting goals to present a united front (Klijn, 1996).

Community Based Organizations (CBO) contain the same dynamics as governmental policy networks; they represent what has been termed “civil society”-- a “rich array of mixed civil elements made up of trade unions, foundations, faith-based and religious groups...non-governmental organizations (NGOs), social movements and ordinary citizens active within the social sphere” (Leonard & Pelling, 2010, p. 580). Most CBOs are formed as a response to government actions or a perceived community need, and aggregate the interests of seemingly disparate individuals to articulate these and influence the policy making process (Leonard & Pelling, 2010). In what Leonard and Pelling (2010) have described as a “network society,” where
interest groups-- whether in or out of government-- shape policy, CBOs are becoming a preferred community response to externally imposed events.

Important components of successful community based organizations include skilled leadership, active stakeholder participation, members with relevant and recognized skills and knowledge who can contribute professional expertise, and adequate funding (Minkler et al., 2008). In addition to these, CBOs can increase their effectiveness by creating “horizontal and vertical linkages” with other similar organizations and groups for informational and resource coordination, developing kinship within the organization to promote a sense of shared destiny, trust, and collaboration, and recognizing their position in the context of the outside community. (Minkler et al., 2008, p. 121). Minkler et al.(2008) have suggested that while community based activism reflects willingness to attempt to influence legislation, it is critical that any developed strategy include considering and effectively countering the number of and capacity of opposing stakeholders. This means proactively challenging assumptions, knowing who the decision makers are, utilizing every democratic tool available, enlisting a wide participatory base, maintaining channels of communication with political figures, and becoming knowledgeable about relevant court decisions.

In 2009, concerned individuals formed the non-profit organization Citizens for a Healthy Community (CHC), reacting to an envisioned intrusion into the North Fork Valley by natural gas and oil interests (D.B., personal communication, January 30, 2012). CHC lists within its guiding principles that citizens must be “active and empowered,” are entitled to an environment free of pollutants, that the organization seeks collaboration with other similarly focused groups, and that their activism is based upon “sound science”(Citizens for a Healthy Community [CHC], 2012). Since the December 12, 2011 BLM announcement of the proposed lease sales, CHC has helped
create an advocacy coalition with a number of other citizen organizations, including the Western Slope Environmental Resource Council (WSERC), the Valley Organic Growers Association (VOGA), and has received support and legal counsel from the Western Environmental Law Center (WELC). One of the primary tools used for networking has been the internet; the individual organizations have websites, and the Facebook page “North Fork Fracking,” provides a forum for individuals in and out of the organization to participate in the ongoing discourse and contribute articles and information they find pertinent to the topic. The collaboration between these CBOs represents new approaches to social networking and the development of reciprocal relationships focused upon achieving outcomes important to the community at large (Leonard & Pelling, 2010).

**Democratic Concepts**

Participatory democracy in the twenty first century bears little resemblance to the classical, but many fundamental principles remain cogent. Bobbio (1989) described democratic governance as that wherein the people create the laws which will govern them—as opposed to systems where edicts are imposed by a select group, which has granted itself immunity from their tenets (as cited in Post, 2006, p. 25). In a representative democracy, such as the United States, elected and unelected officials functioning as extensions of the government write policies; as such, their role is to uphold democratic principles and ensure that decision-making processes conform to these. Frederickson (2005), however, argued that, the poor, minorities and those with little access to channels of communication with the government have less influence than those with positions of power or wealth. This constitutes the basis for the environmental injustices that occur when large industrial interests, whose access to government can include lobbying and
social networks, are able to influence policy makers and take advantage of the concurrent absence in disadvantaged communities.

Post (2006) posited that in democratic systems, personal autonomy directs the development of societal constraints and privileges, as each individual participates in creating social order; from this, one can derive that policies that direct society must reflect the will of the people and not simply that of those empowered to administer them. The constituents of Delta County are attempting to make use of their right to self-determination, by articulating their opposition to a government decision, and attempting to convince the responsible bureaucrats to change the policy to one that is less destructive to their environment.

Tools of Democracy and Democratic Processes

Public participation in democratic processes involves becoming informed and supporting decisions that benefit the community or society at large (Almond, Powell, Dalton, & Strom, 2010). The degree of citizen participation varies with potential outcomes, whether positive or negative, and their perception of the value of their contribution in altering these results (Lewin et al., 2011). Approaches to influencing public policy vary, from using elections and recalls to support or dismiss candidates for representative positions, to grassroots politics, which allow citizens to articulate and broadcast their positions to enlist support (Almond et al., 2010). When interest groups wish to advertise their positions and recruit members, or encourage participation in events, their use of access channels such as media outlets, the Internet and social networking improves their visibility (Almond et al., 2010). These methods can reveal widespread public approval of or disfavor with policies, and influence their passage.

The community-based organizations in the North Fork Valley have public websites, upon which they post upcoming events, informational material such as lease site maps, petitions for
members to sign, and articles about other, similar citizen action events. While each website has a unique focus, they present analogous material from different perspectives, thus offering multifaceted evidence to support their claims. In addition to creating websites, the groups have coordinated public meetings, attended County Commissioner meetings, and used local newspapers to express their opinions.

Other, less benign approaches to articulating interests include protests and demonstrations; citizens resort to these when they feel that their access to the system is restricted, it is unresponsive, or that striking action will more clearly emphasize their position (Almond et al., 2010). The community groups involved organized a rally to protest the sale, to be held in the BLM regional headquarters parking lot on February 9, 2012 ("Join the Rally," 2012); this mobilization was designed to contribute a final accentuation of the urgency of their position, before those charged with deciding the policy close public comment avenues.

**Environmental Justice**

The federal government has guidelines for policymakers to ensure they consider environmental justice when determining a course of action. Agencies are to “identify and address” any policies that might disproportionately affect a certain demographic, and encourage public comment and participation in reviewing these if needed (EPA, 2010, Appendix A). There are a number of ethical considerations surrounding placing at risk the water supply of these three different communities. The EPA has established a series of questions whose answers can help determine the environmental justice implications of a decision to use hydraulic fracturing in a given location (EPA, 2011). The concerns include determining the reason for choosing particular sites-- is it, for example, the perceived socio-economic status of the residents, and their supposed inability to challenge the decision (EPA, 2011). Other considerations involve water use--whether
water sources in communities with environmental justice concerns are targeted disproportionately, and whether wastewater treatment facilities are placed near these communities on the assumption that there will be few effective objections (EPA, 2011). The EPA hoped to use demographic profiles and case studies to determine whether agencies and industry are addressing these ethical considerations when selecting lease sites (EPA, 2011).

The National Environmental Policy Act (NEPA) of 1969 requires federal agencies to consider environmental concerns before approving actions that will impose considerable negative consequences on a given area ("National Environment," 2011). In addition, NEPA requires federal agencies to complete an environmental impact statement (EIS) prior to committing other resources to the federal action, as well as alternatives to the action if it will cause considerable damage to the environment. The combination of EPA’s directives to protect communities under the safeguard of environmental justice considerations, and NEPA’s direction to federal agencies to ensure all environmental concerns are addressed prior to implementation of any federal project, are legislative protections designed to ensure that the American public is not subjected to arbitrary decisions by public agencies that could cause irreversible and long term harm.

**Policy tools**

Implementing public policy is an exercise in determining the most effective tool—one that will elicit compliance and have ongoing effectiveness (Schneider & Ingram, 1990). The most basic include regulatory tools--those with implied or explicit external coercion mechanisms (Schneider & Ingram, 1990). Incentive and capacity building tools, however, involve inviting cooperative behaviors and offering tangible benefits for doing so, including offering funds and programs that individuals or communities can access (Schneider & Ingram, 1990). Finally,
symbolic tools are non-coercive, but attempt to motivate compliance with socially desirable behaviors (Schneider & Ingram, 1990).

The concern about which policy tools to utilize can center upon “behavioral assumptions” policymakers make about those who are expected to comply with the regulations (Schneider & Ingram, 1990); it is not unwarranted for citizens to question the motives and mechanisms used by policy makers or implementers, especially when it appears that they are unresponsive to public objections. It is questionable, therefore, whether regulatory policy tools are appropriate for distributing extractive contracts to industry, in an age where environmental concerns are growing, and the public is beginning to assert its right to determine whether it agrees with chosen sites and consequent intrusions into local economies and environments.

The lease sale process involves announcing the sales and inviting public comment, but leaves the final decision to the agency; this narrow approach leaves little room for citizen involvement and little recourse except for post sale litigation. In their 50-page letter of comment to the BLM dated February 8, 2012, CHC, in collaboration with the Western Environmental Law Center (WELC), noted a number of instances where the BLM outlined a predetermined schedule for the lease sales, implying consummation in spite of public input (Western Environmental Law Center [WELC], 2012, p. 6). Expanding their critique of the BLM’s preset timetable and apparent indifference to the concerns of affected communities, WELC stated,

Indeed, there is a long line of cases that warn agencies against making a predetermined decision with respect to their NEPA analysis. In Forest Guardians, the 10th Circuit Court of Appeals provided: “[I]f an agency predetermines the NEPA analysis by committing itself to an outcome, the agency likely has failed to take a hard look at the environmental consequences of its actions due to its bias in favor of that outcome and, therefore, has
acted arbitrarily and capriciously.” *Forest Guardians*, 611 F.3d at 713 (citing *Davis* v.*Mineta*, 302 F.3d 1104 (10th Cir. 2002). The 10th Circuit further stated that “[w]e [have] held that ... predetermination [under NEPA] resulted in an environmental analysis that was tainted with bias” and was therefore not in compliance with the statute. *Id.* (citing *Davis*, 302 F.3d at 1112–13, 1118–26) (WELC, 2012, p. 7).

Finally, WELC (2012) commented that if the lease sales are a predetermined event, companies owning the leases could proceed immediately with exploratory drilling and infrastructure construction. If these sales, after litigation, are withdrawn, or shown to have caused serious environmental damage, the BLM will be required to “impose mitigation measures” (p. 10) which will not offset existing damage. WELC (2012) argued that therefore, relying upon after the fact mitigation violates NEPA provisions. Schneider & Ingram (1990) posited that policy tools could begin a spiral of events with serious political implications; without an acquiescent population willing to cooperate in implementation, the desired outcomes will not occur. This cooperation is based on trust; in a democratic system, the ultimate authority lies with the citizenry and their willingness to support government acts. Using regulatory approaches and predetermined outcomes might prove to be the most ineffective policy tools the BLM could use, as they undermine the sense of trust and citizen-government collaboration critical to effective democratic governance.

**Relationships**

The variables listed above have interacted to create a tense situation that will be difficult to resolve. Described hierarchically, with the federal government at the top of the hierarchy, the authoritative policy tools used by the BLM appear to establish a pattern of regulatory rigidity and singular focus upon one aspect of their mandate, offering sections for extractive industrial
activities, to the apparent detriment of citizens living adjacent to the proposed sites. Confronting this apparently intransigent position, the citizens have deployed every tool of democracy at their disposal: public meetings, letters to the editor of the local newspapers, establishing websites to advertise their positions, networking, writing to their representatives and to the Secretary of the Interior, petitions, public rallies, and protests. These activities led to some recognition by the BLM, but did not produce the type of engagement between the BLM and the citizen groups that might have served to bridge differences and create bonds of trust and mutuality.

Environmental justice and the NEPA regulations were other variables that affected this case study. The BLM chose to proceed with lease options with potentially serious negative effects on the environment of the North Fork Valley, in apparent violation of federal environmental justice and NEPA criteria. This mobilized the communities of the North Fork Valley, and highlighted the necessity for the public to become involved in the process, as reliance upon governmental benevolence would not produce desired outcomes. The interaction between the government and the citizens of Delta County resulted in a rapid mobilization of resources and the creation of community based organizations, as well as a dedicated effort to coordinate with those already in existence. Shared interests served as a basis for developing social networks and encouraging discourse between disparate individuals, thus building trust and mutual dependency, forming “social capital” (Leonard & Pelling, 2010, p. 582), which will serve them as they proceed with the process of pressuring the government to rewrite its policy, or review and alter the existent regulation.

The list of variables is not exhaustive, and does not include such factors as the personality, training, and background of the BLM officials in charge. Nor does it consider the influence—political or economic-- of the private party who originally suggested the parcels, or
the eventual decision the Secretary of the Interior, Ken Salazar, will make concerning these parcels.

**Conclusion**

This case scenario was, in many aspects, an examination of democratic processes and their relevance to contemporary conflicts between public policy implementation and citizen amenability. Environmental justice concerns have spurred grassroots citizen mobilization, as the public becomes aware of the manner in which public policy can affect regional development and industrial intrusion, with consequent contamination of water and air resources (Minkler et al., 2008). The North Fork Valley case illustrates how a cluster of small rural communities in western Colorado chose to address several proposed BLM lease sales, whose environmental impact could prove to be disastrous to their health, businesses, and land values. The most remarkable features of this grassroots protest were the rapidity with which it developed, the effectiveness of networking mechanisms, their utilization of technology, the internet and mass media, and their collaboration. The CBOs used the democratic tools of interest aggregation and articulation through appropriate channels to advantage, as well exercising their right to public assembly and peaceful protest. In addition, the CBOs developed a social network within which they could communicate with each other on the internet and add to their knowledge base. Finally, the collaborative efforts of environmental groups, environmental law specialists, business groups, and citizens created social capital, an important asset as the scenario continues to unfold until resolution in August of 2012.

The BLM has reformed its lease sale policies to avoid the very type of confrontation that is developing in Delta County (Bureau of Land Management, 2010), but this will only be effective if officials use the reformed policies to effect those desired outcomes. If the agency
goes through the motions while adhering to predetermined outcomes, it will increase public
distrust and growing dissatisfaction with bureaucracy. Rohr (1989) argued that as public
servants, and extensions of a democratic government, bureaucrats must demonstrate their
commitment to democratic principles, the most basic of which is government by the people.
Fundamental respect for citizen rights, close adherence to legal protections already put in place,
careful analysis of the advantages and disadvantages of any action with potentially serious
consequences, and review of those publicly disputed, are behaviors that reflect a serious
commitment to ethical practices. Without these, injustice and inequity infect the process.
Grassroots movements attempt to address these, with increasing frequency, but their vigilance
can only have results if their interlocutors—policy makers—heed their voice.
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