

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

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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 Bureau of Land Management 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.

**Keywords:** *community-based organizations, policymaker responsibility, public policy tools*

## Introduction

The informal term “national sacrifice zone” has come to mean a region where energy development has created such severe environmental damage that any recovery effort is futile (*Incorporate Land Use*, n.d.). Uranium mines, nuclear test sites, and mountaintop removal for coal extraction are examples of sacrifice zones; while the physical manifestations of these activities are obvious, the sociological implications are not. Most national sacrifice zones in the United States have occurred in regions where the predominant population was either Native American (Hooks & Smith, 2004) or too poor and disadvantaged to successfully dispute site selection or relocate to safer environments. 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 of people 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). Gracia and Koh (2011) noted that the primary focus since 1994 has been on pollutants and their disproportionate impact on poor and minority populations. The Department of Health and Human Services is developing guidelines for federal interagency and intra-agency collaboration to generate policies that address the problem holistically, while the National Stakeholder Strategy for Achieving Health Equity is creating 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 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 water sources critical to the affected communities. This scenario focuses on process and includes local resident response in the context of environmental justice, community-based organizations (CBOs) 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, a reduced-emissions source of energy, is one of the avenues pursued by the U. S. government to reduce dependence on high-pollution fossil fuels; collaborating with industry and the EPA, the U. S. Department of Energy promotes active development of natural gas resources, including that extracted from shale ("Shale Gas," 2012). The BLM supports these priorities by leasing public lands for exploration and development. The extraction rate for natural gas on federal land has grown from 1.2 trillion cubic feet in 1991 to 3.0 trillion in 2010 (Spangler, 2011). In a memorandum dated April 2012, the Departments of Energy and of the Interior, in concert with the EPA, outlined their intent to promote and foster the "safe and prudent" development of shale gas and oil resources, using the expertise of each of the three agencies to oversee aspects of the process (Majumdar, Hayes, & Perciasepe, 2012). This collaboration would expand federal intervention in research and development of "unconventional" energy extraction and follows the November 2011 EPA announcement of intent to investigate potential water and air pollution from hydraulic fracturing (EPA, 2011; Majumdar et al., 2012).

Hydraulic fracturing involves drilling a vertical wellbore to a certain depth—and from this vertical duct, cutting horizontal shafts that can reach 5,000 feet in length—to access previously unattainable pockets of natural gas (Sjolander, Clark, Rizzo, & Turack, 2011). When the rock formation is dense, "fracturing" fluids consisting of water, sand, and a patented blend of chemicals are injected under pressure, rupturing the bonds and releasing the natural gas for collection (Sjolander et al., 2011). The process utilizes 2 to 5 million gallons of water per well, of which between 15% and 80% returns to the surface as contaminated wastewater. Rahm (2011), describing the process, pointed out that 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. These chemicals have, to date, been considered trade secrets, creating difficulties for those seeking information for legal or medical reasons, but are now the focus of congressional action as it seeks to determine a balance between complete disclosure and protecting industry profitability (Murrill & Vann, 2012). On May 4, 2012, the Department of the Interior issued a draft ruling requiring companies drilling on public lands to provide information on their chemical compound mixtures, with

the caveat that this listing be provided after the fracturing process had been completed (Adam & Crandall, 2012). This ruling provides what have been termed “common sense” approaches to regulating potentially harmful pollutants.

### **The Policy Issue**

The North Fork Valley of Delta County in western Colorado is an agricultural area fed by the north fork of 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.). The population of approximately 3000 residents clusters in the three small communities of Hotchkiss, Paonia, and Crawford (“North Fork Valley by the Numbers,” 2009). While the region has seen a steady population influx since 2000, numerous farms and ranches have been there for generations, many converting to organic approaches as the demand for these products grew and profitability increased. 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 [BLM], 2011a). The BLM’s prospective lease sale map included numerous sites adjacent to reservoirs, municipal water sources, creeks, and springs that provide for these farms and the nearby communities (BLM, 2011b).

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 only 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*, 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. 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 (BLM, 2010).

Immediately after the December 12, 2011, BLM sale announcement, members of three local CBOs originally established to preserve the region’s environment and promote organic farming practices 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 30 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), one of these organizations, 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], 2012a). 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 U. S. 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 (BLM, 2011b). 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 was the least likely development. Residents of the North Fork Valley instead asked for a moratorium until an 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 the EIS 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 policymakers will confront more communities opposed to lease sales or challenge 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 policymakers 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 reflecting the increasing complexity of governance; these networks can be semipermanent 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). Elements that affect their efficacy include member interdependency, resources each individual or organization brings to the network, the manner in which they organize to optimize their effectiveness, and the way they manage conflicting goals to present a unified front (Klijn, 1996). Networking and collaboration are contemporary responses to information accessibility facilitated by the Internet; the term “wiki,” initially a descriptor for a participatory website, is being adapted to different contexts, with its implication of mutuality, group effort, and peer participation (Tapscott & Williams, 2007). A corollary to this integrative movement involves the concept that “collective intelligence” builds community, strengthens bonds of trust, and assists groups of like-minded individuals and organizations in developing new frameworks and approaches that will benefit all (Senge, Lichtenstein, Kaeufer, Bradbury, & Carroll, 2007). The recent Occupy movement represents an aspect of this new horizontally structured organization model; its process descriptor is that of a nonbinding consensus-based collective decisionmaking tool known as a “people’s assembly” (“About Us,” n.d., para. 3).

Community-based organizations contain the same dynamics as governmental policy networks; they represent what has been termed “civil society,” essentially a “rich array of mixed civil elements made up of trade unions, foundations, faith-based and religious groups ... non-governmental organizations, social movements, and ordinary citizens active within the social sphere” (Leonard & Pelling, 2010, p. 580). Most CBOs form as a response to government actions or a perceived community need, aggregating the interests of seemingly disparate individuals to articulate these and influence the policymaking 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 CBOs include skilled leadership, active stakeholder participation, members with relevant and recognized skills and knowledge of who can contribute professional expertise, and adequate funding (Minkler, Vasquez, Tajik, & Petersen, 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 includes considering and effectively countering the number of and capacity of opposing stakeholders. This means proactively challenging assumptions, knowing who the decisionmakers 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 nonprofit organization 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,” that they 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” (CHC, 2012b). 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 and the Valley Organic Growers Association; it has also 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. In addition to electronic networking, CHC has sponsored a number of meetings for community members to gather and express their concerns or do strategic planning. The collaboration between the members of 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 21st 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 that will govern them—as opposed to systems in which edicts are imposed by a select group that has granted itself immunity from its 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 decisionmaking processes conform to these. Frederickson (2005), however, argued that, the poor, minorities, and those with little access to communication channels 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 policymakers 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 they believe will be 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; 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 (Almond, Powell, Dalton, & Strom, 2010; 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 allows 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; these methods can reveal widespread public approval of or disfavor with policies and influence their passage (Almond et al., 2010).

The CBOs 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 the websites each have 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 (see Appendix A in EPA, 2010). 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 socioeconomic 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 disproportionately targeted or 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 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

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

The concern around which policy tools to use 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 policymakers 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 postsale litigation. In their 50-page letter of comment to the BLM dated February 8, 2012, CHC, in collaboration with 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: “[If] 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 “[we] [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) that will not offset existing damage. WELC (2012) argued that relying upon after-the-fact mitigation violates NEPA provisions. Schneider & Ingram (1990) posited that improper use of 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 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 appeared 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 deployed every tool of democracy at their disposal: public meetings, letters to the editor of the local newspapers, websites to advertise their positions, networks, letters 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 CBOs, 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) that will serve them as they continue to urge the government to rewrite its policy, or review and alter the existing regulation.

## Final Developments

Pursuant to the deadline for public comments on the lease sale, the BLM issued an environmental assessment stating that there were no perceived significant environmental impacts nor any environmental justice concerns that needed addressing (“Preliminary Environmental Assessment,” 2012). More than 3,000 comments were received during the ensuing 30-day period, and a delegation of North Fork Valley business owners traveled to Washington, D.C., to express their concerns to BLM leadership and the Council on Environmental Quality (“North Fork Valley Residents,” 2012). On May 2, 2012, the BLM Montrose Field Office issued a brief statement explaining that it would defer all 22 of the proposed lease sales until it had completed additional analysis, “based upon public input” (Borders, 2012).

## 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 impacts 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 through 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 (BLM, 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 objectives, 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 policymakers heed their voice.

## References

- About us: Occupy Wall Street. (n.d.). Retrieved from <http://occupywallst.org/about/>
- Adam, F., & Crandall, M. (2012). Interior releases draft rule requiring public disclosure of chemicals used in hydraulic fracturing on public and Indian lands (05-04-12). Retrieved from [http://www.blm.gov/co/st/en/BLM\\_Information/newsroom/2012/interior\\_releases.html](http://www.blm.gov/co/st/en/BLM_Information/newsroom/2012/interior_releases.html)
- Almond, G. A., Powell, Jr., G. B., Dalton, R. J., & Strom, K. (2010). *Comparative politics today: A world view* (9th ed.). New York, NY: Longman.
- Ashley, M. L. (2009). Interior review shines light on controversial Utah oil and gas leases. Retrieved from [http://www.blm.gov/wo/st/en/info/newsroom/2009/june/NR\\_0611\\_2009.html](http://www.blm.gov/wo/st/en/info/newsroom/2009/june/NR_0611_2009.html)
- Borders, S. (2012). BLM defers all North Fork Valley oil and gas parcels in August 2012 lease sale (05-02-12). Retrieved from [http://www.blm.gov/co/st/en/BLM\\_Information/newsroom/2012/blm\\_defers\\_all\\_north.html](http://www.blm.gov/co/st/en/BLM_Information/newsroom/2012/blm_defers_all_north.html)
- Bureau of Land Management. (2010). *Comparison of process changes resulting from BLM leasing reform policy*. Retrieved from Bureau of Land Management: [http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS\\_\\_REALTY\\_\\_AND\\_RESOURCE\\_\\_PROTECTION\\_/energy/leasing\\_reform.Par.50770.File.dat/Energy\\_Reform\\_Side-by-Side\\_04-22-2010.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS__REALTY__AND_RESOURCE__PROTECTION_/energy/leasing_reform.Par.50770.File.dat/Energy_Reform_Side-by-Side_04-22-2010.pdf)
- Bureau of Land Management. (2011a). *Notice of competitive lease sale oil and gas* [Notice]. Retrieved from Bureau of Land Management website: [http://www.blm.gov/pgdata/etc/medialib/blm/co/information/nepa/uncompahgre\\_field/ufo\\_nepa\\_documents0.Par.24541.File.dat/12-09%20Aug%20OG%20Legal%20Description.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/co/information/nepa/uncompahgre_field/ufo_nepa_documents0.Par.24541.File.dat/12-09%20Aug%20OG%20Legal%20Description.pdf)
- Bureau of Land Management. (2011b). Uncompahgre field office oil and gas lease sale August 2012. Retrieved from [http://www.blm.gov/co/st/en/BLM\\_Information/nepa/ufo/august\\_lease\\_sale.html](http://www.blm.gov/co/st/en/BLM_Information/nepa/ufo/august_lease_sale.html)

- Citizens for a Healthy Community. (2012a). Events archive. Retrieved February 15, 2012, from <http://citizensforahealthycommunity.org/category/events>
- Citizens for a Healthy Community. (2012b). Our guiding principles. Retrieved from <http://citizensforahealthycommunity.org/about/guiding-principles>
- Community groups host community meetings. (2012). Retrieved February 15, 2012, from [http://theconservationcenter.org/areas.php?sid=&area\\_id=12](http://theconservationcenter.org/areas.php?sid=&area_id=12)
- Eddins, A. B. (2012, January 9). Proceedings of the board of county commissioners, 19th day of December, 2011. Retrieved February 12, 2012, from <http://www.deltacounty.com/DocumentView.aspx?DID=1351>
- Environmental Protection Agency. (2010). Interim guidance on considering environmental justice during the development of an action. Retrieved from <http://www.epa.gov/compliance/ej/resources/policy/considering-ej-in-rulemaking-guide-07-2010.pdf>
- Environmental Protection Agency. (2011). *Plan to study the potential impacts of hydraulic fracturing on drinking water resources* (600-R11-122). Retrieved from [http://www.epa.gov/hfstudy/HF\\_Study\\_\\_Plan\\_110211\\_FINAL\\_508.pdf](http://www.epa.gov/hfstudy/HF_Study__Plan_110211_FINAL_508.pdf)
- Frederickson, G. (2005, Winter). The state of social equity in American public administration. *National Civic Review*, 94, 31–38.
- Gracia, J., & Koh, H. K. (2011, December 2). Promoting environmental justice. *American Journal of Public Health*, 101 Suppl 1: S14–16. doi:10.2105/AJPH.2011.300406
- Hooks, G., & Smith, C. (2004, August). The treadmill of destruction: National sacrifice areas and Native Americans. *American Sociological Review*, 69, 558–575.
- Hydraulic fracturing and horizontal gas well drilling reference list* [Resource list]. (n.d.). Retrieved from New York State Water Resources Institute-Department of Earth and Atmospheric Sciences: [http://wri.eas.cornell.edu/index\\_17\\_1018079719.pdf](http://wri.eas.cornell.edu/index_17_1018079719.pdf)
- Incorporate land use planning in cleanup* [Fact sheet DOE02]. (n.d.). Retrieved from Government Information Library: <http://govinfo.library.unt.edu/npr/library/reports/doe02.html>
- Interior finalizes onshore oil and gas leasing reforms. (2010). Retrieved from [http://www.blm.gov/wo/st/en/info/newsroom/2010/may/NR\\_05\\_17\\_2010.html](http://www.blm.gov/wo/st/en/info/newsroom/2010/may/NR_05_17_2010.html)
- Join the rally at the Montrose BLM office Feb. 9th. (2012). Retrieved February 4, 2012, from <http://citizensforahealthycommunity.org/news/join-the-rally-at-the-montrose-blm-office-feb-9th>
- Jordan, G. (1990). Sub-governments, policy communities and networks. *Journal of Theoretical Politics*, 2, 319–338. doi: 10.1177/005160800002003004
- Klijn, E. H. (1996, May). Analyzing and managing policy processes in complex networks: A theoretical examination of the concept policy network and its problems. *Administration & Society*, 28, 90–119.
- Leonard, L., & Pelling, M. (2010, October 25). Civil society response to industrial contamination of groundwater in Durban, South Africa. *Environment and Urbanization*, 22, 579–595. doi:10.1177/0956247810380181
- Lewin, J. E., Strutton, D., & Paswan, A. (2011, April 26). Conflicting stakeholder interests and natural gas : A macromarketing perspective. *Journal of Macromarketing*, 31, 340–358. doi:10.1177/0276146711405529

- Majumdar, A., Hayes, D., & Perciasepe, B. (2012, April 13). *Multi-agency collaboration on unconventional oil and gas research* [Memorandum]. Retrieved from EPA website: [http://www.epa.gov/hydraulicfracture/oil\\_and\\_gas\\_research\\_mou.pdf](http://www.epa.gov/hydraulicfracture/oil_and_gas_research_mou.pdf)
- Millner, F. (2011). Access to environmental justice. *Deakin Law Review*, 16, 189–207.
- Mineral Leasing Act as amended, 30 U.S.C. § 226-2 (Bureau of Land Management, 1920).
- Minkler, M., Vasquez, V. B., Tajik, M., & Petersen, D. (2008, February). Promoting environmental justice through community-based participatory research: The role of community and partnership capacity. *Health Education and Behavior*, 35, 119–137. doi:10.1177/1090198106287692
- Murrill, B., & Vann, A. (2012). *Hydraulic fracturing: Chemical disclosure requirements* (R42461). Retrieved from Congressional Research Service: <http://www.fas.org/sgp/crs/misc/R42461.pdf>
- National Environmental Policy Act. (2011). Retrieved January 10, 2012, from <http://www.epa.gov/compliance/basics/nepa.html>
- North Fork Valley: Preserving small-scale agriculture. (n.d.). Retrieved February 12, 2012, from <http://www.coloradoopenlands.org/site/ourWork/landProtection/northForkValley/index.php>
- North Fork Valley residents travel to Washington, D.C., to urge Obama administration and BLM to withdrawal all 22 parcels from the August 2012 oil and gas lease sale. (2012). Retrieved May 20, 2012, from <http://citizensforahealthycommunity.org/news/chc-sponsors-north-fork-valley-delegation-visits-washington-dc>
- North Fork Valley by the numbers. (2009). Retrieved May 20, 2012, from <http://www.northforkvalley.net/page.cfm?pageid=14034>
- Preliminary environmental assessment: August oil and gas lease sale. (2012). Retrieved from [http://www.blm.gov/pgdata/etc/medialib/blm/co/information/nepa/uncompahgre\\_field/12-09\\_august\\_og\\_lease.Par.0849.File.dat/12-09%20AUG%20Lease%20Sale%20EA%20Draft%20EA%2007Mar2012.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/co/information/nepa/uncompahgre_field/12-09_august_og_lease.Par.0849.File.dat/12-09%20AUG%20Lease%20Sale%20EA%20Draft%20EA%2007Mar2012.pdf)
- Public hearing on oil & gas leasing in North Fork on Jan. 28. (2012). Retrieved February 15, 2012, from <https://wcongress.wordpress.com/2012/01/27/public-hearing-on-oil-gas-leasing-in-north-fork-on-jan-28/>
- Rahm, D. (2011, March 2). Regulating hydraulic fracturing in shale gas plays: The case of Texas. *Energy Policy*, 39, 2974–2981.
- Reed, M. G., & George, C. (2011, Nov. 28). Where in the world is environmental justice? *Progress in Human Geography*, 35, 835–842. doi:10.1177/0309132510388384
- Rohr, J. A. (1989). *Ethics for bureaucrats: An essay on law and values* (2nd ed.) [Google Books]. Retrieved from <http://books.google.com/books?hl=en&lr=&id=rEJsMUMoR1cC&oi=fnd&pg=PR5&dq=bureaucratic+ethics+democratic+OR+governance&ots=h2WLL0rqUK&sig=9xld7wQ-cWZQWOeGDJQ4cJ1-lkg#v=onepage&q=bureaucratic%20ethics%20democratic%20OR%20governance&f=false>
- Schneider, A., & Ingram, H. (1990, May). Behavioral assumptions of policy tools. *Journal of Politics*, 52, 510–529. doi: 10.2307/2131904
- Senge, P., Lichtenstein, B., Kaeufer, K., Bradbury, H., & Carroll, J. (2007). Collaborating for systemic change. In G. R. Hickman (Ed.), *Leading organizations: Perspectives for a new era* (2nd ed., pp. 525–537). Thousand Oaks, CA: Sage Publications, Inc.

- Shale gas R & D. (2012). Retrieved May 20, 2012, from <http://www.fe.doe.gov/programs/oilgas/shalegas/index.html>
- Sjolander, S., Clark, J., Rizzo, D., & Turack, J. (2011). *Water facts #31: Introduction to hydro fracturing* (Water report No.31). Retrieved from [http://extension.psu.edu/water/marcellus-shale/hydrofracturing/introduction-to-hydrofracturing-1/copy\\_of\\_introduction-to-hydrofracturing](http://extension.psu.edu/water/marcellus-shale/hydrofracturing/introduction-to-hydrofracturing-1/copy_of_introduction-to-hydrofracturing)
- Spangler, M. (2011). BLM to hold regional forums on hydraulic fracturing in natural gas production. Retrieved from [http://www.blm.gov/wo/st/en/info/newsroom/2011/april/NR\\_04\\_01\\_2011.html](http://www.blm.gov/wo/st/en/info/newsroom/2011/april/NR_04_01_2011.html)
- Tapscott, D., & Williams, A. (2007). Wikinomics: The art and science of peer production. In G. R. Hickman (Ed.), *Leading organizations: Perspectives for a new era* (2nd ed., pp. 48–62). Thousand Oaks, CA: Sage Publications, Inc.
- Thatcher, M. (1998). The development of policy network analyses: From modest origins to overarching frameworks. *Journal of Theoretical Politics*, 10, 389–416.  
doi:10.1177/09510928980110001002
- Transcripts from public hearing, Saturday, January 28, Hotchkiss High School. (2012). Retrieved February 20, 2012, from <http://citizensforahealthycommunity.org/facts-resources>
- Western Environmental Law Center. (2012). Re: Comments regarding August 2012 oil and gas lease sale. Retrieved February 20, 2012, from [http://citizensforahealthycommunity.org/wp-content/uploads/2010/12/CHC\\_Comments-on-August-2012-lease-sale-FINAL-2.pdf](http://citizensforahealthycommunity.org/wp-content/uploads/2010/12/CHC_Comments-on-August-2012-lease-sale-FINAL-2.pdf)

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