

**AN ANALYSIS OF ACTIVIST RESPONSES TO ENVIRONMENTAL
CONTROVERSIES IN WEST VIRGINIA**

by

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	ii
LIST OF FIGURES	xii
LIST OF IMAGES.....	xiii
LIST OF TABLES	xiv
LIST OF ABBREVIATIONS	xvi
CHAPTER 1: INTRODUCTION.....	1
CHAPTER 2: LITERATURE REVIEW	21
Environmental Justice Studies: Who is Impacted? Where Does Pollution Come From?.....	21
Recent Innovations in Environmental Justice Studies	24
Land Use Variables and Environmental Justice	26
Politics, Community, Psychology, and Environmental Justice Studies.....	27
Environmental Justice Over Time	29
Social Movement Theory.....	30
What is a social movement?	30
Rational Choice Theory	32

Mobilization and Social Movements	36
Structural Theory	36
Identity and Framing and Cognitive Factors	40
Social Movements and Environmental Justice	43
Negotiation and Environmental Justice	46
Literature Review Summary	51
CHAPTER 3: METHODS	54
CHAPTER 4: A HISTORY OF COAL	65
THE ORIGINS OF COAL MINING.....	65
Coal Mining in Europe.....	65
Health, Equity, Labor, and the Environment	66
Coal in America	70
Labor Conditions and American Coal Mining.....	71
Coal Enters the Modern Era.....	73
Coal Today.....	74
THE COST OF COAL.....	77
Pollution and Climate Change	77
MOUNTAINTOP REMOVAL MINING.....	80
THE CONTEMPORARY COAL INDUSTRY ENVIRONMENT	85

THE HISTORY OF COAL MINING IN WEST VIRGINIA	88
CONTEMPORARY COAL MINING IN WEST VIRGINIA	90
CHAPTER 5: THE WHITESVILLE CASE STUDY	96
INTRODUCTION	96
STAKEHOLDERS	98
Massey Corporation	98
Massey and the Whitesville Conflict	100
Governmental Actors Involved in the Whitesville Case.....	103
Whitesville and Environmental Groups in Whitesville	107
AN ENVIRONMENTAL MOVEMENT FORMS	115
The Environmentalist Stance	115
Massey’s Stance	116
The Union Stance.....	119
Government Actors and Mountaintop Removal	120
Changing Representations of the Issue	120
STAKEHOLDER ACTIONS IN THE DISPUTE.....	124
The Dispute Begins.....	124
Early Litigation and Governmental Involvement	127
Massey Fights Environmental Litigation.....	130

Another Court Battle.....	132
The Dispute Continues: Protest, Lobbying, and Federal Involvement.....	134
A New Federal Administration.....	138
OUTCOMES OF THE DISPUTE IN WHITESVILLE	142
ANALYSIS OF THE WHITESVILLE CASE.....	147
Attachment to Place	147
Attachment to Nature.....	148
Need for Jobs	151
Health and Safety.....	153
Action Channels.....	154
CHAPTER 6: THE NAOMA CASE STUDY	156
INTRODUCTION	156
STAKEHOLDERS IN THE NAOMA CASE.....	157
Naoma.....	157
Massey Now Alpha.....	164
Government and Union Actors	164
INITIAL STAKEHOLDER STANCES.....	165
Mountain Justice	165
Massey and the Coal Industry.....	166

Government Stances	166
STAKEHOLDER ACTIONS IN THE NAOMA CASE.....	167
Birth of Mountain Justice.....	167
Early Government Responses	169
CONFLICT AT BEE TREE MINE AND BRUSHY FORK IMPOUNDMENT	171
Further Government Actions, and Conflict	174
The Protests Continue	176
OUTCOMES OF THE NAOMA CASE	178
ANALYSIS OF THE NAOMA CASE.....	181
Attachment to Place and Nature	181
Action Channels.....	184
CHAPTER 7: THE KANAWHA VALLEY CASE STUDY.....	185
INTRODUCTION	185
THE HISTORY OF THE AMERICAN CHEMICAL INDUSTRY	187
The 1800s to the 1960s	187
Rising Environmental and Health Concerns.....	188
THE CONTEMPORARY CHEMICAL INDUSTRY.....	190
KANAWHA VALLEY	196

STAKEHOLDERS IN THE KANAWHA VALLEY CASE.....	198
People Concerned About MIC.....	198
Dow-Union Carbide and Bayer	200
Governmental Actors and the United Steel Workers Union.....	203
CHEMICAL CONTROVERSY IN KANAWHA VALLEY.....	204
In the Wake of Bhopal	204
Spills	206
STAKEHOLDER ACTIONS IN THE KANAWHA VALLEY CASE.....	208
Meetings and Fear.....	208
Environmental Racism and Political Tensions	209
Changing Hands.....	211
Worst Case Scenarios	212
Attempts to Settle Differences	214
Changing Hands Again and a New Fight	216
OUTCOMES IN THE KANAWHA VALLEY CASE	222
ANALYSIS OF THE KANAWHA VALLEY CASE.....	223
Health and Safety.....	224
Need for Jobs	224
Corporate Resistance	226

Action Channels.....	228
CHAPTER 8: ANALYSIS AND FINDINGS	230
ANALYTIC STRATEGY	232
THEORETICAL MODEL.....	233
FRAMING	234
NETWORKS	238
RESOURCES	240
CONTEXT.....	241
UNEXPECTED FACTORS	242
ACTIVIST STATEMENTS	245
FINDINGS.....	248
COMPARING CRMW, MJ, AND PCAMIC.....	248
COMPARING ORGANIZATIONS TO THE MODEL.....	254
COMPARING LOCALS, RESIDENTS, AND NON-LOCALS	259
COMPARING RESIDENT TYPES TO THE MODEL.....	263
RECAP OF KEY FINDINGS AND CONCLUSION	264
LIMITATIONS.....	267
FUTURE DIRECTIONS	268

APPENDIX 1.....	272
REFERENCES	284

LIST OF FIGURES

Figure 1.1: United States Energy Use by Fuel Type	2
Figure 1.2: Counties in West Virginia	8
Figure 1.3: Theoretical Model of Causal Factors Leading to Social Movements	20
Figure 2.1: Race and Exposure to Environmental Injustice	25
Figure 4.1: Current United States Coal Reserves	74
Figure 4.2: Summary of Global Climate Change Effects	79
Figure 4.3: The Process of Mountaintop Removal	83
Figure 4.4: West Virginian Counties and Amounts of Coal	91
Figure 4.5: Close-up of Boone, Raleigh, and Kanawha Counties, West Virginia	92
Figure 5.1: Map Showing Whitesville, Naoma, Dunbar, and Charleston, West Virginia.....	97
Figure 5.2: Map Showing the Location of Massey’s 23 Mines.....	136
Figure 6.1: Map Showing Coal River Mountain Sites.....	173
Figure 6.2: Blair Mountain March Recruitment Flyer.....	179
Figure 7.1: Projected Growth of the United States Chemical Industry 2009- 2014.....	190
Figure 7.2: Map showing Institute and Dunbar, West Virginia.....	196
Figure 8.1: A Revised Theory of Causal Factors Leading to Social Movements	234

LIST OF IMAGES

Image 4.1: Girl Pulling a Cart of Coal.....	69
Image 4.2: A West Virginian Mountaintop Removal Site.....	80
Image 5.1: Protesters against Massey Corporation.....	99
Image 5.2: Whitesville, West Virginia	107
Image 6.1: Naoma, West Virginia	156
Image 7.1: Dunbar, WV from the Kanawha River	185
Image 7.2: One of the Most Infamous Images from the Bhopal Disaster	186
Image 7.3: Fire at the Institute site, West Virginia in 2008.....	217

LIST OF TABLES

Table 1.1: Key Terms in this Study	14
Table 1.2 Case Study Demographics	15
Table 2. 1: Selected Environmental Justice Studies	22
Table 2. 2: Race and Poverty in the U.S. Population.....	46
Table 2. 3 Author’s Summary of Key Findings from Prior Research, July 15 th , 2011.....	52
Table 3. 1: Interviews	60
Table 3. 2: Characteristics of Case Study Areas, West Virginia, and United States.....	62
Table 4. 1: Demographics for American Miners	75
Table 4. 2: Summary of Recent U.S. Mining Accidents, Injuries, and Fatalities.	76
Table 4. 3: Common Coal Terminology	84
Table 4. 4: Mining Terms	88
Table 4. 5: 2011 Coal Productions for the U.S. and Leading Production States..	93
Table 4. 6: Demographic Information for West Virginia and Case Study Communities.....	94
Table 5. 1: Mining Accidents with Five or More Fatalities 1980-2010	101
Table 5. 2: Primary Government Organizations	104

Table 5. 3: Key Legislation.....	105
Table 5. 4: Information on Case-Study Activist Organizations.....	111
Table 5. 5: Organizational Demographics	114
Table 5.6: Whitesville Codes	150
Table 6.1: Activist Organizations in the Naoma Case	162
Table 6.2: Naoma Codes.....	183
Table 7. 1: Chemical Industry Key Terminology	192
Table 7. 2: Demographic Information for American Chemical Workers.....	195
Table 7. 3: Dow and Bayer Demographics	203
Table 7. 4: Safety and Health Violations at the Institute WV Plant	221
Table 7.5: Kanawha Valley Codes.....	227
Table 8. 1: Codes	244
Table 8. 2: Newspaper Data.....	246
Table 8. 3: Demographics of Activists	247
Table 8. 4: Codes in Articles by Activist Organization	249
Table 8. 5: Fisher Tests Correlating Organization Affiliation with Codes.....	253
Table 8. 6: Residential Status and Codes Represented in Article and Interview Statements.....	260
Table 8. 7: Tests Correlating with Codes.....	261
Table 8. 8: Key Factors Chi-Square Tests	262

LIST OF ABBREVIATIONS

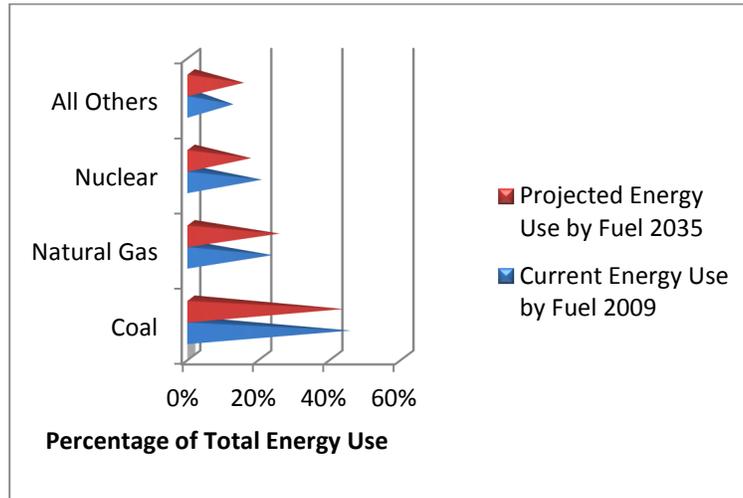
Coal River Mountain Watch	CRMW
Mountain Justice	MJ
Ohio River Valley Coalition	OVEC
United States Environmental Protection Agency	EPA
United States Army Corps of Engineers	COE
West Virginia Department of Environment	DEP
The United States Department of Surface Mining Reclamation and Enforcement	OSM
The United States Department of the Interior	DOI
The United States Bureau of Land Management	BLM
The United States Fish and Wildlife Service	FWS
Mountaintop mining (also known as mountaintop removal mining)	MTR
United Mine Workers	UMW
People Concerned About MIC	PCAMIC
United Steel Workers	USW
The United States Occupational Health and Safety Administration	OSHA
Kanawha-Putnam Local Emergency Planning Committee	KPEPC
United States Chemical Safety Board	CSB
Environmental Justice	EJM
Environmental Justice	EJ

CHAPTER 1: INTRODUCTION

On March 12th, 2011 a tsunami devastated Japan and created a crisis at the Fukushima prefecture Daiichi Nuclear Power Plant. Employees of the Tokyo Electric Power Company, the entity in charge of nuclear power production in Japan, fought to prevent a radioactive nuclear waste leak (Tabuchi, Sanger et al. March 14th, 2011). The explosion put the issue of energy production at the forefront of global geopolitics. Energy issues are always part of national agendas, but the plight of the Japanese led to renewed discussion regarding risk management, energy security, corporate responsibility, and activist responses to corporate actions in countries around the world.

The changing dialogue concerning energy generation can be linked to resource use and extraction issues. Energy generation is a key part of U.S. politics as well. In the 2011 Annual Energy Outlook preliminary report, the United States Department of Energy projected a shift toward renewable and domestically harvested fuel sources such as coal and natural gas [see Figure 1.1]. As the figure shows, coal is projected to be a major source of energy in the U.S. for the next several decades (U.S. Energy Information Administration December 16th, 2010). In light of current events in Fukushima, Japan, fear of nuclear power may increase. The tsunami and nuclear accident in Fukushima are making the Japanese and many other nations rethink their energy policies.

Figure 1.1: United States Energy Use by Fuel Type



Source: Compiled from data from the U.S. Energy Information Administration (December 16th, 2010). Annual Energy Outlook 2011 Early Release Overview, Department of Energy.

In the wake of the explosion on and sinking of the Deep Water Horizon oil rig on April 19th, 2010 (Brown April 22nd, 2010) and the events unfolding in Fukushima, the U.S. is also reexamining its energy strategies. Consequently, President Barack Obama spoke about the need for decreased use of foreign oil, and greater reliance on American coal and green technology (CNN Wire Staff April 16th, 2011). This is significant because it increases the likelihood that coal will continue to dominate America's substantial energy production. It is in this context that I undertook research on coal production—specifically mountaintop removal mining—for this dissertation. This dissertation examines conflicts arising from two industrial sectors—coal mining and chemical manufacturing—in West Virginia. Not only is West Virginia a primary source of American coal, it is also a state with infamous conflicts between the working class and industry (coal, chemical production, hydro-power, and paper manufacturing) over quality

of life, health, and increasingly, environmental destruction. As a result, studying communities in West Virginia can shed light on labor, public health and environmental activism.

Examining activism in poor and minority residential and industrial areas is an appropriate next step in environmental justice research because heightened exposure to environmental hazards in these places has now been well studied. Over the past three decades, scholars have documented environmental conditions in minority and poorer American communities. Industrial processes and other factors impact conditions in such communities. Typically, these studies find that minority and less affluent neighborhoods face greater exposure to environmental hazards, primarily due to the presence of pollution-generating industrial facilities, than more affluent, white communities. The earliest environmental justice studies documented that minorities were more likely to live near landfills and toxic waste than most Americans (U.S. Government Accounting Office 1983; United Church of Christ: Commission for Racial Justice 1987). Several widely-studied cases involving differential exposure to environmental hazards have shed light on the issue of environmental inequality.

These include:

- The 90% African-American town of Emelle, Alabama that housed a landfill receiving wastes from 48 states (United Church of Christ: Commission for Racial Justice 1987; Bailey, Faupel et al. 1993).

- In Niagara Falls, New York, working-class white activists fought for the clean-up of toxic chemicals buried near their homes. This case would come to be known as the Love Canal case (Levine 1982).
- A group of 7,051 African-American residents of Triana, Alabama filed a lawsuit because the Olin company released DDT into the river from which Triana citizens fished for food (U.S. Government Accounting Office 1983).
- African-American and Latino-American residents fought against the proposed Los Angeles City Energy Recovery incinerator (LANCER) that was to be placed near their California neighborhood (Levine 1982).
- Predominantly-African-American Warren County, North Carolina fought against receiving a PCB landfill and illegal PCB dumping (Bullard, Glenn et al. 1997).
- Nuclear facilities and nuclear waste became an issue on multiple Native-American reservations. Either tribes wanted to block nuclear facility siting for environmental reasons, or they felt the need to accept these facilities in the interest of Native-American economic development. Examples include the Campo Band of Mission Indian's choice to allow a waste facility on their reservation (Burger 1998).
- The predominantly-Latino United Farm Workers (UFW) fought an eight-year campaign against pesticides used on table grapes. The pesticides had ill-effects both on public health and the environment (Hunter 2000).

Further, less affluent white communities also face more exposure to environmental hazards relative to middle and upper-class communities, as well as greater hardship seeing existing public health and environmental laws fully enforced in the areas where they live and work (Levine 1982; Burns 2007; Wrenn 2008; Scott 2010). The majority of recent environmental justice studies suggest that racial minorities and poorer people continue to be impacted by pollution to a greater extent than middle-class and wealthy, white communities (Chakraborty and Armstrong 1997; Neumann, Forman et al. 1998; Sadd, Pastor Jr. et al. 1999; Pastor Jr., Sadd et al. 2001; Ash and Fetter 2004; Pastor Jr., Morello-Frosch et al. 2005; Ringquist 2005; Saha and Mohai 2005; Mohai and Saha 2006; 2007; Bullard, Mohai et al. 2008; Wang and Feliberty 2010).

States like West Virginia and the United States as a whole have struggled with equity issues for centuries, although not necessarily equity related to environmental hazards. An important part of the fight for equity in America revolved around attempts by African-Americans, Native-Americans, Chicanos, and other people of color to obtain equal political representation and rights, as well as equal economic opportunities. The quest for equity has also involved the struggle of working-class and low-income whites to gain said economic foothold. These efforts reached a climax during the labor organization of the 1920s and 1930s and again in the 1960s and 1970s with the Civil Rights, Red Power, and Chicano Rights movements. Although these movements won legal victories, racial minorities and low-income people have continued to fight to obtain the same opportunities and advantages enjoyed by more affluent white Americans. One dimension of this pursuit for equity is environmental justice. This term is used to describe

environmental inequalities, such as differing rates of exposure to an environmental hazard(s) and corrective efforts to create environmental equity. Environmental justice activists and scholars connect “social justice concerns like self-determination, sovereignty, human rights, social inequality, access to natural resources, and disproportionate impacts of environmental hazards with traditional working-class environmental concerns like worker rights and worker health and safety, to develop an environmental justice agenda” (Taylor 2000).

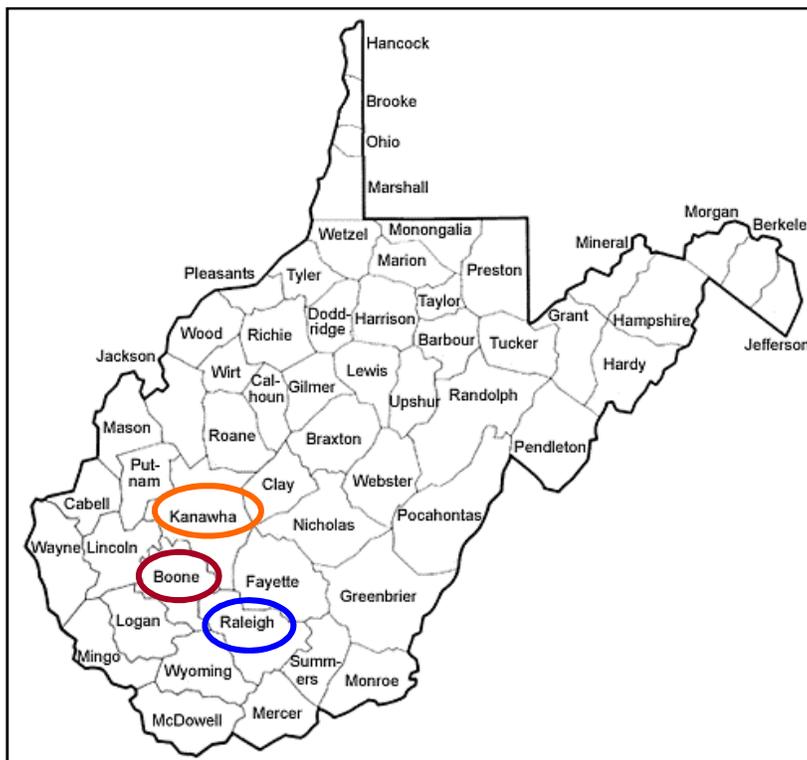
This dissertation examines activism against multi-national corporations (MNCs) that are responsible for creating hazardous environmental conditions. Environmental hazards can include the emission of substances into the environment; the extraction of resources and related environmental and public health ill-effects; the manufacture of environmentally-harmful products; and the pursuit of practices that cause harm to human and natural systems. I examine three localities in West Virginia that are engaged in on-going conflicts with two multinational corporations. Two of these communities are rural and one is urban. The two rural conflicts involve the energy sector—coal mining through mountaintop removal. Activists in and around Whitesville and Naoma, West Virginia are opposed to the Massey Energy (recently acquired by Alpha Coal) Company’s practice of mountaintop removal mining to extract coal. The third conflict is at the Institute chemical production plant near the city of Dunbar, West Virginia, where Bayer produces chemicals. Although seemingly separate, it makes sense to examine the coal industry and the chemical industry together as coal is used to make many chemicals and coal rich

areas tend to have other geological raw materials useful in chemical making (Bostic June 14th, 2011).

Activist groups opposed to Mountaintop Removal Mining (MTR) have formed in the two rural communities (Coal River Mountain Watch and Mountain Justice, respectively) to campaign against Massey. Whitesville and Naoma are small, predominantly-white towns in the mountains of West Virginia. They are low-income relative to the mean per capita income levels of West Virginia and the U.S as a whole. The U.S. per capita income is \$26,059, West Virginia's is \$20, 953, while Naoma and Whitesville's per capita incomes are respectively \$13,779 and 18,317 (U.S. Census Bureau 2010). Whitesville is an hour's drive from the state capital, Charleston and sits in Boone County (Mapquest: Maps and Directions n.d.). Naoma is in Raleigh County and is approximately an hour and a half drive from Charleston [see Figure 1.2] (Mapquest: Maps and Directions n.d.). All three areas studied in this dissertation are in Southern West Virginia.

The third area examined in this dissertation is Institute and Dunbar, West Virginia, hereafter referred to as the Kanawha Valley area. Activists who live and work around the Institute chemical plant have organized groups, such as People Concerned about MIC, to campaign against the facility's operations. As in the Hawks' Nest tunnel disaster (discussed below), and perhaps partly because of that disaster, some Kanawha Valley residents fear that industry is exposing them to unsafe chemicals.

Figure 1.2: Counties in West Virginia



Source: County Commissioners' Association of West Virginia. Retrieved on March 31st, 2011.
<http://www.polsci.wvu.edu/ccawv/>

In selecting these case studies, I use a purposive sampling design, also known as criterion-based selection. In this sampling design, particular processes or practices, actors, events, and settings are intentionally sought in each case because other research choices would not provide as much relevant information on the issue or problem being studied; then cases are compared for common and differing features (Maxwell, 2005). Here, cases are selected based on whether or not they involved dynamic opposition to corporate-caused environmental hazards by local activists and their non-local allies. Purposeful case studies can be useful for exploratory work that contributes to our

understanding of a phenomenon.

West Virginia is an ideal place to explore activist responses to corporate actions, poverty, environmental hazards, and equity issues. The state of West Virginia has a long history of resource extraction, industrial accidents, and corporate conflicts with labor and local communities. Coal miners went on strike both in the 1912-13 periods and in the 1920-21 periods (National Journal: Almanac 2010). As a result, coal companies hired armed mercenaries to create martial law in coal camps; gun battles between pro-union workers, anti-union workers known as “scabs,” and company guards occurred. Miners’ families were evicted from their homes if the male head of household could no longer work, or if he showed union sympathies (Scott 2010). On May 19th, 1920, twelve miners in Matewan, West Virginia were shot and killed by members of the Baldwin Felts Detective Agency, which was employed by local coal companies. At the time of the killings, the twelve dead and their families were being forcibly evicted from their company-owned homes for having pro-union sympathies (United Mine Workers of America n.d.). In Matewan, coal companies used black strike breakers to make a rift between white workers and the union while capitalizing on black frustration against union hiring discrimination—this strategy was successfully used by corporate actors in both the coal and steel industries (Taylor 2009).

In the wake of this corporate sponsorship of violence against workers, it became clear that demands for labor rights and workplace safety crossed racial lines. Still, minority laborers sometimes experienced greater work-related injustices than whites. For

instance, black miners suffered from higher unemployment levels than the general public during the Great Depression. Consequently, they desperately sought any available job, which is why black workers were used as strike breakers and put in dangerous jobs, such as the construction of the Hawk's Nest tunnel. In 1927, Union Carbide Corporation commissioned the creation of the Hawk's Nest tunnel, which diverted water from the New River to its hydroelectric plant near the Gauley Bridge (Trotter Jr. 2002). The project required workers to drill through nearly four miles of almost pure silica rock without the appropriate protective equipment. Rhinehart and Dennis, the contracting firm that hired the miners, required them to use a drilling procedure that would allow the project to be finished more quickly but was known to be unsafe. The project killed an estimated five hundred men, many of them African-American, by the time of its completion in 1935 (Trotter Jr. 2002).

Though the nation experienced labor struggles in the first half of the 20th century, some mining jobs were available to men seeking work. This trend changed by the second half of the 20th century. By the beginning of the 21st, mine workers and other manual laborers faced severe work shortages and limited economic options. Because mining is such an important labor market sector in the state, the downturn's effect is reflected in West Virginia's economy. West Virginia's income levels are low and unemployment rates are high compared to the rest of the United States. Per capita income in the United States is \$26,059, and 15.3 percent of the population live in poverty; whereas, West Virginia's per capita income is \$20, 953, and 18 percent of the state population lives in

poverty (U.S. Census Bureau 2010). West Virginia ranks second out of the 50 American states for number of people living in poverty (National Journal: Almanac 2010).

The state's rising unemployment is related to the mechanization of the coal industry, a trend that displaces coal miners. The large, powerful machines that perform environmentally destructive mountaintop removal mining have significantly reduced the number of mining jobs (as have other factors which are discussed in Chapter Four). In 1975, there were approximately 55,000 coal miners; today there are approximately 20,000 coal miners in the state (Scott 2010).

Mountaintop removal mining is a method used to reach coal deposits by setting off explosives to expose coal seams that are then stripped of coal (West Virginia Coal Association December 20th, 2009). Opponents of mountaintop removal argue that the practice irreparably damages mountains, and the waste it generates damages rivers by burying them with rock and dirt (Loeb August 11th, 1997).

However, West Virginia has a limited number of industries; this leads some people to accept mining jobs when they can and in spite of the environmental, health, safety, and labor problems associated with them. In Kanawha Valley, residents face a similar dilemma. Should they work as chemical plant employees given the environmental, safety, and public health ills that the plants may cause?

Places impacted by poverty, such as Kanawha Valley, Whitesville, and Naoma, do not automatically or generally engage in activism against corporate-caused environmental hazards. For example, Wren (2008) found evidence of apathy among

residents regarding pollution and local economic dominance of the Mead Westvaco paper mill plant in Alleghany County, Virginia (which borders West Virginia). This area shares characteristics with West Virginian communities, such as high poverty rates, corporate environmental externalities, and company town creation.

The areas examined in this dissertation not only have similar economic vulnerabilities and corporate externalities, they have comparable identities and class structures as well. Scott's study of mountaintop mining finds masculine identity in the region is tied to working in the coal mines; coal miners were also perceived by their fellow citizens as being able to support a family better than other types of workers. However, traditional mining involves getting dirty and uncomfortable. As a result, miners have been stereotyped as animalistic and uncouth. Thus, some mining areas view the more mechanized mountaintop removal mining as a more rational, civilized economic activity. Further, middle-class coal mining town residents' link working to moral worth but may suspect that working-class and low-income people are to blame for their own economic vulnerability; therefore, coal mining towns lack solidarity due to class divisiveness (Scott, 2007, 2010). Concern over real or perceived conflict between public well-being, identity, class, and economic development divide opinions regarding what coal towns should do to respond to environmental hazards.

Yet, activism can occur even in complicated contexts in which corporate, social, environmental, and economic externalities compete and poverty is present. As previously mentioned, this matrix of competing elements was ongoing in the case of the proposed

Shintech chemical facilities in St. James Parish, Louisiana (Hines 2001). Other prominent cases include the Niagara Falls, New York case where working-class white residents of the Love Canal neighborhood fought for compensation and remediation of the effects of chemical landfill waste (Levine 1982). All the locations mentioned in this chapter had activists who wanted to stop environmental hazards, yet the success of these actors varied a great deal. By examining activists' statements and responses to corporate behavior, this dissertation will make a contribution to sociological scholarship by examining what factors influence activism toward corporations causing environmental harm.

My primary research question is: What are the factors that influence activism toward corporations causing environmental hazards? In particular, I am interested in situations where corporations are very important to a low-income area's economy, and some of the activists originate in local populations that will suffer economically from the corporations' cuts in productions or employment. Within this primary over-arching question that guides the following dissertation, I ask two sub-questions:

- What are the factors that facilitate activism against corporate actions by local activists and their non-local allies?
- What are the factors that hinder activism against corporate actions by local activists and their non-local allies?

Table 1.1: Key Terms in this Study

Term	Definition For the Purposes of this Study
Social movement	A series of group actions involving individuals who share a real or perceived grievance(s), direct their resources toward the amelioration of that grievance, and experience varying degrees of success due to cognitive, cultural, legal, and economic factors.
Social movement participation (also called activism)	This term primarily includes but is not limited to participation in rallies, protests, law-making and enforcement, teach-ins, committees, forums, and the writing of editorials.
Environmental Hazard	These hazards can include the emission of substances into the environment; the extraction of resources and related environmental and public health ill-effects; the manufacture of environmentally-harmful products; and the pursuit of practices that cause harm to human and natural systems.
Local Activists (Locals)	Locals are people born in West Virginia who live (d) and work (d) in West Virginia when they discussed their opposition to corporate-caused environmental harm.
Resident Activists (Residents)	Residents are people who were not born in West Virginia but who currently reside there or resided there when they made statements about their activism.
Non-Local Activists (Non-Locals)	Non-Locals are people who did not (do not) live or work in West Virginia but may visit.

Source: Author, 3/23/2012

The units of analysis for this study are activist organizations as well as local activists and their non-local allies working to address corporate-caused environmental hazards in three Appalachian areas: Whitesville, Naoma, and the Kanawha Valley area composed of Dunbar and Institute [see Table 1.1]. As this table shows, the communities

are poor and sparsely-populated—factors which makes activism difficult (U.S. Census Bureau: American Community Survey 2005-2009).

Table 1.2: Case Study Demographics

Case Study Aspects	United States	West Virginia	Whitesville	Naoma	Institute/Dunbar
Main target of activist campaigns	—	—	Corporation	Corporation	Corporation
Corporate actors	—	—	Massey (now Alpha)	Massey (now Alpha)	Bayer
Industrial sector	—	—	Coal	Coal	Petrochemicals
Activities opposed by activists	—	—	Mountaintop removal	Mountaintop removal	Chemical pollution
Campaigns are on-going	—	—	Yes	Yes	Yes
Location	—	—	West Virginia	West Virginia	West Virginia
Population	308,745,538	1,852,994	514	1,012	7,907
Per capita income	\$26,059	\$20,953	\$18,317	\$13, 779	\$23,267
% Caucasian	72.4	93.9	98.1	98.3	82.7
% African-American	12.6	3.4	0.2	0.1	12.2
Level of urbanization	Mixed	Mixed	Rural	Rural	Urban
Employment options	—	—	Low	Low	Moderate
Labor union influence	Mixed	Mixed	Low	Low	Low
Environmental justice groups formed	Yes	Yes	Yes	Yes	Yes
Presence of coalitions	—	—	Yes	Yes	Yes

Source: U.S. Census Bureau: American Fact Finder (2010). Retrieved 4/22/2012 from <http://www.census.gov>.

Data to analyze the cases is drawn from sources including, but not limited to, government documents, legal documents, memos, newspaper articles, corporate documents, and web sources produced by the stakeholders. I also use documents discussing the environmental, public health, and economic impacts of the hazards and whatever products or processes are producing the hazards. I examine interviews in newspapers, press releases from corporations, non-profits, and governmental agencies, as well as governmental, corporate, or private stakeholder-composed reports. I supplement this by conducting semi-structured interviews with key informants from relevant stakeholder groups. I also use participant observation gathered during a site visit to the three areas in West Virginia.

My case selection is guided by a number of factors. In case study analysis, it is important to choose cases that have some similarities, but the cases should also vary on some of the factors being studied. In this project, the studied areas differ on several important dimensions. While Whitesville and Naoma are at least 98% white, Kanawha Valley is 12.2% black (this percentage is higher than the state average of approximately 3%). The communities are rural (Whitesville and Naoma) and urban (Kanawha Valley). The Institute plant in predominantly-black Institute is located near a number of small businesses and is adjacent to the campuses of West Virginia State University, the Ben Franklin Career Center College, and the West Virginia State Community and Technical College, providing the possibility of employment outside of chemical manufacturing (U.S. Census Bureau, 2009; Google Maps, 2010). In contrast, Whitesville and Naoma are one-industry mining towns. I initially hoped to compare cases that varied in terms of

unionization, but the current state of labor organizing in West Virginia is such that all three locations in this study have weak unionization, making the lack of organized labor a constant. Also, because all three cases are in West Virginia, the actors exist in the same legislative and political context.

Besides the mixture of shared and varying factors, the cases have other features that make them suitable for study. The previously discussed labor conflicts, poverty, and industry dominance make West Virginia cases particularly rich in terms of examining activism. If activism can occur in West Virginia, it can occur anywhere. As noted, I use a purposive sampling design, also known as criterion-based selection. In this sampling design, a particular phenomenon or practice is intentionally sought in each case because other research choices would not provide as much relevant information on that topic of interest. Then cases are compared for common and differing features (Maxwell, 2005)—all three cases involve strong, positive examples of local activists and their non-local allies attempting to challenge a powerful corporation that is causing an environmental hazard and that can cause economic harm to one or more of the case study areas.

I place this research in the context of social movement, environmental justice, and conflict mediation theories. Environmental justice studies are theoretically useful to this dissertation because even though environmental justice studies typically focus on racial minorities, many American minorities are low-income or working-class; giving them experiences and struggles in common with less affluent whites. Environmental justice studies tell us that poorer people and people of color are likely to simultaneously

experience struggles with poverty and environmental hazards (Chakraborty and Armstrong 1997; Ash and Fetter 2004; Ringquist 2005). Experiencing poverty and environmental hazards is not enough to make these actors seek redress. Social movement theory suggests that these actors will organize against environmental, health, safety, and economic problems when traditional problem-solving mechanisms such as lobbying fail, but actors nonetheless perceive the possibility of change, have networks that they can motivate others through, and possess resources to motivate others with (Geshwender, 1968; McAdam, 1982; Schwartz & Paul, 1992; McAdam & Snow 1997; Turner & Killian, 1997; Gamson, 1997).

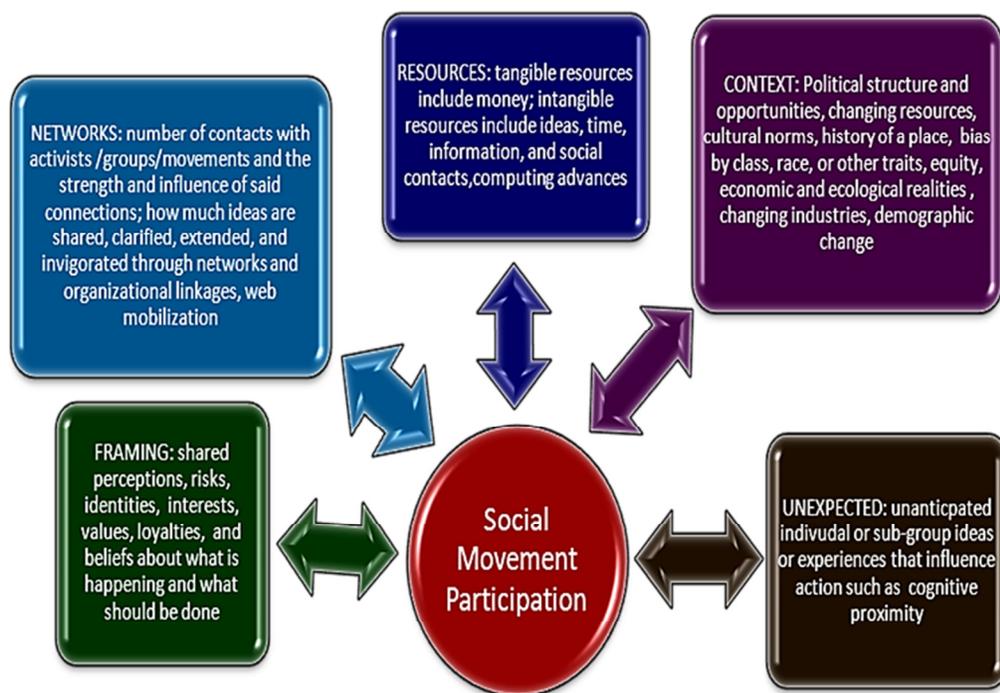
Theory suggests that in the three locations under study, activism to address environmental hazards will likely be constrained by the economic realities of poorer areas. Hence, the social movement literature as well as studies of environmental attitudes and behavior will be relevant. There is empirical evidence suggesting that minorities and whites share similar levels of concern over the fate of the natural environment (Burger 1998; Mohai and Bryant 1998; Hunter 2000; Gay 2004). However, Uyeki and Holland (2000) find that minorities are more likely to be pro-economic growth than white respondents and higher-income respondents, suggesting that residents of minority and poorer areas may be conflicted about how to meet environmental and economic goals at the same time.

Balancing economic and environmental goals is not the only challenges that activists in this study face. Social movement theorist Doug McAdam (1983) argues that

actors must perceive themselves as legitimate “challengers” to problem-causing societal arrangements. Additionally, actors must have shared perceptions of grievances (Snow et al., 1986) and have the ability to disseminate their views while avoiding reprisal and gaining support that is effectively funneled through viable action channels (McAdam, 1982). Actors must also have access to funding to accomplish their goals that is not drawn from entities supporting the status quo (Schwartz and Paul, 1992). Finally, the power that actors have to negotiate their preferred outcomes is influenced by the knowledge and skills they possess, their ability to control assets other actors want, their ability to create shared goals, the actors’ orientation toward group rather than purely individual gain, and the perceived legitimacy of their ideas and actions (Lax and Sebenius, 1986, Folger and Poole, 1984, Campbell, 2005, McCreary 1999, McKearnan and Field, 1999).

How these goals will be accomplished while protecting the environment and addressing the economic well-being of low-income and working-class areas has been under-explored; in particular, this study adds to that limited body of work discussing *why some* poorer communities accept such hazards and others do not. But the most important contribution of the current study is exploring whether different sub-groups of activists actively oppose corporations for different reasons and if so, how they differ in their statements about what causes them to engage in activism, also referred to in this study as social movement participation [see Chapter two for a definition of social movement participation and figure 1.3 for factors examined in the analysis chapter of this study].

Figure 1.3: Theoretical Model of Causal Factors Leading to Social Movements



Source: Author, 4/22/2012

The second chapter of this dissertation describes the relevant scholarly literature and the third discusses methodology used to study the cases. The fourth chapter reviews the history of mining, while the fifth and sixth chapters are the Whitesville and Naoma case studies, respectively. The seventh chapter discusses the history of the chemical industry and the Kanawha Valley case study. The eighth chapter analyzes the data from newspapers, interviews, fieldwork, and data in the preceding chapters and concludes.

CHAPTER 2: LITERATURE REVIEW

In this chapter, I will review three bodies of literature that are relevant to this study: (a) environmental justice, (b) social movement theory, and (c) conflict mediation and negotiation. Although many of these studies examine minority populations, they are relevant to my study because many minorities are low-income or working-class and therefore, have experiences, challenges, and constraints similar to those of the low-income and working-class whites in the case studies examined in my dissertation. Furthermore, though the Kanawha Valley area is predominantly-white, the Institute chemical facility was placed in the predominantly-black portion of town.

Environmental Justice Studies: Who is Impacted? Where Does Pollution Come From?

The environmental justice (EJ) literature has explored the relationship between race, class, and exposure to environmental hazards in the United States and elsewhere. This body of work is a fairly recent scholarly topic that gained prominence in the 1980s. Recent work discussing the race/class/environmental hazard dynamic tends to find evidence of differing exposure by race and class. See Table 2.1 for a summary of environmental justice studies that are relevant to this discussion.

Table 2. 1: Selected Environmental Justice Studies

Data for Areas That Host a TSDF	Government Accounting Office 1983	UCC-CRJ 1987	Goldman and Fitton 1994	Anderton et al. 1994	Been 1995	Oakes et al. 1996	Mohai and Saha 2006	Mohai and Saha 2007
Caucasian	—	—	—	—	—	—	—	—
African American	38% to 90%	—	—	14.54%	14.39%	17.09%	20.2%	19.1%
Latino	—	—	—	9.41%	10.34%	10.75%	21.8%	21.4%
Native American	—	—	—	—	—	—	—	—
Asian American	—	—	—	—	—	—	—	—
Nonwhite	—	23.7%	30.8%	—	27.21%	—	46.2%	44.4%
Per Capita Income	—	\$2,745 less than national average	\$2,237 less than in non-host areas	—	—	—	—	—
People Below Poverty Level	26% to 42%	—	14.7%	—	15.69%	—	20.6%	20.0%
Families Below Poverty Level	—	—	—	14.5%	—	17.11%	—	—
Employed Factory Work	—	—	—	38.6%	33.46%	33.32%	19.7%	32.1%
Mean Property Value	—	\$9,624 more than in non-host areas	—	\$11,232 less than in non-host areas	—	\$39,006 less than in non-host areas	\$5,207 less than in non-host areas	—

*Here TSDFs are a proxy for all environmental hazards

Source: See Appendix 1

The studies find that racial minorities are more likely to have an industrial facility sited in their neighborhood and, accordingly, have higher exposure to air pollution than more affluent, white Americans (Chakraborty and Armstrong 1997; Neumann, Forman et al. 1998; Sadd, Pastor Jr. et al. 1999; Pastor Jr., Sadd et al. 2001; Ash and Fetter 2004; Pastor Jr., Morello-Frosch et al. 2005; Ringquist 2005; Saha and Mohai 2005; 2006; 2007; Bullard, Mohai et al. 2008; Wang and Feliberty 2010). For example, when Ash and Fetter (2004) examined air pollution exposure in 393 American urbanized areas¹ and factored in chemical toxicity, geographic dispersion of toxic chemicals, and amount of chemicals released, they found that a 100% Latino block group² is 51% more likely to be in the more polluted half of an urban area than a predominantly-white block group (Ash and Fetter 2004). A 100% African-American block group is 33% more likely to be in the more polluted half of an urban area (Ash and Fetter 2004). Similarly, Mohai and Saha examined siting of 608 hazardous waste treatment, storage, and disposal facilities (TSDFs) throughout the United States. Testing multiple statistical models, they found that percentages of racial minorities were at least 42% higher in neighborhoods within a one-mile radius of a TSDF (Mohai and Saha 2006; 2007).

These studies have been contested by authors who find that race plays no role or an insignificant role in explaining hazardous facility siting. Anderton et al. (1994) and

¹Urbanized here is defined as 50,000 people or more and a population density of 391 people per km² or more.

²A block group generally contains between 600 and 3,000 people, with an optimal size of 1,500 people U.S. Census Bureau (2000). "Census 2000 Geographic Definitions." Retrieved April 21st, 2011, from http://www.census.gov/geo/www/geo_defn.html

Davidson and Anderton (2000) find that African-Americans are no more likely, at statistically significant levels, to live in areas that host a TSDf than those that do not—14.54% versus 15.2%. They do find that the percentage of people working in manufacturing is higher in areas with polluting facilities than in those without them—38.6% versus 30.61% (Anderton et al.1994). In other words, Anderton et al. find a link between *type of employment* and likelihood of environmental hazard exposure, rather than between race and hazard exposure (Oakes, Anderton et al. 1996). In related research, Bowen et al. (1995) and Kreiger et al. (2005) find a correlation between income level and environmental hazard exposure but not race.

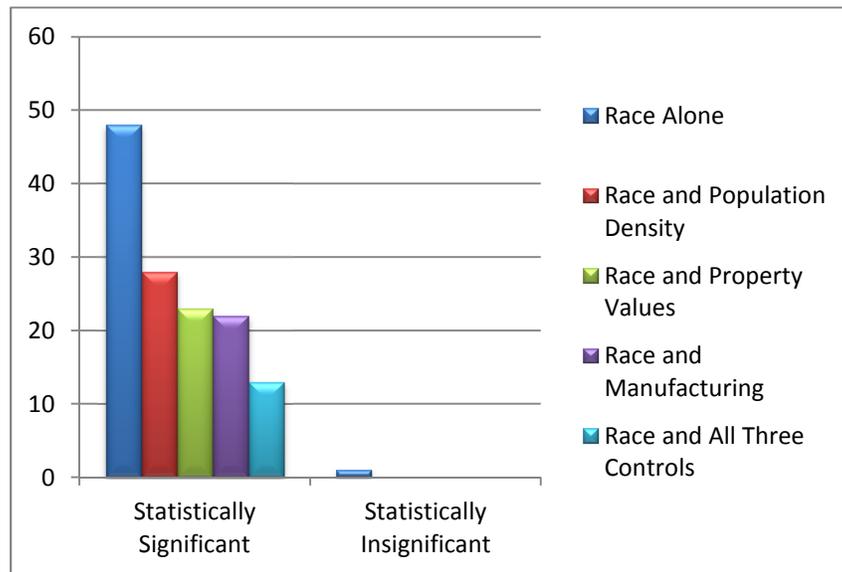
Recent Innovations in Environmental Justice Studies

Early environmental justice research focused on the link between race and environmental hazards. As environmental justice research has progressed, scholars have turned their attention to previously under-examined variables that may mitigate that relationship. Many environmental justice scholars find evidence of racial and class bias in environmental hazard exposure. They also find that other factors highly correlate with environmental inequality and environmental hazard exposure. Several researchers have found that poverty and race in tandem are predictors of environmental inequality (Neumann, Forman et al. 1998; Ash and Fetter 2004; Saha and Mohai 2005; 2006; Bullard, Mohai et al. 2008).

In spite of the fact that environmental justice studies produce contradictory findings, most of the studies find evidence of differential exposure to environmental

hazards for American racial minorities and low-income people. In a 2005 study, Ringquist addressed the debate about whether and to what degree minorities and low-income people are disproportionately impacted by environmental hazards. He performed a meta-analysis of 49 environmental justice studies of which 48 found evidence of racial disparities in environmental hazard exposure; 22 studies found linkages to manufacturing employment, suggesting that class can be correlated with environmental hazard exposure as well [see Figure 2.1] (Ringquist 2005).

Figure 2.1: Race and Exposure to Environmental Injustice



Source: Compiled from Ringquist, E. J. (2005). "Assessing evidence of environmental inequities: a meta-analysis." *Journal of Policy Analysis and Management* **24**(2): 223-247.

Over time, as the methodological sophistication of environmental justice research has improved, so has the geographic and temporal scope of the studies. Recently, environmental justice scholars have begun to look at previously under-researched variables. These include land-use variables, such as zoning, residential density, home

ownership patterns, and freeway proximity. Also, political, social, and psychological variables are now being studied with greater frequency.

Land Use Variables and Environmental Justice

A small but growing group of scholars has begun to explore local land uses and their impact on environmental hazard exposure in conjunction with individual economic and social factors, such as income level and race. Davidson and Anderton (2000) studied 2,299 waste facilities across the United States and used 1990 tract level census data; the authors again found that tracts containing a facility have greater percentages of industrial workers than those that do not. 31.28% of populations living in a census tract with a polluting facility were employed in industrial jobs as compared to 25.88% in non-host tracts. These authors again found an absence of race being correlated with environmental hazard exposure at statistically significant levels.

In contrast, Sadd et al. (1999) used a variable that measured the percentage of a census tract that is residential or industrial, assuming that residential and industrial areas might have different patterns of pollution. Nonetheless, they found that mean percentage of minorities in a census tract containing a polluting facility was 60.7% compared to 48.9% in non-host tracts (Sadd, et al., 1999). Pastor et al. measured high-density residential use—again based on the hypothesis that more industry and greater density would correlate with elevated pollution levels. In spite of controlling for land use variables, the authors found that when they split census tracts into a triad ranked by pollution levels, percent Latino rose from 26.9% in the least polluted third of the tracts to

37.9% in the most polluted tracts, while the respective increase in Asian Pacific Islanders ranged from 5.3% to 14.6% (Pastor Jr., Morello-Frosch et al. 2005). As mentioned, the majority of environmental justice studies continue to link race, poverty, or both to environmental hazard exposure.

Politics, Community, Psychology, and Environmental Justice Studies

Other factors that can influence exposure to environmental hazards are political, cultural, social, and psychological forces at work in communities. Hamilton (1995) examined data from the EPA National Survey of Hazardous Waste Treatment, Storage, Disposal, and Recycling Facilities survey. His study examined what influences siting decisions most. He found that zip codes with higher minority percentages are more likely to host a facility—18% in non-host zip codes versus 25% in host zip codes (Hamilton 1995). However, a strong predictor of facility siting was voter turnout at the county level—54.8% voter turnout in non-host tracts versus 51.8% voter turnout in host tracts (Hamilton 1995). Earnhart (2004) asked which resident characteristics are likely to influence environmental law compliant behavior (as measured by government emission permitting) for 42 waste water facility plants in the state of Kansas. The author found evidence that the percent Republican was negatively correlated with emission reductions at the .05 level, while per capita income was positively correlated with emission reductions at the .05 level. Being wealthier and more politically liberal correlated with environmental law compliant behavior (Earnhart 2004).

Social factors come into play in environmental inequality when a group is less able to protect itself from environmental hazards due to a relative lack of resources. For example, immigrants may lack political knowledge of their new country. After dividing census tracts into three groups, Pastor et al. found that immigrants made up 10.5% of the least polluted group of tracts but 23.0% of the most polluted group (Pastor Jr., Morello-Frosch et al. 2005). Home-ownership, housing values, percent of an area living under the official U.S. poverty line, and family or individual income are recent measures used in environmental justice studies to assess the resources that people have when fighting inequality (Pastor Jr., Sadd et al. 2001; Pastor Jr., Morello-Frosch et al. 2005; Mohai and Saha 2006; 2007).

Another set of variables used to measure community or neighborhood power are education variables. These frequently include percent high school graduates or college graduates in a geographic region. Additionally, there have been a few attempts to delve in depth into the differing experiences of racial groups and socioeconomic groups. Taylor (2002) discussed how experiences of race, class, and gender have shaped the perceptions of the natural environment for American sub-groups. She challenged the idea that only Caucasian middle-class and wealthy Americans are interested in environmental issues. She found evidence that working-class and minority activists are simply more likely to be focused on public and occupational health issues (Taylor 2002).

Environmental Justice Over Time

Finally, a handful of environmental justice researchers have examined temporal patterns in environmental hazard exposure. Mohai and Saha (2005) hypothesized that facility siting follows the path of least political resistance and that, therefore, minority and low-income neighborhoods are disproportionately and increasingly impacted by these hazards as more affluent communities become aware of them. Their hypotheses are supported. In particular, the African-American population within a one-mile radius of a polluting facility was 2.9 times greater than that of the area outside of the one-mile radius in 1970. By 1980, that disparity had increased to 3.4 times greater representation within a one-mile radius compared to outside of it (Saha and Mohai 2005). The authors examined 23 toxic waste facilities and multiple decades of census tract data (Saha and Mohai 2005). Also, Schelly and Stretesky (2009) find evidence of the path of least resistance in their case study analysis of three environmental justice struggles.

Most of the environmental justice studies are necessarily narrow in scope due to the complexity of environmental justice causes and impacts. Considerable examination of the factors and interaction between factors that cause and result from environmental injustice must still be done. Further, scholars need to research and address how citizens prevent environmental injustice if they are able to do so. One way communities address justice concerns is through social movements. Accordingly, it is to social movement theory that this dissertation now turns.

Social Movement Theory

Low-income and minority people who lack access to conventional channels in the political system sometimes get involved in social movements. They use these movements as vehicles of social change. Indeed, McAdam (1982) asserts that social movements should be regarded as political, rather than psychological, phenomena that stem from the exclusion, or partial exclusion, of groups seeking to put forward their collective interests in traditional political arenas. They are prompted to seek alternative venues when conventional ones prove unsuccessful. He states:

...wealth and power are concentrated in America in the hands of a few groups, thus depriving most people of any real influence over the majority of decisions that affect their lives. Accordingly, social movements are seen...as rational attempts by excluded groups to mobilize sufficient political leverage to advance collective interests through non-institutionalized means (McAdam 1982 p. 173).

Thus, social movement theory is highly relevant to the study of environmental justice phenomena, given that many who experience environmental inequality have limited political and financial means with which to address the problems they face. Accordingly, lessons drawn from social movement theory can guide analysis of the strategies and outcomes of collective action efforts in my West Virginian case studies.

What is a social movement?

Until the 1970s, social movements were defined as a:

...product of disorganization...The anger and other emotional expressions of participants are signals of the stresses and strains of society. People are reacting, frequently violently, without really understanding the larger social forces that buffet them (Gamson, Fireman et al. 1982 p. 6).

The definition of a social movement has changed. Now, many social movement theorists define a social movement as a series of collective actions involving individuals who share a real or perceived grievance, direct their resources toward the amelioration of that grievance, and experience varying degrees of success due to cognitive, cultural, legal, and economic factors. In the current study, social movement participation, also described as activism, is defined as inclusive of but is not limited to participation in rallies, protests, law-making and enforcement, teach-ins, committees, forums, and the writing of editorials.

Resource mobilization theory is one of the important theories scholars use to understand social movements and social movement participation. It emerged as social movement scholars noted the inadequacy of early social movement theory in explaining collective action. Resource mobilization theory emerged in the 1970s. Social movement scholars responded to early interpretations of social movements in which rapid societal change and the breakdown in the social order caused individual dysfunction leading to social movement formation (McAdam 2003). Resource mobilization theorists criticized early social movement scholarship by arguing that movement participants are usually not isolated, nor do they act irrationally. Mayer Zald was at the forefront of the second wave of social movement scholarship; he summarized the key tenets of resource mobilization theory, which he had helped to initially articulate. Zald states that the core assumptions for the resource mobilization perspective are as follows:

First, behavior entails costs; therefore grievances or deprivation do not automatically or easily translate into social movement activity, especially high-

risk social movement activity. The weighing of costs and benefits, no matter how primitive, implies choice and rationality at some level. Mobilization out of the routines of social and family life, out of work and leisure, is problematic. Second, mobilization of resources may occur from within the aggrieved group but also from many other sources. Third, resources are mobilized and organized; thus organizing is critical. Fourth, the costs of participating may be raised or lowered by state and societal supports or repression. And fifth, just as mobilization is a large problematic, so too are movement outcomes. There is no direct or one-to-one correspondence between amounts of mobilization and movement success (Zald 1992 p. 333).

The facets of resource mobilization theory suggest behaviors of and outcomes for activists engaged in environmental justice struggles. Below, I will discuss research findings that pertain to the resources that activists need, barriers to activism, and the success, or lack of it that activist efforts attain.

I will examine parts of resource mobilization theory in the following order: (1) benefits and costs of engaging in social movements, which include rational choice theory, (2) mobilization for social movements, including structural theory, identity issues, and framing, (3) political and cultural elements of movement participation, and (4) social movement networks and outcomes.

Rational Choice Theory

At the same time resource mobilization scholars questioned the isolation of social movement participants, they also questioned the assumption that such actors were irrational. Accordingly, they borrowed language from economics and asserted that actors rationally weighed the costs and benefits of movement participation. Ideas about rationality have continued to evolve in social movement theory (Ferree 1992; Friedman

and McAdam 1992). The social movement literature that attends to rationality and motivation of social movement actors is discussed below.

Rational choice models examine individual cost/benefit analyses (Friedman and McAdam 1992). Friedman and McAdam (1992) argue that “the principal weakness of rational choice explanation is its failure to embed the individual in that set of relationships and group affiliations that so powerfully shape the choices that he or she makes” (p. 156). Ferree (1992) agrees. She argues that rational choice models underspecify individual values and concerns and assume “a pseudo-universal human actor without either a personal history or a gender, race or class position within a societal history” (p. 31). Actors who have scarce or uncertain material resources (such as low-income people) may prioritize supporting others to a greater extent than many people do because they anticipate the possibility of needing help themselves and because of the influence of sub-cultural norms (Ferree 1992). She posits that because collective action participants must trust each other due to the uncertainty of what will happen to them and the risks that they face, they are more likely to prioritize social rather than economic ties (Ferree 1992).

Friedman and McAdam (1992) also discuss how rationality of individual actors leads to social movement participation. They argue that a given identity, such as “environmentalist” or “activist,” functions as an incentive to act for rational actors who are embedded in networks connected to social movements. As a result, the actors assess their potential loss of group membership should they fail to join movements linked to

networks that they value. Thus, an actor's likelihood of movement participation increases if they are part of a network linked to social movement activity (Friedman and McAdam 1992). This phenomena of actors joining movements because of their network connections can be observed in the context of the Civil Rights Movement in which African-American church goers joined the movement through churches (Morris 1981).

Many of the rational choice studies have focused on the issue of free-ridership once actors are recruited into social movements. Free-ridership is described by Mancur Olson in the context of union membership. He explains that rational workers have no incentive to join unions because often gains unions make will be experienced throughout a group of workers, whether or not they helped to secure those gains (Olson 1965). Free-ridership thus became the widely accepted term for people who accept collective gains without helping to bear collective costs. Ferree (1992) asserts that individuals who traditionally place a high value on social relationships are particularly likely to reject an ethos of competitive individualism.

However, Walsh and Warland (1983) provide support for the idea that free-ridership is seriously problematic within social movements. Still, they note that a variety of social and psychological factors affect the likelihood of free-riding rather than simple self-interest. The authors examine activism in the wake of the Three Mile Island nuclear accident in Harrisburg, Pennsylvania (Walsh and Warland 1983). They counter the traditional idea that free riders do not participate in movements because they are "too rational." Walsh and Warland (1983) found that communication barriers were a major

problem that led to free-riding. Many people (26%) said that they simply had not heard of their local protest group. The second most common reason for non-participation was familial responsibilities, which explained 18% of non-participants' lack of participation (Walsh and Warland 1983).

It may also be true that some individuals are disinclined to free-ride because they themselves have been the victims of free-ridership. I posit that the high exposure of minorities and low-income people to environmental hazards may, in turn, lead them to oppose environmental free-riding in all communities. In recent decades, the reality of NIMBY (Not In My Back Yard) has led environmental hazards to be disproportionately sited in African-American and low-income communities as wealthier, predominantly-Caucasian communities fought against nearness to these undesirable land uses (Willard 1992). Arguably, when wealthier communities want the amenities of polluting industries but push the costs into poorer areas, they are free-riding. Likewise, when the larger society benefits from a production process that negatively impacts minorities and the poor, a form of free-ridership is occurring. Bullard et al. (1997) note that African-Americans and other actors within the environmental justice movement (EJM) promote the right of all people to be safe from environmental hazards. It is plausible that the EJM values universal safety from environmental hazards because movement participants have experienced free-ridership from the greater communities that they are situated within.

In spite of the possibility that free-ridership may occur less frequently than early scholars predicted it would, not all actors who have a rational reason to participate in

social movements do so. This is true whether their reasoning is traditionally rational or stems from the progressive definition of rationality provided by Ferree and others. Gamson focuses on an aspect of the individual process of movement-joining. He refers to what some psychologists call “hot cognition”—an emotion-laden conception of something being wrong, wedded to ideas about what can be done to address the wrong, and ideas regarding who is causing it (Gamson 1997). For EJM activists, environmental racism, which links racism to environmental hazard exposure, has acted as a hot cognition (Taylor 2000). For low-income white actors, equity concerns may still act as important motivators for environmental justice organizing, but the hot cognition of these actors may be related to class, regional identity, or occupational identity—as when miners are being replaced by environmentally-destructive machines.

Mobilization and Social Movements

Structural Theory

Structural factors are important as social movements emerge. McAdam (2003) suggests that the importance of pre-existing organizations stems from their ability to be appropriated for new movement goals by movement participants. This occurs when a new threat to a group or a new opportunity for group benefits emerges, and the group acts on that threat or opportunity (McAdam 2003). Structural theory looks at network ties to social movements, as well as the recruitment of individuals, organizational membership that increases involvement, and organizational opportunities to work on an issue an actor cares about (Friedman and McAdam 1992). Gamson et al. (1982) find that the political

and social climate can aid or hinder activism, as can group knowledge of ideas and practices that aid collective action (Gamson et al. 1982). Also, the presence of group leaders who effectively speak for the group of would-be activists is a structural resources movement participants need (McAdam 1982). McAdam (2003) adds that the strength of the structural view is that it reoriented the study of social movements away from the study of disorganized, isolated actors to one that acknowledges the role of prior institutions and networks in creating collective action.

Klandermans and Oegema (1987) also discuss structural factors of influence in movement participation. These factors include the knowledge that a lack of participation may arouse disapproval from ones' social networks i.e. friends, colleagues, and family members, as well as a belief that a particular movement activity will be effective in attaining its goals. Being embedded within formal and informal networks that movement organizers are also a part of increases the likelihood of movement participation. The authors found that 100% of respondents who participated in a peace demonstration had at least one link to someone in the peace movement (Klandermans and Oegema 1987). Klandermans and Oegema (1987) also focused on the role of barriers to entry in movement participation—26% of their respondents did not participate in a protest because they did not agree with its goals.

The Internet is another possible structural resource for activists in terms of connecting to others. One recent study found that 35% of mainstream environmental organizations used Internet technology to recruit people into campaigns; in contrast, 41%

of environmental justice organizations recruited people using Internet technology (Tucker 2012). This suggests that the Internet may be important in future environmental justice conflicts and environmental conflicts, but more so in the former than the latter.

Yet, having access to people and resources is not enough. Diffusion processes also play a part in structural theories of social movement participation. Soule (1997) discusses how social movement organizations (SMOs) influence other SMOs. She found that similarities between actors aid diffusion of tactics between SMOs. Her discovery came from examining a protest tactic called “Shantytowns” in which makeshift “shanties” intended to demonstrate the poor living conditions of South Africans under apartheid were used to visually disrupt college campus landscapes (Soule 1997). The finding was that social movement tactics, ideas, frames, participants, and organizations may move from one movement to the next (Soule 1997). Evidence in support of Soule’s theory is evident in the EJM usage of Civil Right Movement chants, songs, and organizational strategies (McGurty 2000).

One of the resources that activists may draw from other organizations is leadership. Leadership in social movements is influenced by structural factors. Diani (2003) states that leadership in many social movements differs from traditional leadership because the leader, whether an individual or an SMO, may not experience explicit recognition of leadership by movement participants. Rather, leaders in social movements may function either as representatives and resource providers for other organizations or as brokers. A broker is “an actor connecting other actors which are not directly related to

each other” (p. 107). Diani (2003) found that core organizations, meaning those with the most connections to other SMOs by virtue of collaborating on environmental campaigns, were more likely to have contact with the national media and political institutions. This reality suggests that centrally located SMOs act as movement leaders. Also, centrally located SMOs were more likely to have resources, such as many dues-paying members, as well as the social capital of those members in the form of network ties to other activists. Thus, they could marshal support for movements in terms of time, connections, and money. SMOs that were good brokers tended to have diverse foci, allowing them to serve as communication channels between other SMOs with different goals and priorities. Their ability to serve as communication channels stemmed from their own internal organizational diversity. Thus, SMOs acted as representatives/resource providers or communication brokers rather than as classic authoritative, hierarchic leader types (Diani 2003).

Due to recognition that tangible resources alone do not create social movements, increasingly, theories of identity and cognitive framing are being studied as aspects of social movement theory. McAdam and Snow (2000) argue dispositional factors, such as verification of a valued identity, increase the likelihood that individual and collective identity will be aligned. For example, people who value the identity label “environmental activist” are more likely to engage in environmental justice struggles when those struggles are presented as part of a quest to protect nature as well as people. McAdam and Paulsen (1993) argue (1) the presence of a network tie to a movement influences activism, (2) the number of ties to a movement may cause activism, or (3) it may be that

the “salience, centrality, or strength of a tie that determines its effectiveness as a recruitment agent” (McAdam and Paulsen 1993 p. 641). I review additional social movement literature on identity and framing below.

Identity and Framing and Cognitive Factors

A “frame” is a “schemata of interpretation” that a person uses to identify and label occurrences that they perceive, attach meaning to those occurrences, and thereby decide which actions to take. Snow et al. (1986) argue it is not simply the existence of grievances but “the manner in which grievances are interpreted and the generation and diffusion of those interpretations” (p. 466) that influence movement participation. Examples of framing relevant to the EJM include the choice to explicitly link environmental concerns with social justice ideas from African-American and other minority social movements in the 1960s. As important as structural elements are to social movement activism, movements cannot occur without cognitive work being carried out by movement actors. This work is discussed in the following passage.

Gamson et al. (1982) discusses collective action in terms of what people think and say. They argue that members of a group experience different kinds of encounters involving recruitment or organizing, divesting acts in which actors break the consensus to maintain the status quo, and reframing acts in which actors adopt a new interpretation of what is happening. Activists also experience encounters involving engagement with antagonists, the media, and authorities. During these varied encounters, actors “say or do things that help (or hinder) the development of collective identity, solidarity, and a

collective action frame.” Actors were more likely to successfully mobilize after they questioned the authority of those telling them to do something that they did not want to do and questioned their own obligation to do it early in the mobilization process (Gamson, Fireman et al. 1982).

Snow et al. (1986) extend Gamson’s ideas regarding the importance of cognitive change factors in social movements. The authors explore the processes through which people come to support and participate in SMOs. The authors discuss frame alignment—“the linkage of individual and SMO interpretive orientations, such that some set of individual interests, values and beliefs and SMO activities, goals, and ideology are congruent and complementary” (Snow, Rochford et al. 1986).

Snow et al. (1986) identify four components of frame alignment: frame bridging, frame amplification, frame extension, and frame transformation. Frame bridging links ideas together into a new worldview in addition to linking people with the same grievances and qualities who lack an outlet for their discontent. Frame amplification clarifies and invigorates a frame that addresses a problem, issue, or event(s) by increasing the focus of participants on a shared value or belief. Examples of this from EJM struggles include describing a particularly polluted area in Louisiana as “Cancer Alley” or a similar area in Chicago as the “Toxic Donut” (Taylor 2000). The focus on a value can be useful to activists when the value has been suppressed, neglected, unexpressed for lack of an outlet, taken for granted, or perceived as unconnected to the issue or problem that movement actors face. Belief in the attribution of a problem can be encouraged by movement actors, as can the belief that problems can be solved.

Frame extension involves articulating ideas of particular interest to potential recruits while frame transformation refers to dramatic shifts in values, beliefs, and actions for the purpose of promoting drastic individual or societal change. All of these framing factors may impact activism at different points in the life of a movement and to varying degrees (Snow, Rochford et al. 1986).

In a follow-up piece, Snow and Benford (2000) argue that frames vary in their degree of “interpretive scope, inclusivity, flexibility, and cultural resonance” (p. 619). Resonance is created by credibility; credibility is created by the agreement of movement claims with each other, with movement actions, and with the events taking place around movement participants (Snow and Benford 2000). Resonance is also created by agreement of a movement recruits’ ideas and experiences with movement claims. Frames may be contested, borrowed, or promoted across groups, as well as within a movement (Snow and Benford 2000).

Other authors have added to the list of cognitive factors that mobilize movements. Geshwender (1968) discusses whether a person feels he is being thwarted in meeting social and economic objectives, and whether he believes he is lagging behind others in terms of goal attainment, an idea relevant to EJM participants. McAdam and Snow (2000) add that people can join a movement for a variety of reasons, have multiple identities of varying importance, and may imperfectly or variably embrace a collective identity and whatever actions that identity is connected with. In addition to the role of existing cultures in social movements, movement participants create their own cultures in

the process of mobilizing and sustaining a movement. McAdam (1994) tells us new movements create their own subcultures that may change over space, time, and social location. Social movements may also cause cultural change by creating new identities, widespread shifts in behavior, new master frames that can be used in future movements, and changes in language, fashion, and other aspects of style (McAdam, 1994).

Cognitive understanding and identity may change when a person comes into contact with a movement. McAdam and Snow (2000) discuss identity formation, which involves the modification of individual identities, enhancing convergence with a movement's collective identity. Congruence may be the result of elevation of a previously existing identity that a person has, blending of previously held identities, or the dismantling of prior identities to make new ones. Identity formation may occur through framing or through actual movement participation. In the mountaintop removal mining case studies I examine, one might expect miners to support the EJM efforts if the activists were able to make working class identities and job security a central focus of their campaigns.

Social Movements and Environmental Justice

The emergence of the Environmental Justice Movement can be understood by contrasting the class and race experiences of environmental justice (EJ) activists with those involved in the mainstream environmental movement. Reich examines the factors that isolate people into secondary labor market work and concurrently divide communities in terms of economic and environmental priorities. He asserts that a number

of variables create a mutually reinforcing, multiplicative effect on low-income populations. These variables include: (1) disparate access to education due to differences in resource allocation in schools, (2) hiring and promotion practices, (3) racial type-casting and racial group conflict, (4) varying availability of healthcare, (5) scarcity of jobs and competition for those that exist, (6) the diminishing power of unions and collective labor bargaining, and (7) competition of racial subgroups for available jobs (Reich 1994). Bonacich adds that business people have a vested interest in pitting laborers against each other to best secure inexpensive labor. Additionally, higher paid labor has a vested interest in excluding or limiting the labor participation of cheap labor to protect their jobs from competition (Bonacich 1994). These factors may stymie EJM actors in my case study communities unless they can form coalitions with actors who can provide them with ideas and capital to build economic alternatives.

These labor-related ideas support the Millsian power elite theory. Mills was among the first to discuss the factors leading to different economic realities of groups within a society. He argues that there has been an increasing centralization of economic, political, and military power, and that those who possess power within these spheres are better able to reach their goals than the rest of society (Mills 1956). This elite group has a vested interest in denying the degree to which they possess power to secure and protect the power that they do possess (Mills 1956). Prewitt and Stone add to Mills' theory, emphasizing important Millsian concepts such as *mass society* in which the public is largely unable to control the political and economic forces impacting them (Prewitt and Stone 1973). This research is relevant to the study of environmental justice because it

discusses power dynamics that EJM participants face. They must potentially engage with economic and political elites whose goals differ from their own and concurrently deal with low-income groups that may or may not form alliances with them based on shared economic and environmental grounds.

Taylor (2000) also examines the effects of power variables for American race, class, and gender groups in relation to the environmental movement. She discusses the separate reactions of American subgroups to the environment and environmental management efforts. For example, while affluent and middle class white males expressed the need to return to a simpler, more solitary, less-urbanized way of life, their working-class counterparts were facing dire environmental health issues at home and work. Working-class and low-income actors thus focused on public health, sanitation, and urban aspects of environmental protection rather than the preservation of wildlife and wild terrains focused on by the elites (Taylor 2000). This example helps to explain how environmental concerns divide along class lines, and why the blue collar-oriented EJM diverged from the comparatively middle-class environmental movement.

Table 2. 2: Race and Poverty in the U.S. Population

Race	Population	Percent Population	Per Capita Income	Population Under the Poverty Line	Percent Population Under Poverty Line
Total U.S. Population	308,745,538	100%	\$26,059	46,215,956	15.3%
Caucasian	223,553,265	72.4%	\$29,627	27,951,752	12.5%
African American	38,929,319	12.6%	\$18,085	10,099,631	27.1%
Latino	50,477,594	16.3%	\$15,356	12,306,535	24.8%
Asian	14,674,252	4.8%	\$29,841	1,801,196	12.5%
Native American	2,932,248	0.9%	\$21,609	701,213	28.4%

Source: U.S. Census Bureau: American Fact Finder (2010), <http://www.census.gov>. Retrieved 4/21/2012.

Low-income and minority communities face challenges that may lead to social movement involvement. More recently, alternative dispute resolution negotiation has been considered by activists and other citizens as another way to deal with problems. Accordingly, negotiation is briefly discussed below.

Negotiation and Environmental Justice

Social movement studies are not the only studies that can potentially inform research examining environmental justice activism. I will briefly summarize the negotiation studies literature because it represents another possible channel through which minority and low-income actors can reach their goals. Lax and Sebenius (1986) state that negotiations are built on the negotiating parties' interests, their alternatives to reaching an agreement, their potential benefits from an agreement, and the circumstances under which they are negotiating. Negotiation itself they define as "a process of

potentially opportunistic interaction by which two or more parties, with some apparent conflict, seek to do better through jointly decided action than they could otherwise” (Lax and Sebenius 1986).

When actors work to convene a negotiation, they assess: (1) which interests stakeholders are willing to approach through a negotiated agreement, (2) how complex the interests are, (3) whether the stakeholders have defined their own interests and can articulate them, (4) how much information participants possess and have access to regarding the interests being discussed, (5) whether the negotiated agreements are likely to be superior and durable relative to those from other conflict resolution mechanisms, (6) whether the interests being discussed are controversial, and if so, what is at the root of the controversy, and (7) whether there are deadlines imposed on the actors’ decision-making (Carlson 1999).

Once a negotiation is convened, issues of representation may arise.

Representation of interests can be a problem if there is internal disagreement about goals and actions within a party or disagreement about the correct choice of representative (Susskind 1999). It may also be useful to select proxies to speak for hard-to-represent groups, such as future generations. Other problems with representation include: whether the interests being addressed affect many people; whether some interests are obvious to the parties, while others are latent or difficult to measure; and whether some of the parties lack sufficient power, time, organization, or money to participate fully in the negotiation (Carlson 1999).

Even when a proposed agreement has been deemed acceptable by a number of participants in a negotiation, it is possible that one or more parties will feel that their interests are not sufficiently met. In these cases, actors may need to make further trade-offs or alterations to the negotiation (Folger and Poole 1984; McKearnan and Fairman 1999; Thomas-Larmer and Susskind 1999). Trade-offs or negotiation-altering factors may include: (1) changing the number of parties involved, (2) changing the number of interests involved, (3) changing the number of negotiation rounds, thus creating an incentive for parties to maintain goodwill, (4) altering the perceived necessity of reaching an agreement, (5) changing the substance of participants' demands, (6) changing how binding or public the agreement reached will be, and (7) changing the norms of the negotiation (Raiffa 1999).

Power dynamics are another factor that can alter the circumstances of negotiation and are particularly relevant to environmental justice activists. Lax and Sebenius (1986) define power as the ability to favorably change a negotiation through coercion, skills that a party possesses, control of information or assets, the ability to create shared goals between actors, the ability to trade concessions, or the ability to create perceived legitimacy of one's actions (Lax and Sebenius 1986). Low-income individuals often lack power for a number of reasons. In addition to lacking financial resources, they may not realize the cognitive power that they do have, and they may not be perceived as acting effectively or as effectively as affluent actors (Folger and Poole 1984; Folger and Bush 1994). The successful exertion of power by one actor often reduces the options that other actors have by limiting possible agreements or by limiting other actors' opportunities for

asserting power moves of their own (Folger and Poole 1984). This can lead to negotiations ending in biased settlements.

Nonetheless, successful settlements between stakeholders with different goals and resources do occur. The Hudson River settlement is a well-known and important multi-stakeholder negotiated agreement. It involved four public agencies (the Environmental Protection Agency, the U.S. Fish and Wildlife Service, The New York State Attorney General's Office, and the New York State Department of Environmental Conservation), three environmental groups (Hudson River Fisherman Association, Scenic Hudson, and the National Resource Defense Council), and five utility companies (led by the Consolidated Electric Company and including Central Hudson Power, Orange and Rockland Utilities, Niagara Mohawk Power, and the New York Power Authority) (Talbot 1983). These actors disagreed about the impact of power generation on the Hudson's aquatic life, and they disagreed over how to mitigate ill-effects of power generation (Talbot 1983). Consolidated Electric agreed to fund a fish hatchery, pay for biological research on the Hudson, and construct screens equipped with revolving troughs that would collect fish caught in hydro-electric water intakes and re-distribute the fish back into the river (Talbot 1983). Consequently, the EPA and environmental groups agreed to drop their demands for further corporate actions, provided that fish kills declined by at least 50% (Talbot 1983). Consolidated Electric and the other utility interests agreed to an average annual plant shutdown of 42 days during peak spawning sessions, believing the costs of the shut downs and their other mitigation strategies would be less expensive than initial plans proposed by the EPA and environmental groups (Talbot 1983).

Famous environmental negotiation cases like the Hudson River case do not closely resemble the environmental justice struggles in which low-income people work to protect the natural environment and their local economies simultaneously. Sarah Lashley notes that:

It is common for environmental justice communities to be assaulted by multiple environmental hazards. Further, in addition to battling environmental hazards and lacking access to green space, environmental justice communities are also often combating high crime and unemployment rates and struggling to enforce laws and regulations. They are also likely to have experienced a series of painful historical events, such as displacement and racism (Lashley 2010).

Challenges such as those described by Lashley indicate the unique challenges of collaboration in environmental justice disputes.

The Northern Oxford County negotiation provides a better example of how low-income people, such as those in environmental justice struggles, pursue their environmental and economic goals at the same time. The Northern Oxford County Coalition was a multi-stakeholder effort to investigate cancer rates in Northern Oxford County, Maine. Stakeholders included federal agencies (The Department of Health and the Environmental Protection Agency), local government, small and large business, organized labor, interested citizens, health care providers, and non-profit organizations (McKearnan and Field 1999). Stakeholder views varied widely about the public and environmental health of Northern Oxford County (McKearnan and Field 1999). The 1,600 paper mill workers, who represented 35% of the county's workforce, were particularly concerned about job loss if corporate pollution abatement costs were high (McKearnan and Field 1999). The stakeholders were able to reduce carcinogenic

emissions released by the paper mill with technological changes and without firing mill workers (McKearnan and Field 1999). This case is a hopeful example of negotiation in that low-income actors were not forced to choose between jobs and the environment. It suggests that negotiation may prove useful in addressing some environmental justice conflicts. However, it remains to be seen whether negotiation is applicable to the case studies in this dissertation. Still, there are insights that can be drawn from the prior work discussed in this chapter. They are summarized in Table 2.3.

Literature Review Summary

The prior research suggests that low-income people, working-class people, and minorities are more likely to face poverty, a lack of political and economic clout, and environmental hazards at the same time. The activism of these populations will likely be influenced by their ideas, beliefs, values, grievances, free-ridership, connections to others who share those grievances, the way in which these individuals interpret the grievances that they face, and the political, economic, legal, social, and cognitive environments that would-be activists are embedded within. I examine activists and the factors that influence their active opposition to corporations causing environmental harm. Such findings have value for both environmental justice and social movement theory because it unpacks *why* actors actively fight corporations that are creating environmental hazards, and, perhaps, why people fight through activism in general. It may be problematic to assume that activists all fight for the same reason—I hope to unpack the motivations of activists fighting against corporations.

Table 2. 3 Author's Summary of Key Findings from Prior Research, July 15th, 2011

Theoretical Variable	School of Theory	Summation of Prior Work	References
Identity	Social Movement Theory	Political orientation can influence later actions against environmental hazards, as can self-perception, loyalties, affiliations, free-ridership, past experiences, ideas about right and wrong, values, beliefs, and analysis of grievances	Hamilton, 1995 Earnhart, 2004 Friedman & McAdam, 1992 Ferree, 1992 Walsh and Warland, 1983 Olson, 1965, Bullard, 1997 Willard, 1992 Gamson, 1997 Taylor, 2000, 2002 McAdam and Snow, 2000 Snow et al 1986, 2000 Geshwender, 1968 McAdam, 1994
Networks	Social Movement Theory	Social movements involve individuals who share real or perceived grievances, ideas, diffusion processes, organizational linkages	Gamson, 1982 McAdam, 2003 Friedman & McAdam, 1992 Tucker, 2012 Soule, 2997 Diani, 2003 Walsh and Warland, 1983
Resources	Environmental Justice	Minorities and lower-income people, especially those working in manufacturing, are more likely to live near environmental hazards; their lack of clout and need for jobs leads to environmental hazards being placed in their neighborhoods; immigrants are also more likely to face environmental hazards	Ash & Fetter, 2004 Bullard, et al., 2008 Chakraborty & Armstrong, 1997 2006b, 2007 Neumann, et al., 1998 Pastor Jr., et al., 1999, 2001 2005 Saha & Mohai, 2005 Wang & Feliberty, 2010
Social Movement Participation	Social Movement Theory Negotiation and Mediation Theory	Activists experience varying degrees of success due to cognitive, cultural, legal, and economic factors	Piore, 1994 Bonacich, 1994 Reich, 1994 Lax and Sebenius, 1986 Folger & Poole, 1984 Thomas-Larmer & Susskind, 1999 Carlson, 1999 Susskind, 1999 Raiffa, 1999

Source: Author, July 15th, 2011

In sum, minority and low-income/working-class individuals and groups may have different goals, perceptions, vulnerabilities, resources, and political opportunities than more affluent, white communities. They may also have unique challenges if they seek to negotiate with more affluent actors. And even within a group of activists, there may be differences in what motivates people to actively oppose corporate actions or the actions of other stakeholders in general. In the next chapter, I will discuss the methodology used in this dissertation.

CHAPTER 3: METHODS

This dissertation is primarily qualitative, although I cite quantitative work to add to the robustness of my findings. Qualitative work has a number of merits depending on the specific research goals in a project. These include embeddedness in a natural setting. Creswell describes qualitative research in the following way: "...qualitative researchers tend to collect data in the field at the site where participants experience the issue or problem under study...information [is] gathered by actually talking directly to people and seeing them behave and act within their context" (Creswell, 2009, 175-176). Qualitative research can, therefore, help a researcher avoid making incorrect assumptions about and connections between variables under study through direct exposure to people, places, events, and processes involved in understanding an issue or problem.

Qualitative researchers differ from quantitative ones in additional ways besides working outside of a lab. Qualitative researchers often collect data themselves and develop their information-gathering tools rather than relying on instruments developed by other researchers. They also tend to use multiple sources of data. Qualitative research involves inductive, interpretive data analysis focused on participants' meanings, and the use of theoretical lenses. Finally, qualitative researchers attempt to create a holistic account of the problem or issue they are studying (Creswell, 2009 p. 173-176). Creating research instruments oneself, using multiple data sources, and allowing data collection

and analysis to develop depending on field observations and interviews can help qualitative researchers make a comparatively accurate account of the patterns, events, participant views, and actions involved in a situation(s). Using a theoretical lens and referencing prior work aids in creating robust results by comparing one's work against the data and ideas of others. Lastly, attempting to make a holistic account of a problem or issue under study allows one to draw conclusions about causality within a given context. Conversely, quantitative work is valuable for establishing a connection between variables, but it cannot always show the dynamic through which variables interact and influence each other. Creating a holistic account that explores causality is the primary reason for using an inductive, interpretive qualitative research strategy (Morse, 1994). However, quantitative work can be used to enhance qualitative work by providing a "snap-shot" of how qualitative case study variables are connected at a particular point in time. It will therefore be used in this capacity in the final chapter of this study.

The case study has particular advantages and disadvantages from other qualitative methods. Platt (1992) traces the usage of the case study to the University of Chicago School of Sociology in the late 1920s and early 1930s where it was used to collect rich, thick data on a number of variables in a single situation (Platt, 1992). Yin (2009, p.18) defines the case study in the following way:

The case study inquiry copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, as another result [it] benefits from the prior development of theoretical propositions to guide data collection and analysis.

The definition above sheds light on why the case study is the appropriate methodological choice for my study. An experiment often examines only a few variables and does so in a controlled environment, while a history does look at multiple data points in context but does so for non-contemporary events and situations. A survey necessarily limits the study of context because it is focused on measuring specific variables, and ethnography typically involves long-term field work, instead of collection of field data for a briefer period, used in conjunction with a variety of other sources (Yin, 2009, p. 17-21). I am examining both non-contemporary and contemporary events and processes in context. I am attempting to capture a holistic picture of what activists are thinking and doing, which will involve capturing a range of variables, and I am using activist statements in articles and interviews in conjunction with other sources, as well as prior theoretical and empirical work.

The units of analysis for this study are activist organizations as well as local activists and their non-local allies working to address corporate-caused environmental hazards in three Appalachian areas: Whitesville, Naoma, and the Kanawha Valley area composed of Dunbar and Institute, all of which are in West Virginia. I used a multi-method approach (Creswell, 2009, p. 12). Triangulating data, composing detailed, in-depth descriptions of events and processes, and presenting negative or discrepant information can decrease scholarly inaccuracy and gain representativeness (Miles and Huberman 1994).

Data used to analyze the cases were drawn from sources including but not limited to government documents, legal documents, memos, newspaper articles, corporate documents, press releases, and web sources produced by the stakeholders. I also used documents discussing the environmental, public health, and economic impacts of the hazards, and whatever products or processes are producing the hazards. Interviews were transcribed verbatim into my notes for analysis. I also made a site visit from June 6th, 2011 to June 25th, 2011 during which time I engaged in participant observation. Data collection occurred from November 2010 to June 2011.

In particular, I examined activist quotes in newspapers and interviews in order to unpack the factors that influence activism toward corporations causing environmental hazards. I conducted 35 interviews in June 2011. I also analyzed 122 articles published from 1984 to 2011 in order to observe what 98 activists stated directly about their motivations for social movement participation. The analysis includes 317 statements drawn from newspapers; selected quotes from the interviews are dispersed throughout the case studies and analysis. Statements from activists working with the three primary activist organizations in the case studies: CRMW (the Whitesville case), PCAMIC (the Kanawha Valley case), and MJ (the Naoma case) are compared to each other and to the model.

Next, I divided activists into three groups—local, resident, and non-local. Using the newspaper and interview documents, I compared the statements of these three groups. This study includes 44 Local, 14 Resident, and 40 Non-Local Activists. The newspaper articles used in this study are drawn from state, national, and international newspapers. State papers include the *Charleston Gazette*, the *McClatchy-Tribune Business News*, and the *Charleston Daily Mail*;

national papers include the *New York Times*, the *Wall Street Journal*, the *Washington Post*, the *Roanoke Times*, and the *Knoxville News Sentinel*; international news coverage was taken from the United Press International. The article statements were coded using R Project for Statistical Computing (Gentleman and Ihaka 2012). Initially, I ran frequency tables to obtain counts and percentages of activists mentioning a particular code. Next, I ran Fisher Exact Tests, which assess the degree of correlation between organizational affiliation or residency and the code variables. Fisher tests were preferred over the more common Chi-Square test due to their ability to estimate accurately even with limited data; especially given that Residents were under-represented in this sample, the Fisher test was a sound methodological choice. Please see Chapter Eight for a detailed discussion of these activist statements and analysis.

Each type of data source has strengths and weaknesses. For example, participant observation allows the researcher to record what is happening first hand and as it occurs. This technique may also permit the researcher to gain information about situations that participants feel uncomfortable discussing. However, one may observe statements or events that cannot be used due to issues of ethical sensitivity and privacy. Additionally, the quality of the participant observations are only as good as the researcher's ability to pay attention to and record what is happening around her. Other forms of data, such as interviews, provide the researcher with control over the line of questioning, and they can provide historical information, as well as information that the researcher cannot directly observe. However, they are potentially biased by the views, level of articulateness and perceptiveness, and memories of participants, as well as by the possibility that the participant is reacting to the researcher—either with hostility or by telling the researcher what she wants to hear. Finally, documents can allow a researcher access to the language

of participants and to a thoughtful account of their ideas given that more time is often spent writing than speaking in an impromptu setting. But documents may be inauthentic, inaccurate, or incomplete and also vary by the perceptiveness and articulateness of the writer (Creswell, 2009, 178-180).

In addition to challenges presented by different types of data collection, researchers face challenges from participants. It may be difficult to know whether stakeholders are telling the truth about why they act as they do. I attempted to address this problem by comparing stakeholder words to their actions as reported in documents and on the Internet. Becker (1970) argues that collecting thick data with multiple sources and the viewpoints of multiple actors counters:

...the twin dangers of respondent duplicity and observer bias by making it difficult for respondents to produce data that uniformly support a mistaken conclusion, just as they make it difficult for the observer to restrict his observations so that he sees only what supports his prejudices and expectations (quoted in Maxwell, 2005, p. 53).

The fact that my cases span a number of years is also an advantage, since looking at actors' decisions over a period of years makes it less likely that the researcher interprets an atypical statement or action as typical. Also, the multi-method approach that uses techniques such as document analysis and interviewing simultaneously can act as an accuracy check of stakeholder statements.

Other challenges that I encountered included the highly contentious nature surrounding the use of mountaintop removal and chemical production. Residents of West Virginia and industry representatives that I interviewed and observed did not want to

speak about environmental issues at all (assuming they were willing to speak to me). Even activists sometimes expressed reservations about being interviewed. Accordingly, I sometimes needed to interview participants anonymously, omit their place of employment and residence from my notes, or limit their identification to their initials and whether or not they were West Virginians by birth—both in my notes and in any final documents that I wrote. I also sometimes wrote the interviews by hand rather than recording them, depending on the participants’ preferences, the level of tension present in the situation, or both. Also, I offered to skip questions that made a respondent uncomfortable, I agreed to end the interviews entirely at their request, and offered to send participants my dissertation chapters after I finished them.

Table 3. 1: Interviews

Interview Characteristics	
Total Number of Interviews	35
Interviewees from Activist Organizations	CRMW=6, MJ=5, PCAMIC=4, Others=7
Industry Representatives	Coal=1
Union Representatives	UMW=2
Coal Town Residents	Naoma and Whitesville=5
Kanawha Valley Residents	Kanawha Valley= 3 (these are also activists)
Government Representatives	DEP=1, Dunbar Mayor=1, Kanawha Putnam Emergency Planning Committee=1
Male and Female Interviewees	Male=19, Female=16
Minority Interviewees	African American=2

Source: Author, September 9th, 2011

I began the interviewing process by making phone calls to activists, corporate actors, and governmental employees. I then used a snowball sampling technique to

identify participants who could suggest other participants. Snowball interviewing increases a researcher's ability to obtain interviews by providing access to participant networks and referrals (Biernacki and Waldorf November 1981). When I met with participants, I was also able to engage in participant observation. This was particularly true at the Blair Mountain March, an event held from June 4th to June 11th, 2011 by Appalachian activists and their allies. I spent two days with the marchers, during which time I interviewed stakeholders and wrote ethnographic field notes recording my observations [see Table 3.1 for interview details]. As can be seen, African-Americans are under-represented in my interviews; this is because most members of the stakeholder groups in this study appear to be white. Therefore, race will not be explored to a significant degree in this study.

In selecting the areas in West Virginia that I examined through interviews, newspapers, documents, and participant observation, I used a purposeful sampling design, also known as criterion-based selection. In this sampling design, particular processes or practices, actors, events, and settings are intentionally sought in each case because other research choices would not provide as much relevant information on the issue or problem being studied; then cases are compared for common and differing features (Maxwell, 2005). Here, cases were selected based on whether or not they involved active opposition to corporate-caused environmental hazards by activist organizations (in which local activists and their non-local allies were working).

Table 3. 2: Characteristics of Case Study Areas, West Virginia, and United States

Comparative Dimensions of Cases	United States	West Virginia	Whitesville	Cases Naoma	Kanawha Valley
Main target of activist campaigns	—	—	Corporation	Corporation	Corporation
Corporate actor	—	—	Massey (now Alpha)	Massey (now Alpha)	Bayer
Industrial Sector	—	—	Energy-coal	Energy-coal	Chemicals
Activities opposed by activists	—	—	Mountaintop Removal, coal waste sludge production	Mountaintop Removal, coal waste sludge production	Chemical production
Campaigns are ongoing	—	—	Yes	Yes	Yes
Location	—	—	West Virginia	West Virginia	West Virginia
Size of Population	308,745,538	1,852,994	514	1, 012	7,907
Per capita income	\$26,059	\$20,953	\$18,317	\$13, 779	\$23,267
Percent Caucasian	72.4	93.9	98.1	98.3	82.7
Percent African American	12.6	3.4	0.2	0.1	12.2
Level of urbanization	Mixed	Mixed	Rural	Rural	Urban
Employment opportunities in area	—	—	Low	Low	Moderate
Participation in Labor Unions	Yes	Yes	Yes	No	Yes
Environmental justice groups formed	Yes	Yes	Yes	Yes	Yes
Presence of coalitions	—	—	Yes	Yes	Yes

Source: U.S. Census Bureau: American Fact Finder (2010). Retrieved 4/21/2012, from <http://www.census.gov>.

Though Ginsburg (1989) argues that the case comparison method is not appropriate for research where the intent is to make statistical claims about external validity, it is appropriate for qualitative research such as this study. That is, purposeful case studies can be useful for exploratory work that contributes to our understanding of a phenomenon.

Because the dissertation will focus on only three cases, there are limits to the kinds of conclusions that can be drawn. However, I collected similar data in each case so that a systematic comparison could be conducted. The study is designed and executed so that it can be replicated in the future. I also identify common themes in all three cases and suggest which themes might occur in cases beyond the communities in the study. Though the study is exploratory, a study of this kind can be used to generate hypotheses that can be tested in future research. Table 3.2 outlines the similarities and differences in the three cases studied in this dissertation.

All three cases involve the phenomena of interest: activists opposing corporations that are causing environmental harm, either through mountaintop removal mining and the production of large amounts of coal sludge, or through pollution from chemical production. Focusing on three cases in the same state allows me to analyze conflicts that are governed by the same state and federal environmental policies. In addition, the three conflicts have been underway for some time and are on-going. This makes it possible to compare the evolution of cases occurring in similar time frames.

In case study analysis, it is important to choose cases that have some similarities,

such as the ones identified above, but the cases should also vary on some of the factors being studied. In this dissertation, the case study areas differ on several important dimensions. Whitesville, Naoma, and Kanawha Valley vary in terms of industrial sector that activists target, groups opposing corporate-caused environmental hazards, demographic characteristics, level of urbanization, and the availability of other jobs for workers outside of the targeted industrial sectors.

After collecting data on these three areas, I analyzed each case separately before doing a comparative analysis of the three. Creswell summarizes the process of analyzing qualitative data. In brief, he argues that qualitative, case study-creating researchers must (1) record all data, (2) begin organizing it by source, chronology, or both, (3) read through the data, (4) draw out a few themes based on past literature, common sense, and relevance to research questions, (5) compose a description of the cases being studied and (6) summarize the key “lessons learned” in regard to answering research questions, using the themes to do so (Creswell, 2009, 185-190).

In the following chapter, I trace the history of the coal mining industry by way of setting the stage for Chapters Five and Six, the Whitesville and Naoma cases that discuss opposition to mountaintop removal mining.

CHAPTER 4: A HISTORY OF COAL

“I have to trap without a light, and I’m scared. I go at four and sometimes half-past three in the morning and come out at five and half-past. I never go to sleep. Sometimes I sing when I’ve light, but not in the dark: I dare not sing then.”

—An eight-year-old British worker in the 1800s describing her 12+ hour work day releasing or “trapping” poisonous gases in a coal mine in Manchester, England
(Freese, 2003, p. 77).

Two of the case studies in this dissertation involve coal mining. Accordingly, I will briefly discuss the history of coal mining in general and West Virginia coal mining in particular, since the state is the site of the two coal mining case studies. West Virginian history in general will also be reviewed in order to establish case study context. Lastly, I will discuss mountaintop removal mining, the extractive process that is the source of conflict in the two cases.

THE ORIGINS OF COAL MINING

Coal Mining in Europe

Coal began forming during the carboniferous period (360 to 290 million years ago), an epoch in which plants were subject to uncommon conditions of natural decay. Rather than being exposed to and broken down by the air, the carboniferous plants often died and sank into water or mud, or were covered by other dead plants and sediments. As a result, this plant matter was only able to partially decay, and turned into carbon-rich peat that was eventually pressed by geological forces into coal (Freese 2003).

Coal was first mined in England by the Roman Empire, albeit to a very limited degree (Nef 1966b). The practice was taken up on a larger scale by the British in the late 1500s when, short of wood to burn and seeking an alternative fuel source, they tapped into their considerable coal reserves (Galloway 1882). The availability of coal, coupled with a shortage of other fuels, led to increased usage of coal for domestic purposes in the Elizabethan era (Nef 1966b). Additionally, the 1500s saw an increase in England's population and economic activity, which further increased the need for large-scale coal mining (Nef 1966b). It was during this time that concerns over air pollution were first brought to the fore. Author and government official Hugh Evelyn wrote about the threat poor air quality posed to human health as early as 1661 (Nef 1966a; Nef 1966b). However, it was not until the 1800s that this concern became widespread in England and other coal-reliant nations, such as the United States (Thorsheim 2007).

Health, Equity, Labor, and the Environment

In addition to causing environmental problems, the coal industry quickly developed labor and equity conflicts. By the 1600s, increasing demand for coal put the number of British coal miners at between 15,000 and 18,000 (Nef 1966a). Not all of these people worked in the coal mines voluntarily—some were kidnapped and forced to work by threat of punishment, a practice then sanctioned by the British government as a means of dealing with homeless people. Criminals were also sometimes given a chance to eliminate their sentences by volunteering to work in the mines. Still other miners were British migrant laborers seeking work (Nef 1966a). These were hired either on

commission or a daily wage, sometimes individually and sometimes as part of a company, in which case a spokesman negotiated a contract with the mine owner on their behalf (Nef 1966a). However they came to the mine, these early coal workers faced many hardships when they went to work. As previously mentioned, environmental justice research suggests that poor people are often exposed to environmental hazards more often than the affluent (U.S. Government Accounting Office 1983; Goldman and Fitton 1994; Been 1995; Saha and Mohai 2005; 2006; 2007). Thus, the past and present experiences of miners support the idea of unequal exposure by class.

Mining conditions were so hellish that miners believed that mines were haunted by devils and goblins (Galloway 1882). They risked poisoning by carbon dioxide, carbon monoxide, and methane, as well as risk of death by burning if these gases were accidentally ignited by torches (Freese 2003). As mines went deeper underground throughout the sixteenth and seventeenth centuries, explosions increased in frequency and intensity, causing rising numbers of fatalities by burning or smothering (Galloway 1882).

Miners' experiences were made worse by the limited resources they had to address problems. Medical care was particularly lacking, since few mine owners felt it necessary to hire a doctor or surgeon in case of accidents (Nef 1966a). The traditional remedy for dealing with gas poisoning is described by Galloway who states:

The method of recovering asphyxiated colliers at this period was curious. "The ordinary remedy," we are told, "is to dig a hole in the earth, and lay them on their

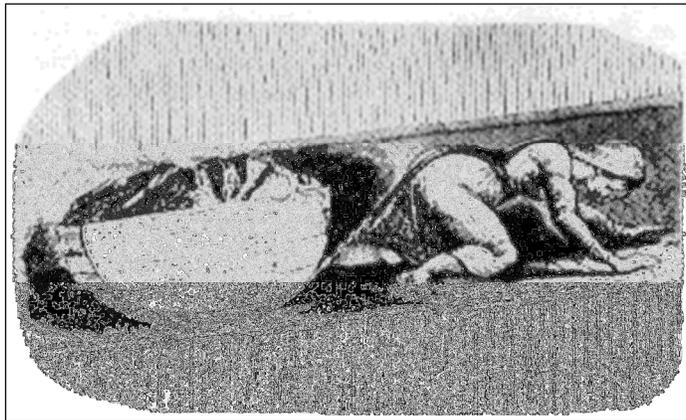
bellies, with their mouths in it; if that fail, they tun them full of good ale; but if that fail, they conclude them desperate” (Galloway 1882).

Gas-related hazards were not the only dangers. Miners were also threatened by underground water that could drown them or trap them. Further, simply entering the mines was hazardous because miners were often lowered into the mines by holding onto a rope; losing hold of the rope meant falling to one’s death (Ashton and Sykes 1964). Nor are such pervasively hazardous work conditions ancient history—mine accidents continue to occur in the United States and elsewhere. For example, Massey’s Upper Big Branch Mine explosion trapped and killed 29 miners in 2010 (*Charleston Gazette* April 11th, 2010).

Coal also brought with it the modern factory system and its attendant labor problems. Because of coal and the steam engine, greater amounts of power could be harnessed in one time and place. Factories could then be built in urban areas rather than the rural areas where earlier factories were run by water mills (Freese 2003). The miners in these urban factories were mistreated in a number of ways. According to wage estimates, they were not compensated to a greater extent than other manual laborers, in spite of the dangers they faced. Further, miners could not always rely on their employers to pay them the wages they had earned, had little redress when they were unpaid, were not ensured sick leave or unemployment pay, and could be fined for any number of reasons by their employers, which further reduced their compensation. Finally, coal miners were negatively stereotyped as ignorant and immoral (Nef 1966a).

The treatment of miners by their employers and communities is consistent with that described in the work of scholars such as Piore (1994) or Kazis and Grossman (1982), who find that marginalized workers are often subject to poor work conditions and pay, along with negative stereotypes that inhibit their movement into better jobs. Also, environmental justice research suggests that those who work in manufacturing face greater exposure to environmental hazards than the general population (Anderton, Anderson et al. 1994; Been 1995; Oakes, Anderton et al. 1996; Mohai and Saha 2007). One particularly vulnerable group of workers in the new factories was children.

Image 4.1: Girl Pulling a Cart of Coal



Source: Del Col, L. (September 26th, 2002). The Victorian Web: Literature, History & culture in the age of Victoria. Retrieved January 14th, 2011, from <http://www.victorianweb.org/history/ashley.html>

Because children were paid less, child labor was common. Not only were children expected to release trapped gas from the mines, as mentioned by the child-worker in the epigraph at the start of this chapter, but they were also used to haul the coal to the surface of the ground as seen in Image 4.1 (Del Col September 26th, 2002). One contemporary observer described conditions in the mines as follows:

The growing demand for coal prompted operators to expand their mines by following narrower coal seams, but because the new tunnels were often too low for horses or adults to pass through, children were used to haul the coal.....Chained, belted, and harnessed like dogs in a go-cart, black, saturated with wet, and more than half naked—crawling upon their hands and feet, and dragging their heavy loads behind them—they present an appearance indescribably disgusting and unnatural (Freese 2003).

Children could be employed as young as seven or eight years of age, and, perhaps because they were less able to defend themselves from abuse, were expected to work longer hours than the adult workers; a coal miner in the 1800s was quoted as saying that children often worked between 12 and 18 hours per day (Ashton and Sykes 1964). Deprived of sunlight, these children often developed rickets, an illness caused by vitamin D deficiency (vitamin D is transmitted through sunlight) (Freese 2003). Poor work conditions were pervasive for the child and adult new urban workers, who found themselves largely without a voice or aid.

Coal in America

The labor conflicts and environmental hazards that occurred in Europe were also prevalent in the Americas. I will review them here as case study context and as further evidence of the contentious nature of coal mining in the United States.

It is difficult to date the beginning of coal mining in America. Swank writes that the first person to record the presence of coal was a French Jesuit priest named Father Hennepin, who described a “cole mine” along the Illinois River in 1679. By the 1700s, coal was being mined in Ohio and Pennsylvania; from there it spread into the West, South, and Southeast (Swank 1878). The appropriation of Native American land for

white American economic development expedited the expansion of mining in the United States. Laws such as the Indian Removal Act of 1830 allowed Native Americans to be forcibly removed from their land and placed on reservations (Taylor 2002). All in all, the expansion era would see Native American land ownership drop precipitously to approximately three percent of total land (Milner, 1996, p. 219). Although the coal industry was still young, the entanglement of coal, coal mining, and labor and equity issues was already becoming a pattern—first in England and Scotland, then in the United States.

Labor Conditions and American Coal Mining

As labor conflicts in the American coal industry increased, so too did workers' opposition to corporate choices. One early example of this opposition was the Molly Maguires, a secret society operating in the 1860s and 1870s, primarily in Pennsylvania. The Mollies assassinated 16 mining officials as a statement against worker oppression in the mining industry; 20 of the Mollies were caught and hung (Barney 2001). In spite of rebels like the Mollies, many miners continued to work under difficult labor conditions that they felt powerless to effect.

As the 1800s progressed, mine owners, railroad companies, and banks colluded to fix prices for coal and create an industry-wide cartel governing coal production. In 1875, Pennsylvanian miners fought wage reductions with a strike lasting five months, during which they sabotaged machinery, burned mining facilities, and derailed trains. In return, they were beaten and killed by coal company employees and eventually forced back to

work at lower wages than they obtained before the strike. Despite the conflicts between workers and management, by the late 1890s America led the world in coal production (West Virginia became a major provider of coal during this period) (Hillstrom 2006). This reality points to the significance and influence of coal companies during this time period.

Coal miners continued to be critical of the coal industry. On September 10th, 1897, coal miners in Pennsylvania marched to protest the low wages and poor work conditions they faced. They were met by a group of coal-industry hired guards and a pro-coal industry sheriff who opened fire on the marchers, killing 19 of them—these deaths would later be called the Lattimer Massacre by miners and labor organizers (Zinn 1980). In the years that followed, coal miners and the industry that they worked for would continue to fight over wages and work conditions.

By 1900 the industry had started mining a second type of coal that would fundamentally alter power relations between all the stakeholders within the coal industry—bituminous coal. Unlike Anthracite coal, bituminous coal was often taken from smaller mines that were scattered across the coal-bearing states, including those in the Appalachian Mountains, which made it more difficult for the industry to prevent unionization and competition (Hillstrom 2006). One of the results of this geographical diffusion was the formation of the United Mine Workers union (UMW) in 1890 by 28-year-old John Mitchell, a former coal miner turned agitator. Mitchell, who would be the union's first president, founded the union by amalgamating several prior attempts at

unionization dating back to the 1840s—the Knights of Labor and the Miners National Progressive Union. While it was formed in 1890, the United Mine Workers would not become powerful until 1902, when it organized a strike to secure an increase in wages and greater regularity of wage payment (Mitchell 1903). Mitchell and his generation of labor organizers were the first to make large scale organized attempts at improving working life in the coal-fields, but they were not the last.

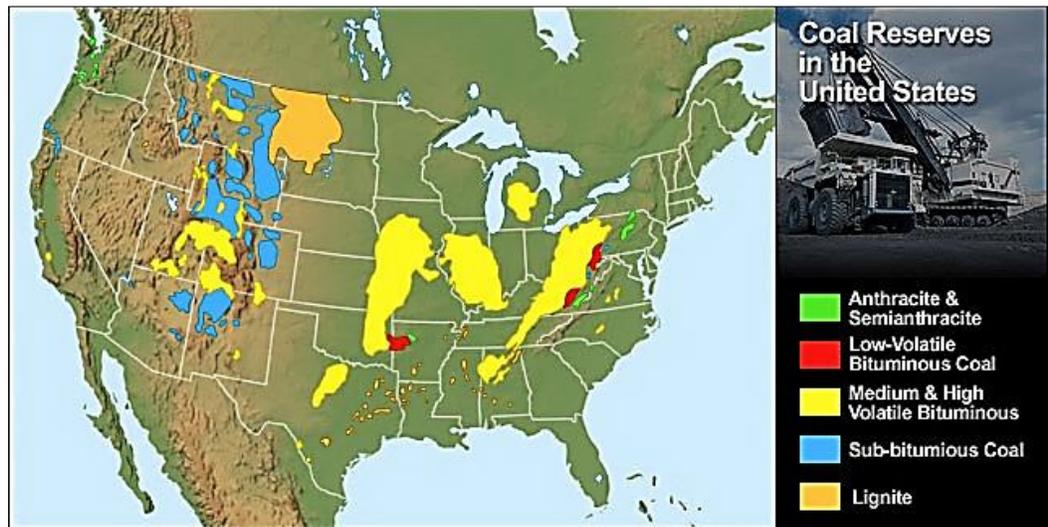
Coal Enters the Modern Era

Between 1900 and 1930, the coal industry continued to be embroiled in labor conflicts. In one famous example, Colorado miners seeking to join the UMW were opposed by the company they worked for, the Rockefeller-owned Colorado Fuel and Iron Company, which evicted the pro-union miners and their families. On April, 20th, 1914, militia men and coal company guards employed by the Colorado Fuel and Iron Company raided a make-shift campsite occupied by 13 of these evicted men along with their families. Thirteen of the men were shot, and the tents were set on fire—11 women and children were later found burned to death in holes they had dug under the tents when trying to escape from stray bullets (Zinn 1980).

The amount of conflict in the coal industry would decline after 1930. Under President Franklin Delano Roosevelt, America experienced a pro-labor government and the UMW had a powerful new leader, John L. Lewis. Lewis made a number of important changes to the UMW including: (1) negotiating pensions and healthcare for mine workers, and (2) launching a coalition of labor unions that would become the Congress of

Industrial Organizations (CIO) (Woodrum 2007). The coal industry enjoyed a subsequent quiet period in labor/management conflict for the rest of the 20th century. At the beginning of the 21st century, however, tensions in the coal industry are rising over a number of issues, as the following case study will discuss.

Figure 4.1: Current United States Coal Reserves



Source: The American Coal Foundation. (2010). All about coal: Coal reserves in the United States.

Retrieved January 14th, 2011, from <http://www.teachcoal.org/aboutcoal/articles/coalreserves.html>

Coal Today

Having briefly traced the history of the coal mining industry, I will now discuss the contemporary coal mining industry in the United States.

Table 4. 1: Demographics for American Miners

Characteristics	The Average American Miner
Age (2009 median)	45
Percent Female	5.8%
Percent African American	2.6%
Percentage High School Diploma	Less than 50%
Job-Related Training	10 to 25 hours per year
Earnings per hour	\$26.83
Annual Earnings	\$73,501
Hours Worked Per Week	48
Total Workers West Virginia	21,671
Percent West Virginia Workforce	2.65%
Total U.S. Workers	87,755
Percent U.S. Workers	5.72%

Sources: National Mining Association (2010, November 2010). "Profile of the U.S. Coal Miner-2009." Retrieved April 30th, 2011, from <http://www.nma.org/default.asp>. United States Energy Information Administration (2011). "Coal." Retrieved May 6th, 2011, from <http://www.eia.doe.gov/coal/>. Bureau of Labor Statistics (2009). "Household Data Annual Averages: Household Data Annual Averages."

Coal companies are primary actors in the case studies examined in Chapters Five and Six. The world consumes a massive amount of coal. As of 2008, America alone consumed 1.12 billion tons of it annually [see Figure 4.1 for coal reserves in the United States that supply much of this demand] (The National Mining Association 2010). Nine out of ten tons of American-produced coal is used for domestic energy consumption and

each year. On average, a person living in the United States uses 3.7 tons of coal by herself (The National Mining Association 2010). This demand for coal has provided working-class and some middle-class people with some of the best paid jobs available to them [see Table 4.1] (National Mining Association; United States Energy Information Administration 2011). Although coal mining has historically been one of the most dangerous professions, fatalities declined over the 20th century, though they are now rising [see Table 4.2] (United States Department of Labor: Mine Safety and Health Administration 2010).

Table 4. 2: Summary of Recent U.S. Mining Accidents, Injuries, and Fatalities

Year	2004	2005	2006	2007	2008	2009	2010*
Coal mines	2,011	2,063	2,113	2,030	2,129	2,076	1,945
Miners	108,734	116,436	122,975	122,936	133,828	134,089	135,415
Fatalities	28	23	47	34	30	18	48
Fatality rate ¹	.0273	.0205	.0400	.0293	.0237	.0148	.0384
All Injury rate ¹	5.00	4.62	4.46	4.21	3.89	3.69	3.42
Coal States	26	26	26	26	26	26	26
Coal production (millions tons)	1,111	1,133	1,163	1,147	1,172	1,075	1,086
Total area inspection hours/mine ²	174	162	161	169	227	238	260
Citations and orders issued ³	64,367	69,026	77,667	84,221	107,072	102,458	97,082
Dollar amount assessed (Millions) ⁴	15.5	17.4	29.9	98.9	110.6	96.4	97.8

Source: U.S. Department of Labor (May 19th, 2010). Retrieved May 9th, 2011, <http://www.msha.gov/>.

Coal company employees work primarily in the Western States (especially Wyoming) and the Southeastern States of Kentucky, Virginia, West Virginia, and Pennsylvania (Connor 2010) (The American Coal Foundation 2010).

THE COST OF COAL

I now discuss contemporary environmental concerns about coal mining. Environmental activists are primary protagonists in the case studies I examine in Chapters Five and Six.

Pollution and Climate Change

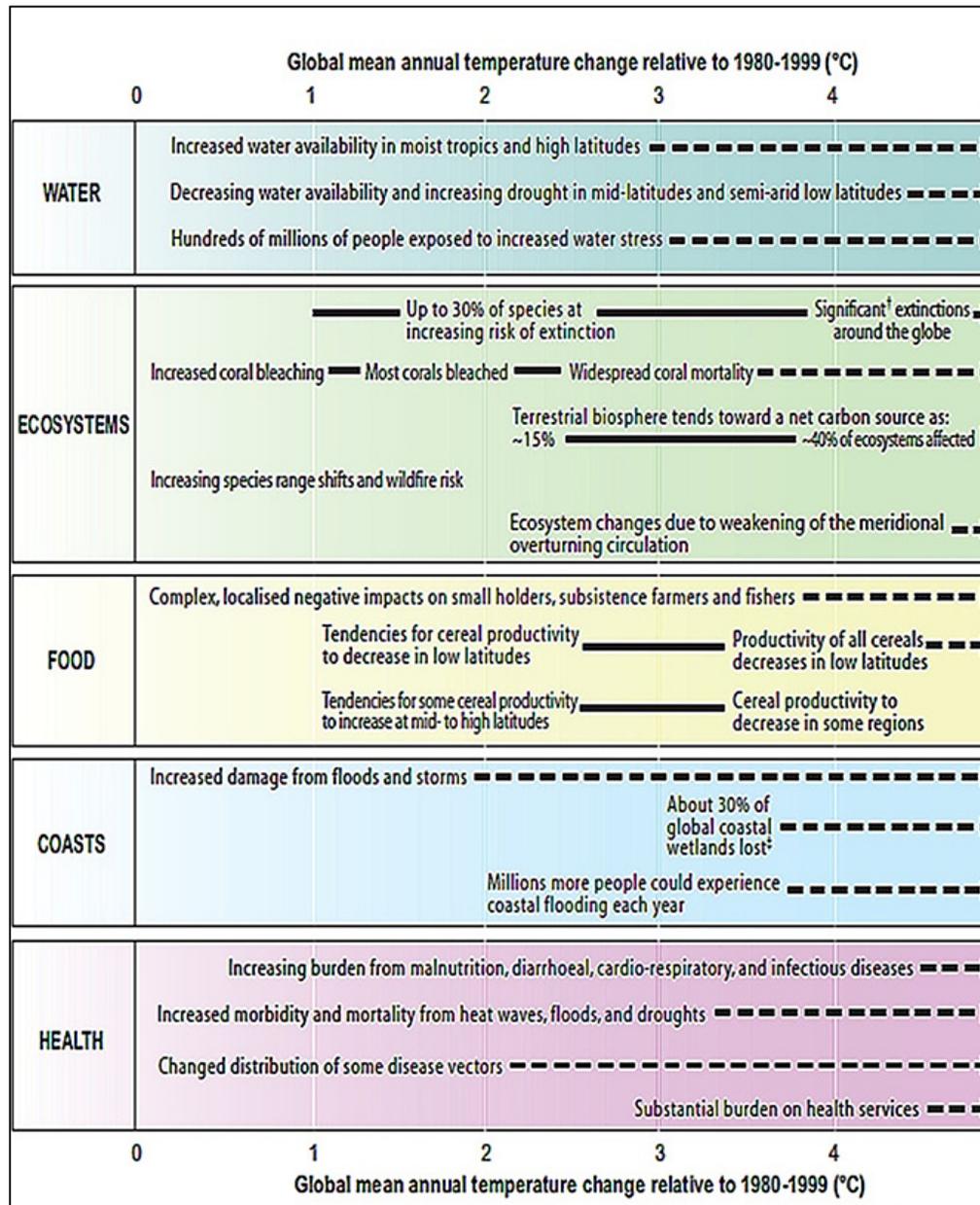
Coal usage has been a cause for increasing concern among scientists due to the pollutants it releases. Chief among these is carbon dioxide (CO₂), a gas released when fossil fuels such as coal are burned. Methane (CH₄) and Nitrous Oxides (NO_x) are also released when coal is burned (they also result from agricultural practices). These gases trap heat, much of which would normally dissipate, close to the earth's surface, thus causing the planet to increase in temperature in a manner similar to that of the inside of a greenhouse—hence the name greenhouse gases. Greenhouse gases, it has been established, cause climate change, the impacts of which are numerous (Intergovernmental Panel on Climate Change Group I 2007).

Scientists predict that the impacts of climate change will include the following: altered forestry and agricultural practices as people adapt to earlier springs and changing growing seasons; shifting and increased populations of pests; increased likelihood of fires; and greater overall heat in some regions. Impacts also include some aspects of

human health, such as heat-related mortality, changing allergens, and altered and increased disease vectors—i.e. outbreaks of malaria in areas that had not previously been effected by that illness (Intergovernmental Panel on Climate Change Group II 2007). Still other impacts include drought, flooding, declining biodiversity, declining crop production in some regions (with subsequent increases in malnutrition), declining health of fisheries in some regions, “increased death, disease, and injury due to heat-waves, floods, storms, fires and droughts,” and ground-level ozone-caused cardio-respiratory illness [see Figure 4.2 for a visual summary of effects] (Intergovernmental Panel on Climate Change Group II 2007).

The burning of coal also releases sulfur dioxide (SO_2) into the air, which, along with NO_x , causes acid rain. Acid rain occurs when SO_2 , NO_x , water, oxygen, and oxidants mix in the air to form acidic compounds that then fall to earth either as rain, snow, or fog (Environmental Protection Agency October 28th, 2010). The acidic particles obscure visibility before they fall to the ground and, once fallen, damage soils, plants, and bodies of water; they also disrupt animal life within those bodies of water (Environmental Protection Agency April 14th, 2009). NO_x and SO_2 are also linked to respiratory illness (Kampa and Castanas 2008). Further, mercury (Hg) is also released by the burning of coal and falls into bodies of water, where it accumulates in the tissues of aquatic animals. As a result, humans may risk mercury poisoning when they eat fish and shellfish. Mercury can cause damage to neurological development in fetuses, infants, and children; it can also cause neurological, respiratory, and muscular damage in adults (Clarkson 1992).

Figure 4.2: Summary of Global Climate Change Effects



Source: Intergovernmental Panel on Climate Change Group II (2007). Summary for Policy Makers. Climate Change 2007: Impacts, Adaptation and Vulnerability. Cambridge, UK and New York, NY, USA.

Due to concern over the impacts of climate change and pollution discussed above, the United Nations created the Kyoto Protocol, an international agreement aimed at reducing these and other such environmental hazards. It was adopted in Kyoto, Japan, on

December 11th, 1997 (United Nations Framework Convention on Climate Change n.d.). The protocol sets binding 2008-2012 targets for 37 industrialized countries in an effort to reduce greenhouse gases by an average of 5% of 1990 levels. It was perceived as a first step in addressing climate change; new targets will be set in 2012. Unsurprisingly, the coal industry has regarded rising concern over coal-related environmental hazards with trepidation.

Image 4.2: A West Virginian Mountaintop Removal Site



Source: McNeil, B. (August 28th, 2007). Speak your piece: Mountaintops cut first, then mountaineers' voices, *Daily Yonder*. Retrieved from <http://www.dailyyonder.com>

MOUNTAINTOP REMOVAL MINING

Another environmental controversy faced by the coal industry is the question of whether to continue mountaintop removal mining, also called MTR [see Image 4.2] (McNeil August 28th, 2007). Given that the conflicts discussed in Chapters Five and Six

center on this mining technique, I will now discuss the process by which it is accomplished, as well as the effect it has on the surrounding region.

Mountaintop removal belongs to a class of mining called “surface mining,” as it involves reaching coal from above rather than via traditional underground tunneling (World Coal Association 2010; United States Energy Information Administration n.d.). Coal seams are exposed by use of explosives (World Coal Association 2010), after which the coal is extracted (West Virginia Coal Association December 20th, 2009). As illustrated by the following statement put out by the Union of Concerned Scientists, the effects of this mining technique are varied and profound:

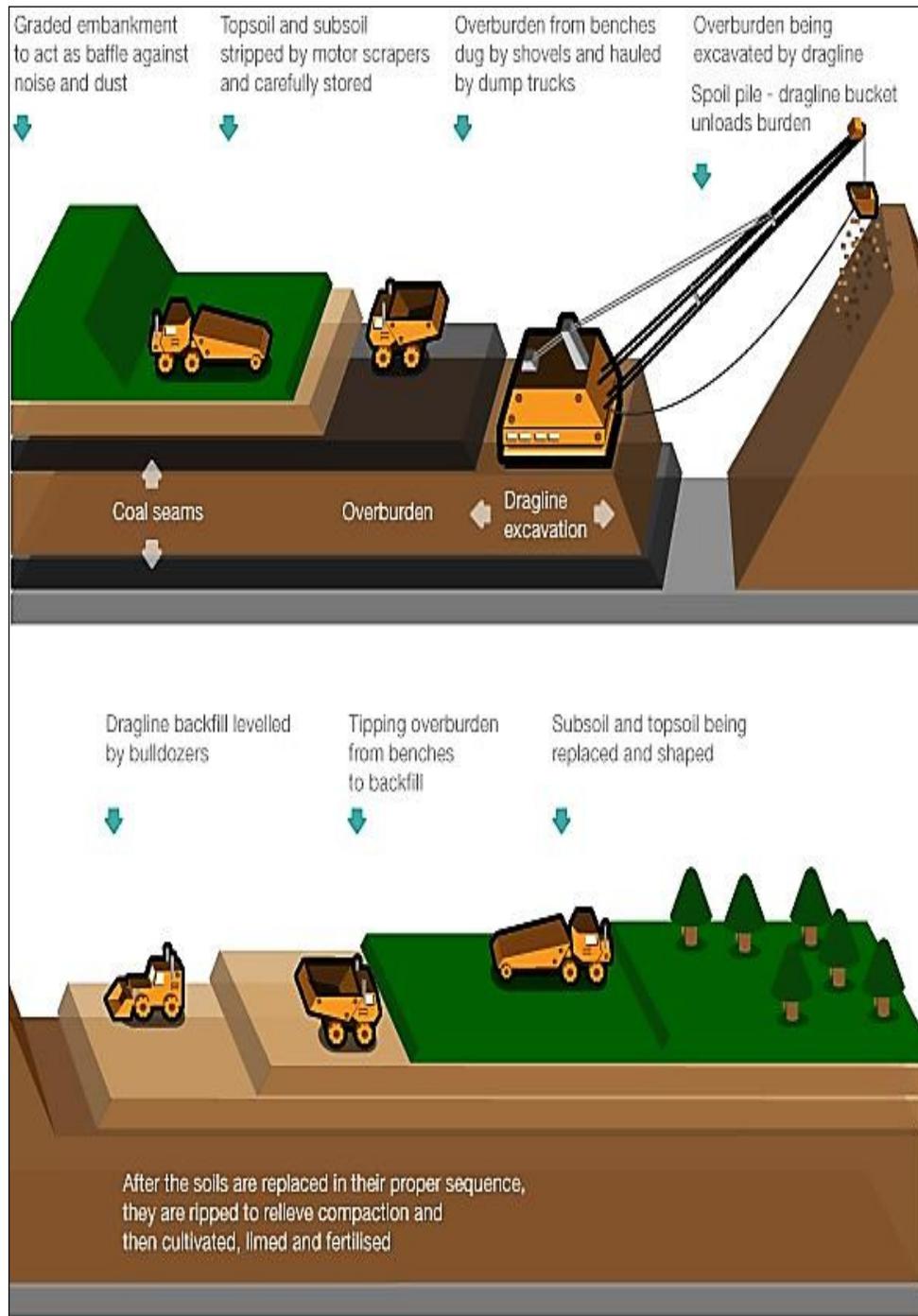
Scientists working for various federal agencies have documented a wide range of enormously destructive environmental impacts from this mining technique. More than 7 percent of Appalachian forests have been cut down and more than 1,200 miles of streams across the region have been buried or polluted between 1985 and 2001. According to the federal government’s scientific analysis, mountaintop removal mining, if it continues unabated, will cause a projected loss of more than 1.4 million acres by the end of the next decade—an area the size of Delaware—with a severe impact on fish, wildlife, and bird species, not to mention a devastating effect on many neighboring communities (Union of Concerned Scientists 2010).

Burying rivers and streams also impacts surrounding ecosystems and compromises the availability of safe drinking water. Additionally, the toxins and heavy metals found in coal waste can erode the enamel from children’s teeth and cause damage to the kidneys and gallbladders; these toxins and metals are also believed to be carcinogenic (Scott 2010). The United States Environmental Protection Agency, in conjunction with the United States Office of Surface Mining, the Army Corps of Engineers, the Fish and Wildlife Service, and the Department of Environment, confirm

that 1,200 streams have been buried or polluted, and 6.8% of the 12 million acres of mining land in West Virginia, Virginia, Kentucky, and Tennessee either have been or are predicted to be impacted by mountaintop removal (United States Environmental Protection Agency: Region Three 2005).

As of 2009, approximately 41% of West Virginia's coal was mined using mountaintop removal (the proportion of mountaintop removal among available mining methods varies considerably by state) (United States Energy Information Administration 2011). Nationally, the trend of mountaintop mining has increased over time. In 1950, 139.4 million tons of coal were mined in surface mines, while 421.0 million tons were mined using traditional methods (United States Energy Information Administration 2003). The decade that followed saw the beginning of large scale surface mining, a result of technological advances in the mining process (West Virginia Geological and Economic Survey March 27, 2009). In 2009, 331.6 million tons were produced in the United States using traditional underground methods, while 741.1 million tons were produced using surface mining (United States Energy Information Administration 2010). It is important to note, however, that not all surface mines use mountaintop removal.

Figure 4.3: The Process of Mountaintop Removal



Source: World Coal Institute (2010). "Coal mining." Retrieved June 27th, 2010, from <http://www.worldcoal.org/>.

Table 4. 3: Common Coal Terminology

Coal Terms	
Coal	A readily combustible black or brownish-black rock whose composition, including inherent moisture, consists of more than 50 percent by weight and more than 70 percent by volume of carbonaceous material. It is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time.
Low Sulfur Coal	Generally contains 1 percent or less sulfur by weight. For air quality standards, "low sulfur coal" contains 0.6 pounds or less sulfur per million Btu, which is equivalent to 1.2 pounds of sulfur dioxide per million Btu.
Coke	A solid carbonaceous residue derived from low-ash, low-sulfur bituminous coal from which the volatile constituents are driven off by baking in an oven at temperatures as high as 2,000 degrees Fahrenheit so that the fixed carbon and residual ash are fused together. Coke is used as a fuel and as a reducing agent in smelting iron ore in a blast furnace. Coke from coal is grey, hard, and porous and has a heating value of 24.8 million Btu per ton.
Anthracite	Sometimes also called "hard coal," anthracite was formed from bituminous coal when great pressures developed in folded rock strata during the creation of mountain ranges. Anthracite has the highest energy content of all coals and is used for space heating and generating electricity. Anthracite averages 25 million Btu per ton
Bituminous	Bituminous or "soft" coal formed when increasing pressure was applied to sub-bituminous coal. This is the type of coal most commonly used for electric power generation in the U.S. It has a higher heating value than either lignite or sub-bituminous coal, but less than that of anthracite. Bituminous coal averages 24 million Btu per ton.
Sub-bituminous	Sub-bituminous coal formed from lignite when it came under high geological pressure. This coal is a combustible mineral formed from the remains of trees, ferns, and other plants that existed and died during the time of the dinosaurs. It is a dull black coal with a higher heating value than lignite that is used primarily for generating electricity and for space heating. Sub-bituminous coal averages 18 million Btu per ton.
Lignite	Increased pressures and heat from overlying strata caused buried peat to dry and harden into lignite. Lignite is a brownish-black coal with generally high moisture and ash content and lower heating value. However, it is an important form of energy for generating electricity, particularly in the American Southwest. Lignite averages 14 million Btu per ton.
British Thermal Unit (BTU)	The quantity of heat required to raise the temperature of 1 pound of liquid water by 1 degree Fahrenheit at the temperature at which water has its greatest density (approximately 39 degrees Fahrenheit).

Source: United States Energy Information Administration (n.d.). "Glossary." Retrieved May 7th, 2011, from <http://www.eia.doe.gov/tools/glossary/>. World Coal Association (2010). "Coal mining." Retrieved June 27th, 2010, from <http://www.worldcoal.org/>.

The decision to use mountaintop removal is informed by both efficiency gains as well as the position of coal reserves—the deeper the coal is buried, the more difficult mountaintop removal mining is (World Coal Association 2010). The productivity of mine workers who use mountaintop removal mining is significantly greater than that of traditional miners (United States Department of Labor: Bureau of Labor Statistics 2010-2011). For example, when mountain tops are removed, 90% of the coal can be extracted from a site, compared to only 75% with more traditional, underground methods (World Coal Association 2010).

Mountaintop removal mining typically involves five steps: (1) the removal of layers of rock and dirt above the coal (called overburden), (2) the upper seams of coal are removed with machinery and placed in an adjacent valley, (3) machinery called a dragline is used to excavate the lower strata of coal, (4) restructuring of the disrupted land begins during excavation (i.e., rock and dirt are moved into contours that approximate contours of the land), and (5) once coal removal is complete, final restructuring of the land, called re-grading and re-vegetating, is performed [see Figure 4.3] (World Coal Association 2010; Environmental Protection Agency December 6th, 2010).

THE CONTEMPORARY COAL INDUSTRY ENVIRONMENT

To understand why mountaintop removal mining gained popularity, it is necessary to know the conditions of, actors in, and reactions to the coal industry [see Table 4.3 for terms relevant to the contemporary coal industry]. As of 2011, the American coal industry averages \$41.2 billion dollars in revenue annually (Molavi 2011).

Indeed, coal supplies half of the energy used in the United States (U.S. Department of Energy n.d.). The primary users of coal are American electric utilities, who employ it as a fuel source to generate electrical power; they purchase more than 92% of the coal mined in the United States (Molavi 2011).

Given their enormous market share, American electric utilities have heavily influenced the coal mining industry by passing on the risks of utility industry deregulation in the late 1990s and early 2000s. Before the 1990s, energy generation involved vertically-integrated utilities serving United States service areas through exclusive agreements. Under deregulation, however, utilities purchase energy from private generators in addition to producing it, compete with each other's to sell energy, and do not receive government-ensured rates that allow them to recoup their investment costs for physical assets or fuel (Delmas, Russo et al. 2007). Accordingly, utilities shortened the duration of coal-purchasing contracts that they made with coal companies, aggressively sought out the cheapest coal, and drove down prices (Connor 2010). Coal manufacturers, therefore, had a strong incentive to reduce production costs so that they could still reap a high profit, in spite of making less money selling coal and in spite of dealing with greater financial insecurity from the less stable coal-selling contracts made with their primary customers.

In addition to pressure from the electric utility industry, the coal industry is affected by competition between various coal-producing areas as well as the incursion of non-coal fuel companies into energy vectors once dominated by coal. The primary

geographic area where mountaintop removal mining has increased is the Southeastern states. These states produce coal with a higher sulfur content, which means that their coal produces more pollution and requires more air pollution mitigation efforts (and costs) by utility companies, who accordingly favor the cleaner burning fuel from states such as Wyoming (Connor 2010). Also, coal is imported to the U.S., mostly from Columbia (Energy Information Administration: Independent Statistics and Analysis n.d.).

Additionally, the United States has reserves in natural gas, and the natural gas market is increasing due to the fact that natural gas can provide electricity while creating lower amounts of some environmental pollutants relative to conventional coal (United States Department of Labor: Bureau of Labor Statistics 2010-2011). These competitors create a further incentive for coal producers to cut production costs, if possible, in order to retain market share.

The ongoing uncertainty and competition faced by the coal industry prompts firms to consolidate, since large firms are more likely to possess the substantial financial resources necessary to weather the business environment's uncertainty (Connor 2010). For coal miners in the Southeast, a variety of market and environmental factors—competition with western low-sulfur coal, changing conditions in the electric utility industry, competition from foreign coal providers, competition with natural gas providers, and declining coal reserves in many older mines and the perceived need to identify any new low-sulfur coal deposits—all encourage increased productivity by any means necessary [see Table 4.4 for additional mining terms] (American Coal Foundation 2010; World Coal Association 2010; Merriam-Webster: An Encyclopedia Britannica

Company 2011; United States Energy Information Administration n.d.). Despite these efforts, coal mining in the Southeastern United States is projected to continue to decline, at least through 2018 (United States Department of Labor: Bureau of Labor Statistics 2010-2011).

Table 4. 4: Mining Terms

Typical Mining Terms	
Surface Mining (MTR)	Surface mining is used when coal is found close to the surface or on hillsides. It involves removing the topsoil and subsoil and setting them aside while the coal is removed.
Underground Mining (Deep Mining)	A mine where coal is produced by tunneling into the earth to the coal-bed, which is then mined with underground mining equipment such as cutting machines and continuous, long-wall, and short-wall mining machines. Underground mines are classified according to the type of opening used to reach the coal, i.e., drift (level tunnel), slope (inclined tunnel), or shaft (vertical tunnel).
Coal Face	This is the exposed area from which coal is extracted.
Dragline	an excavating machine in which the bucket is attached by cables and operates by being drawn toward the machine
Overburden	Any material, consolidated or unconsolidated, that overlies a coal deposit.
Fill	Any material that is put back in place of the extracted ore to provide ground support.

Source: United States Energy Information Administration (n.d.). "Glossary." Retrieved May 7th, 2011, from <http://www.eia.doe.gov/tools/glossary/>.
 World Coal Association (2010). "Coal mining." Retrieved June 27th, 2010, from <http://www.worldcoal.org/>.
 American Coal Foundation (2010). "Glossary." Retrieved May 7th, 2011, from <http://www.teachcoal.org/>.
 Merriam-Webster: An Encyclopedia Britannica Company (2011). "Dictionary." from <http://www.merriam-webster.com/>.

THE HISTORY OF COAL MINING IN WEST VIRGINIA

As two of the three case studies in this dissertation involve coal mining in West Virginia, it is necessary to trace the history of coal mining in that state. West Virginia coal was first discovered in 1742 by John Peter Salley in the yet-to-be-named Boone

County (West Virginia Office of Miners' Health Safety and Training 2011). This discovery did not, however, lead to the immediate mining of coal. That would happen in 1817 when John P. Turner, a New Yorker, opened a mine to supply coal to the Kanawha Salines Company, a salt-producing firm that was part of the then-dominant industry in West Virginia (Laing 1966). Additionally, the invention of the steamboat both opened new trade routes for coal merchants and created a new market for coal, which was used to run the boats. All this resulted in slow but steady increases in the use of coal for domestic and industrial use throughout the 1800s and early 1900s (Laing 1966).

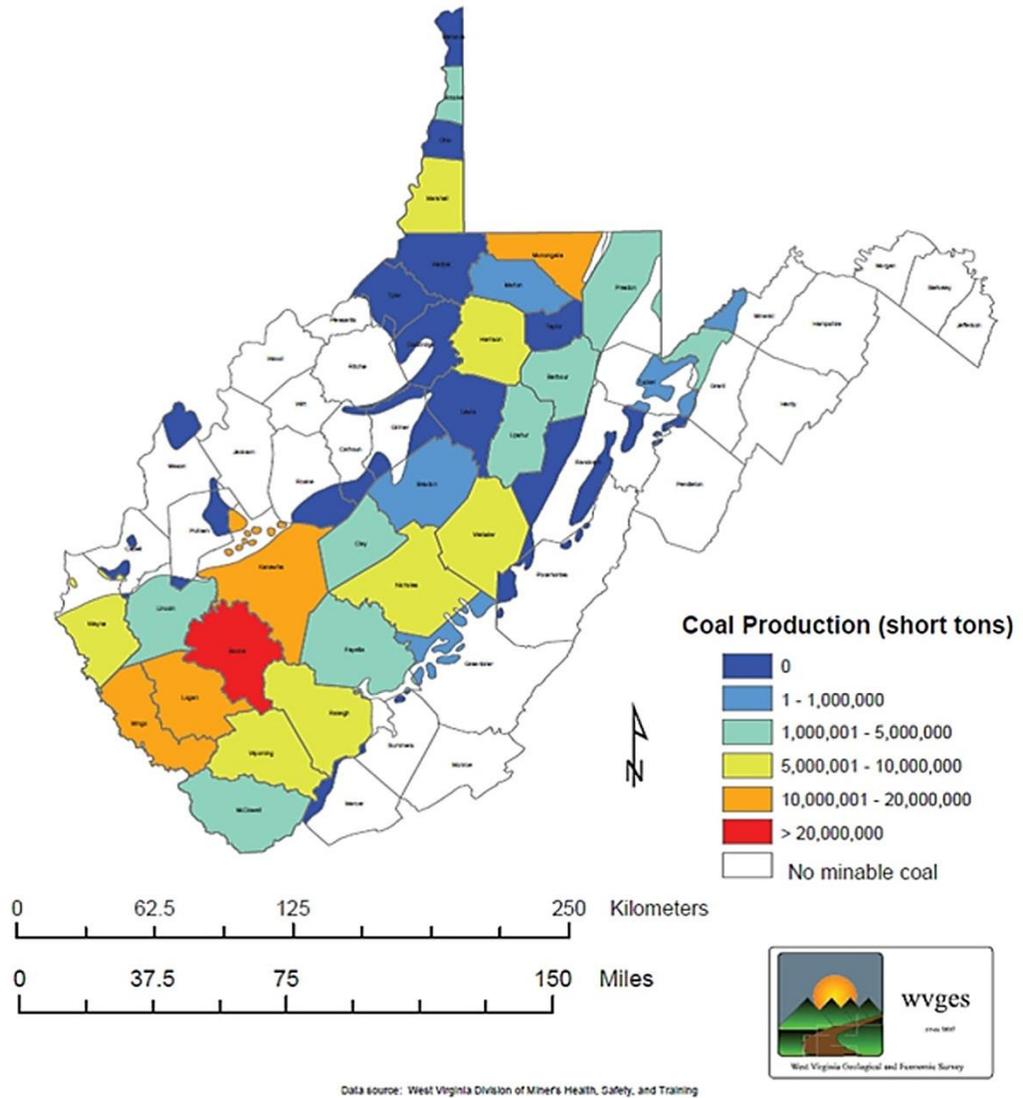
Coal mining labor conflicts took place in West Virginia, as elsewhere, throughout the 20th century, with strikes in the 1912-13 and 1920-21 periods (National Journal: Almanac 2010). Black workers were used as strike breakers, which worsened race relations (Trotter, 2002, p. 145). Coal companies also hired armed mercenaries to create martial law in coal camps. Gun battles between pro-union workers, replacement workers, and company guards occurred. Miners' families were evicted from their homes if the male head of household could no longer work or showed union sympathies (Scott 2010). On May 19th, 1920, pro-union miners in Matewan, West Virginia were evicted from their homes by members of the Baldwin Felts Detective Agency, which was employed by local coal companies. A gunfight ensued and 11 people, both Baldwin-Felts agents and miner-sympathizers, died. The killings were called the "Matewan Massacre" and Mingo County, where Matewan is located, was dubbed "Bloody Mingo" by the press (Corbin 1981). The politics of mining altered the politics of the state. For instance, as the United Mine Workers rose to power, so too did the new-deal Democrats (National Journal:

Almanac 2010). Democrats have controlled the legislature in West Virginia since the 1930s, which, not incidentally, was also when unionization was legalized (National Journal: Almanac 2010).

CONTEMPORARY COAL MINING IN WEST VIRGINIA

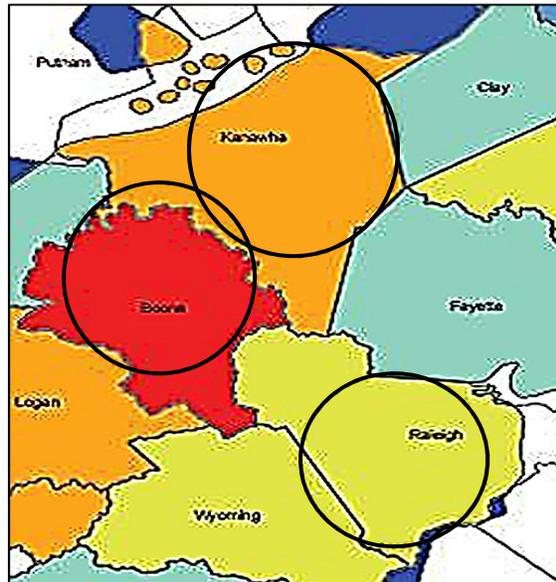
The case studies discussed in Chapters Five and Six both take place in West Virginia and involve the coal mining communities there. Accordingly, I will describe West Virginia's coal mining industry and communities. Coal is the dominant industry in West Virginia; the mineral is found in 53 of the 55 counties in the state and is actively mined in 26 [see Figures 4.4 and 4.5] (National Journal: Almanac 2010; West Virginia Geological and Economic Survey March 27, 2009). West Virginia produces the second highest amount of coal of any American state—only Wyoming has produced more (West Virginia Coal Association December 20th, 2009). West Virginia miners use both underground and surface mining techniques. The underground methods include tunneling underground to extract coal, while surface methods like mountaintop removal mining use explosives to expose coal seams that are then extracted (West Virginia Coal Association December 20th, 2009). Increasingly, mountaintop removal mining is being used: Kentucky and West Virginia mine 40% of their coal using this method, while the national average among coal mining states is 10% [see Table 4.5 for states by coal production] (The National Mining Association 2010).

Figure 4.4: West Virginian Counties and Amounts of Coal



Source: West Virginia Geological and Economic Survey (March 27, 2009). "West Virginia GeoFacts."
Retrieved May 4th, 2011, from <http://www.wvgs.wvnet.edu/www/faq/faq.htm>.

Figure 4.5: Close-up of Boone, Raleigh, and Kanawha Counties, West Virginia



Source: West Virginia Geological and Economic Survey (March 27, 2009). "West Virginia GeoFacts."
Retrieved May 4th, 2011, from <http://www.wvgs.wvnet.edu/www/faq/faq.htm>.

West Virginia is a small state in terms of population. It totals 1,852,994 inhabitants, about 94 percent of which are Caucasian. West Virginians have a mean per capita income of \$20,953 (U.S. Census Bureau 2010). Relative to the United States, West Virginian income levels are low. The United States per capita income is \$26,059 (U.S. Census Bureau 2010). West Virginia ranks second out of the 50 American states for people living in poverty (National Journal: Almanac 2010).

Table 4. 5: 2011 Coal Productions for the U.S. and Leading Production States

Coal Statistics	United States	Wyoming	West Virginia	Kentucky	Pennsylvania	Montana
Total Production (Thousands of Tons)	1,074,923	431,107	137,127	107,338	57,979	39,486
Underground Mine Production	332,062	3,472	80,887	63,152	48,679	776
Surface Mine Production	740,174	427,635	56,240	44,186	9,300	38,710
Percent from Surface Mines	68.9	99.2	41.0	41.2	16.0	98.0
Production Rank Among States	—	1	2	3	4	5

Source: United States Energy Information Administration (2011). "Coal." Retrieved May 6th, 2011, from <http://www.eia.doe.gov/coal/>.

Although coal production levels remain high, mountaintop removal mining has contributed to a decline in the number of mining jobs because of the use of large, powerful machines (United States Energy Information Administration 2011). In 1975, there were approximately 55 thousand coal miners; the current number is 21,671 (United States Energy Information Administration 2011). The state is moving toward diversifying its economy as coal mining jobs decline.

Table 4. 6: Demographic Information for West Virginia and Case Study Communities

Comparative Dimensions	United States	West Virginia	Whitesville	Naoma
Size of Population	308,745,538	1,852,994	514	1,723
Percent Caucasian	72.4	93.9	98.1	98.3
Percent African American	12.6	3.4	0.2	0.1
Native American	0.9	0.2	0	0.3
Asian American	4.8	0.7	0	0
Latino American	16.3	1.2	0	0.4
Percent High School Degree	84.2	81.2	46.3	56.4
Percent College Degree	27.5	16.9	3.6	3.7
Percent Employed in Construction, Extraction, and Maintenance	9.1	12.9	19.0	26.4
Per Capita Income	\$26,059	\$20,953	\$18,317	\$16,233
Percent Individuals Below the Poverty Line	15.3	18.1	31.5	18.5

Source: U.S. Census Bureau: American Community Survey (2005-2009) and Fact Finder (2010). Retrieved 3/15/2011 and 4/21/2012 from <http://www.census.gov>.

At present, the service sector, including medical and education services, as well as sales, employs the largest percentage of West Virginians (U.S. Census Bureau: American

Community Survey 2006-2008). Even so, coal and mountaintop removal mining remain important issues in West Virginia; indeed, for the first time since 1928, votes for Republicans were higher in the 2000 and 2004 elections in which George W. Bush spoke in favor of mountaintop removal mining, while democratic presidential candidates did not [see Table 4.6 for West Virginia demographic data] (National Journal: Almanac 2010).

The contentious history of coal mining in West Virginia is not over. Disputes persist over the environmental impacts of mountaintop removal mining and over the cultural and economic future of West Virginian communities. In Chapter Five and Six, I examine two of these conflicts.

CHAPTER 5: THE WHITESVILLE CASE STUDY

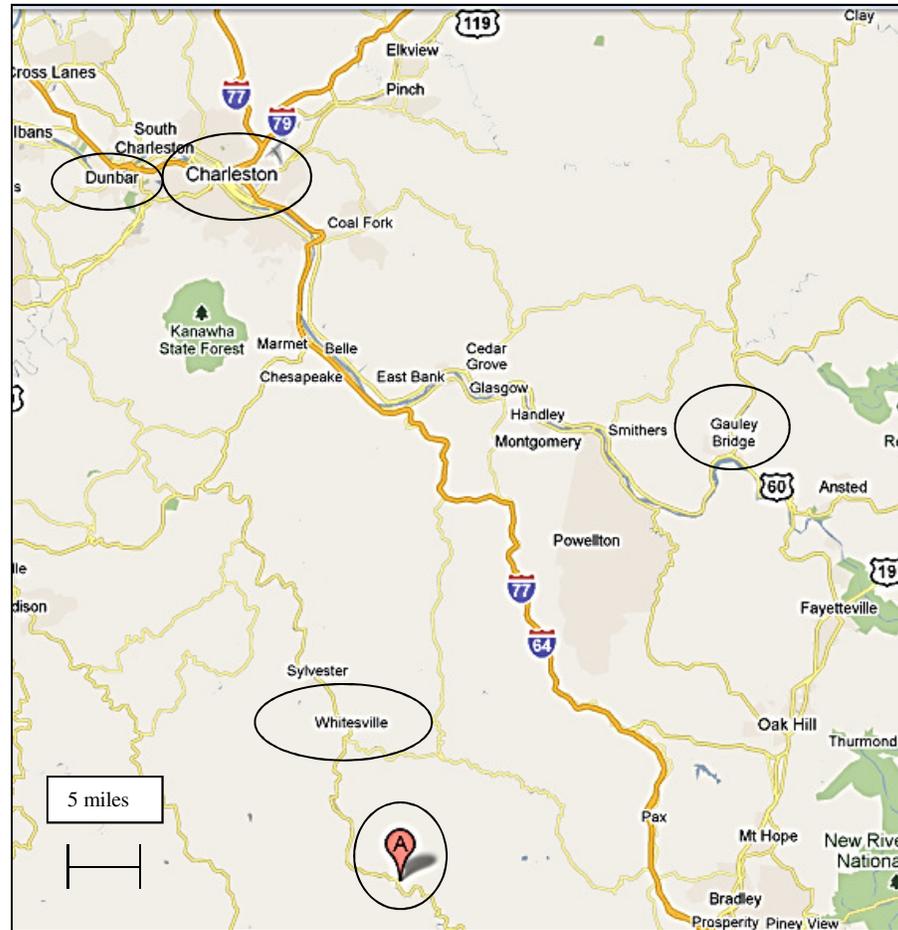
INTRODUCTION

In this and the following chapter, I will examine two West Virginian communities involved in disputes over the practice of mountaintop removal mining. In and around the town of Whitesville, West Virginia, local activists are in conflict with the Massey Energy Coal Company over the corporation's practice of mountaintop removal mining [see Figure 5.1] (Google 2011). This conflict has been fought both in and out of court, often with the involvement of local, state, and federal governmental actors. Below, I describe the key actors in this conflict. In the following sections, I will then discuss the actions taken by stakeholders in this conflict, the outcomes of the stakeholders' actions in this conflict, and how the case study data answers my core question, to the extent that it does answer it.

The Whitesville conflict is of scholarly interest because Whitesville is a place where the jobs-versus-environment dilemma takes center stage. Although the jobs-versus-environment conflict is generally characterized as "...faceless government bureaucrats and 'elitist' environmentalists cleaning the environment by closing industry and throwing local residents out of their jobs" (Kazis and Grossman 1982) the case studies analyzed in this dissertation present a more complex picture. In it I examine the multiple stakeholders who reflect the larger national and global discourse about

consumption, power and powerlessness, environmental degradation, climate change, resource extraction, energy dependence, community resilience, and sustainable development.

Figure 5.1: Map Showing Whitesville, Naoma, Dunbar, and Charleston, West Virginia



* In the figure above, the (A) represents Naoma which is typically too small to appear on maps.

Source: Google (2011). Retrieved May 7th, 2011, from <http://www.map.google.com>.

STAKEHOLDERS

Massey Corporation

Massey Energy Company mines, processes, and sells Appalachian coal (Massey Energy Company n.d.). The company sold 37 million tons of coal in 2009 and holds reserves for 2.3 billion more tons (Massey Energy Company n.d.). The company headquarters is located in Richmond, Virginia (Massey Energy Company n.d.). The firm was originally incorporated there in 1920 under the name A.T. Massey Coal Company, Inc. (Massey Energy Company n.d.). Until the 1970s, leadership of the company was in the hands of the Massey family, but in 1974, St. Joe Minerals of Viburnum, Missouri, acquired a majority interest in the firm, and in 1980 St. Joe Minerals partnered with Royal Dutch Shell Corporation to form the Massey Coal Partnership (Massey Energy Company n.d.). In 1981, St. Joe Minerals was acquired by Fluor Corporation; it was then renamed Massey Energy Company in 2000 (Massey Energy Company n.d.). It is difficult to keep track of Massey's activities because of their large number of subsidiaries, some of which are included in Appendix 1 (One Source Information Services Inc. 2011).

In addition to having many subsidiaries, Massey directly employs 6,743 people and recorded revenues of \$2,692.2 million during the financial year ending in December 2009 (Marketline November 5th, 2009). Its chief executive, Don L. Blankenship, retired in December 2010 (Marketline November 5th, 2009) and was replaced by Baxter Phillips Jr., a long-time Massey employee (Maher and Chon December 4th, 2010). The company operates in West Virginia, Kentucky, and Virginia with 66 mines, of which 46 are

underground; the remaining 20 are surface mines (many, though not all, surface mines use mountaintop removal as a coal extraction technique) (Marketline November 5th, 2009).

Massey was sold to Alpha Natural Resources for \$7.1 billion on June 1st, 2011 (De La Merced June 1st, 2011). The sale occurred in spite of protests by some Massey shareholders who wanted time to pursue legal action against Massey for having unsafe work conditions (De La Merced June 1st, 2011). After the buy-out, the three largest coal companies are, in order of size, Peabody, Arch, and Alpha. Massey declined to be interviewed for this study in spite of several attempts to contact both West Virginian and Headquarters spokespeople.

Image 5.1: Protesters against Massey Corporation



Source: Schoeneman, B. Massey Energy has learned nothing from the Upper Big Branch Disaster. October 7th, 2010. Retrieved from <http://www.novacommmonsense.com/>

This limits my ability to know what corporate actors were thinking, but not what they were doing, or how activists responded to them.

Massey and the Whitesville Conflict

Many successful companies experience or have experienced conflict regarding labor and environmental issues, and Massey is no exception [as seen in Image 5.1] (Schoeneman October 7th, 2010). Massey has been accused of anti-labor and anti-environmental stances. For example, it has been reported that Massey routinely forces miners to work overtime; if they refuse, they lose their jobs. The company also allegedly forces miners to eat while working instead of permitting meal breaks, in addition to using non-union sub-contractors and subsidiaries to avoid responsibility for safety and environmental regulation enforcement (Scott 2010). Massey appears to have a poor reputation even among coal companies—the *Daily Mail* examined 2001 West Virginian mine inspections and violations and found that while the average coal company received 7.6 violations per mining permit, Massey received 12.3 (*Coal Age* September 2002).

Table 5. 1: Mining Accidents with Five or More Fatalities 1980-2010

Date	Mine	Location	Deaths
4/5/2010	Upper Big Branch Mine-South, Performance Coal Co.	Raleigh County, West Virginia	29
8/6/2007	Crandall Canyon Mine, General Resources Inc.	Emery County, Utah	6
5/20/2006	Darby Mine No. 1, Kentucky Darby LLC	Harlan County, Kentucky	5
1/2/2006	Sago Mine, Anker West Virginia, Mining Company Inc.	Upshur County, West Virginia	12
9/23/2001	No. 5 Mine, Jim Walter Resources, Inc.	Tuscaloosa County, Alabama	13
12/7/1992	No. 3 Mine, South-mountain Coal Co.	Wise County, Virginia	8
9/13/1989	William Station 9 Mine, Pyro Mining Co.	Union County, Kentucky	10
2/6/1986	Lovendge No. 22, Consolidation Coal Co.	Marion County, West Virginia	5
12/19/1984	Wilberg Mine, Energy Mining Co.	Emery County, Utah	27
6/21/1983	McClure No. 1 Mine, Clinchfield Coal Co.	Dickinson County, Virginia	7
1/20/1982	No. 1 Mine, RFH Coal Co.	Floyd County, Kentucky	7
12/8/1981	No. 21 Mine, Grundy Mining Co.	Marion County, Tennessee	13
12/7/1981	No. 11 Mine, Adkins Coal Co.	Knott County, Kentucky	8
4/15/1981	Dutch Creek No. 1, Mid-Continent Resources Inc.	Pitkin County, Colorado	15
11/7/1980	Ferrell No. 17, Westmorland Coal Co.	Boone County, West Virginia	5

Source: United States Department of Labor: Mine Safety and Health Administration (n.d.). "Historical Data on Mine Disasters in the United States." Retrieved May 9th, 2011, from <http://www.msha.gov/>.

Massey's labor and environmental controversies do not end there. The company allegedly screens employees for pro-union sentiments and has refused to work with the

UMW (Scott 2010). Massey spokesmen have argued that unionized work forces increase labor costs and work shortages, leading to decreased productivity and profitability (Massey Energy Company 2003). Massey has also been responsible for environmental violations such as collapsed valley spills (in which rubble from mining is incorrectly contained) and slurry spills (slurry is the waste generated by processing coal) (Scott 2010). The Bureau of Labor Data shows that the worst mine disaster in the past 30 years occurred at Upper Big Branch Mine in West Virginia, which is operated by Performance Coal Company, a Massey subsidiary [see Table 5.1] (United States Department of Labor: Mine Safety and Health Administration n.d.).

The firms that a company works with can provide information about corporate values and priorities. Among Massey's many acquisitions are the property and mining operations of the Pittston Coal Company in 1989 and 2002 (Massey Energy Company n.d.). In the 1989-1990 period, the Pittston Coal Company withdrew from the Bituminous Coal Operators Association after Pittston demanded weaker labor regulations, Sunday work shifts, and limitations on health and pension benefits for retired and disabled workers (Brenner and Ness 2009).

The actions of Pittston prompted a major strike by the United Mine Workers that led to dozens of arrests and massive fines before reaching a partial compromise that protected health and pension benefits but allowed subcontracting and Sunday shifts (Brenner and Ness 2009). Pittston was also responsible for an infamous flood of waste water in Logan County, West Virginia, in 1972. The flood—which became known as the

Buffalo Creek Flood—killed 125 people and destroyed the homes of 4,000 others (Erikson 1972). The actions that Massey-affiliated Pittston took against organized labor further suggest that Massey assumes a conservative stance in labor conflicts.

Governmental Actors Involved in the Whitesville Case

Companies that wish to mine coal and activists who oppose coal mining practices must deal with a variety of governmental actors. Federal, state, and local governments regulate many aspects of the coal mining industry, including monitoring health and safety, managing permit and licensing requirements, measuring the impact of mining on air and water quality, measuring impacts on plants and wildlife, regulating the reclamation and restoration of formerly mined lands, and regulating pensions (Connor 2010). The Office of Surface Mining Reclamation and Enforcement (OSM) located in the U.S. Department of Interior; the Department of the Interior (DOI); the Environmental Protection Agency (EPA) and its state counterpart, the West Virginia Department of Environmental Protection (DEP); the U.S. Fish and Wildlife Service (FWS); the Army Corps of Engineers (COE); the Internal Revenue Service (IRS); the Bureau of Land Management (BLM); and the U.S. Bureau of Alcohol, Tobacco, and Firearms (ATF)³, are all potentially involved in the governance of mining (Connor 2010).

³ The ATF is involved with coal mining because it regulates use of explosives, while the IRS regulates ordinary taxation and the maintenance of a fund for coal miners suffering from Black Lung Disease; it also monitors state severance taxes regarding the amount of coal “severed” from the land. Connor, Ross, “On rocky ground: Growth will be limited due to intensifying competition from other fuel resources and regulation issues”, IBISWorld Industry Report 21211: Coal Mining in the U.S., IBIS World, April 2010.

Table 5. 2: Primary Government Organizations

Government Organizations	Where They Are	When They Started	Their Mandate	What They Do
The U.S. Office of Surface Mining Reclamation and Enforcement	Headquarters in Washington DC, three regional offices the Appalachian, Mid-Continent and Western regional offices	1977	“...to protect society and the environment from the adverse effects of surface coal mining operations, under which OSM is charged with balancing the nation’s need for continued domestic coal production with protection of the environment.”	Enforce Surface Mining and Reclamation Act; works with states, Tribes, local groups, the coal industry; governs land reclamation
West Virginia Department of Environmental Protection	Charleston, WV	Not stated	“Promoting a healthy Environment.”	Regulates the mining industry with federal and WV law
The U.S. Environmental Protection Agency	Headquarters in Washington D.C. Relevant region 3 Bureau is in Philadelphia	1970	“The mission of EPA is to protect human health and the environment.”	Enforce federal Environmental law
The U.S. Mining Corps of Engineers	Washington D.C. but operates in more than 90 countries	1802	“...provide vital public engineering services in peace and war to strengthen our Nation's security, energize the economy, and reduce risks from disasters.”	Build and repair infrastructure, regulate actions that impact American water systems

Source: ("US Army Corps of Engineers" 2011; "Office of Surface Mining Reclamation and Enforcement" 2011; "West Virginia Department of Environmental Protection" 2011; "Environmental Protection Agency" 2011).

The primary governmental actors involved in mountaintop removal are the EPA, the DEP, the COE, and the OSM [see Table 5.2]. In the case of the Office of Surface

Mining, involvement comes primarily in the form of managing lands that have already been mined (United States Department of the Interior: Office of Surface Mining Reclamation and Enforcement 2008).

Table 5. 3: Key Legislation

Key Mountaintop Removal Regulations	Regulation Descriptions
Clean Water Act (CWA) : Section 402	“...the Administrator [of the Environmental Protection Agency] may, after opportunity for public hearing issue a permit for the discharge of any pollutant, or combination of pollutants...”; Permits may be revoked by the administrator if permit operators are found to violate any conditions of the permit. The Administrator is also authorized to modify permits or change the conditions and require and monitor reports regarding permit compliance.
Clean Water Act (CWA) : Section 404	“The Secretary may issue permits, after notice and opportunity for public hearings for the discharge of dredged or fill material into the navigable waters at specified disposal sites... The term "Secretary" as used in this section means the Secretary of the Army, acting through the Chief of Engineers.... In carrying out his functions relating to the discharge of dredged or fill material under this section, the Secretary may, after notice of opportunity for public hearing, issue general permits on a State, regional, or nationwide basis for any category of activities involving discharges of dredged or fill material if the Secretary determines that the activities in such category are similar in nature, will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effects on the environment.”
The Surface Mining Control and Reclamation Act of 1977 (SMCRA)	“For the purposes of assisting in the planning and evaluation of reclamation projects....;” The Office of Surface Mining monitors what happens mines that are no longer actively mined and whether the mine operators return the land to its condition to the degree possible.

Source: (November 27th, 2002). Federal Water Pollution Control Act. [33 1251](#), United States Code. (December 20th, 2006).

The Surface Mining Control and Reclamation Act of 1977, United States Code. **95 87**.

Due to their mandate for enforcing the Clean Water Act, the EPA and DEP have oversight over mining when it impacts water quality (Muskie 1977). The COE is responsible for issuing permits for construction and mining efforts that in any way impact United States waters, including rivers and wetlands (U.S. Army Corps of Engineers n.d.). The primary government regulations that constrain mountaintop removal mining are the Clean Water Act (CWA) and the Surface Mining Control and Reclamation Act of 1977 (SMCRA) [see Table 5.3] (Muskie 1977; The Surface Mining Control and Reclamation Act of 1977 December 20th, 2006).

In the following case study, activists allege that regulations are frequently weakened by state-administered exemptions permitted by the DEP, so that greater environmental damage is done than the lawmakers who wrote these laws intended.

Whitesville and Environmental Groups in Whitesville

Image 5.2: Whitesville, West Virginia



Source: Fair, J. H. (2010). Shuttered Stores at Night in Whitesville, WV.

The West Virginia town of Whitesville, which is one site of opposition to mountaintop removal mining, has a population of only 514 people [see Image 5.2] (U.S. Census Bureau 2010). Founded in 1835, it was primarily a farming community and trading center until 1907, when coal mining operations began (Boone County Geological Society 1990). As in many small Appalachian towns, more than 98% of residents are Caucasian, and the per capita income is \$18,317 (U.S. Census Bureau 2010). Whitesville is 40.2 miles from the state capital of Charleston (Mapquest: Maps and Directions n.d.) and is part of Boone County (U.S. Census Bureau: American Fact Finder 2000).

Relative to Boone County and the rest of West Virginia, Whitesville residents struggle economically (U.S. Census Bureau 2010). Part of that struggle involves the

availability of mining jobs and the future of mining in Appalachia. Many coal towns in West Virginia are split over their views of MTR because they feel that mining jobs are necessary to their families and communities; Whitesville is no exception (Scott 2010). Anti-mountaintop removal activists live near and sometimes are related to individuals who promote, or at least accept, mountaintop removal.

The prominent Whitesville activist organization, Coal River Mountain Watch (CRMW), was founded by bartender and former miner Randy Sprouse in 1998 (Walk June 20th, 2011; Coal River Mountain Watch March 4th, 2010). CRMW started out of a concern over strip-mining of all types—Sprouse worried about the jobs lost when communities switched from underground to strip mining, and about the destruction of homes caused by explosives used in strip mining (Shnayerson 2008). Now, however, the group's main focus is on stopping mountaintop removal mining in particular, arguing that the explosives used cause structural damage to wells and homes, increase dust in the air, and bury and pollute streams and rivers (Myers June 2nd, 1998). As mentioned earlier, burying rivers and streams impacts ecosystems and impacts the availability of safe drinking water; it may also reduce tourism to West Virginia by blighting the landscape (Loeb August 11th, 1997). In 2010, Coal River Mountain Watch stated the following:

Over 500 of America's oldest mountains have been destroyed by mountaintop removal coal mining – but a majority of Americans don't realize that they are connected to this destruction through their electricity. We need to get this message out across the country and put the pressure on Washington to end mountaintop removal (Coal River Mountain Watch March 4th, 2010).

This figure comes from a study commissioned by members of another activist group, Appalachian Voices, which found that 500 mountains had been destroyed in Kentucky, Tennessee, Virginia, and West Virginia (a total of 136 in West Virginia) (Geredien 2008). It should be noted that this number has *not* been independently corroborated by the Environmental Protection Agency, which only states that of 12 million acres of land located in Kentucky, West Virginia, Virginia, and Tennessee, approximately 6.8% of the land is or may be affected by the mining practice (United States Environmental Protection Agency: Region Three 2005). The COE is silent on MTR except to note that surface mining permits must include an environmental mediation plan (U.S. Army Corps of Engineers 1996). Likewise, the DEP has no public stance on the harmfulness of MTR, and, when asked whether or not MTR was a harmful practice, OSM Director Joe Pizarchik stated, “We are very interested in hearing the input of all the stakeholders” (OSM staff writer December 7th, 2009).

Facing cautious bureaucrats, CRMW fights MTR by working with a number of other activist groups; for example, CRMW is part of a coalition, The Alliance for Appalachia (Lauer 2011). The attributes of anti-MTR activists working in West Virginia are summarized in Table 5.4 (Economic Research Institute 2011; GuideStar 2011). The activist organizations involved in this case vary in a number of ways. For instance, Coal River Mountain Watch has 15 employees compared to National Resources Defense Council’s 101, and the organizations vary dramatically in terms of funding and fundraising. The Keeper of the Mountains organization gets funding from other activist groups, the Ohio Valley Environmental Coalition receives funding from investments, and

the central activist group in this case study, CRMW, receives all of its funding from donations (Keeper of the Mountains Foundation 2010; GuideStar 2011).

Their status of “native” West Virginians varies by group as well. Groups such as CRMW are based in West Virginia, although interviews with the CRMW staff revealed that not all individuals working for CRMW were born and brought up in West Virginia (Goodman June 20th, 2011; Kunkel June 20th, 2011; Schewel June 20th, 2011; Walk June 20th, 2011).

This factor of regionalism is important—where one grew up, has family, works, and lives can affect how invested an actor is in issues pertaining to that place and what risk they face (as can the personal resources a person has). Therefore, activists such as Junior Walk of CRMW, who grew up in Whitesville, worked briefly for Massey, and has a father who continues to work for Massey (Walk June 20th, 2011), differ from some of the college and graduate students that I spoke with who are working for CRMW for a summer.

Table 5. 4: Information on Case-Study Activist Organizations

Environmental Groups	Location	Revenue	Percent from Contributions	Officers & Trustees	Total Employees
Coal River Mountain Watch (CRMW)	Whitesville, West Virginia	\$463,524*	100%	3	15 (approx. 7 volunteers)
Ohio Valley Environmental Coalition	Huntington, West Virginia	\$591,305*	99.1%	11	13
Keepers of the Mountains	Charleston, West Virginia	unknown	Receives contributions from other organizations	unknown	16
West Virginia Highlands Conservancy	Kenna, West Virginia	\$266,619*	78.3%	18	unknown
National Resource Defense Council (NRDC)	National Headquarters: New York, NY	\$99,206,523	93.3%	45	101
EarthFirst! **	National	\$117,632	Approx. 98%	10	NA
WV Mountain Justice***	OVEC, Keepers, CRMW are members	—	—	Approx. 65	—
Appalachia Rising***	Pan-Appalachian	—	—	—	Membership is not stable

*2009 data

**EarthFirst! Receives funding from the Fund for Wild Nature—their numbers are represented here because EarthFirst! is not a registered non-profit.

***Mountain Justice and Appalachia Rising are coalitions of environmental activist organization so they have no non-profit profile

Source: Economic Research Institute (2011). "ERI Surveying Non-Profit Salaries Since 1987." Retrieved June 25th, 2011, from <http://www.eri-nonprofit-salaries.com/index.cfm>. GuideStar (2011). "GuideStar Non-Profit Directory." Retrieved June 25th, 2011, from <http://www2.guidestar.org/>.

Even within West Virginian environmental groups such as CRMW, activists differ in terms of stakes, sense of place, and reason for—as well as consequences of—their actions. Junior “did what everyone else is forced into doing in the area” and went to work for Massey where he’d “seen first-hand how they treat their workers and things like that... it’s just deplorable” (Walk June 20th, 2011). His professional options and those of his family are linked to the coal industry—a fact which made his opposition to that industry costly to him. Indeed, Junior’s relatives stopped speaking to him and his father has asked him to leave the family home. Nonetheless, Junior felt the need to become involved in CRMW, stating that:

...they're killing us, and there's no way to get around that. Its murder, mountaintop removal is murder because it poisons our water and poisons our air, I think the cancer, it's...How much more likely is it for someone to get cancer who lives around here? [Asking another staffer] It's about three times more likely. I recently had a scare with it myself....It wasn't surprising that a 21 year old man could have cancer if he's from here (Walk June 20th, 2011).

In contrast, CRMW employee Cathy Kunkel said:

Well, with MTR I would like to see it stop. Economic development...I think it would be interesting if there were some sort of economic diversification trust fund perhaps based on the coal severance tax. I think that there needs to be more of a recognition just that coal is on its way out here and economically preparing for that post-coal future (Kunkel June 20th, 2011).

Cathy is a Maryland native with two masters degrees—one in environmental studies and another in physics (Kunkel June 20th, 2011). Her more moderate statements are unsurprising, given that she has considerable professional options compared to many people, and neither her family nor home is directly impacted by MTR (compare these sentiments with Junior’s remarks above about poisoning “our” water and “our” air).

Thus, the stakes and identity of these two activists, both working for a West Virginia non-profit, differ substantially from each other.

Similarly, the identity and goals of activists working for West Virginian and non-West Virginian organizations can vary considerably. For example, CRMW board member/activist Debbie Jarrell, another Whitesville resident born and raised in West Virginia, discussed what anti-MTR activists want:

I think where they come from... their forefathers were farmers you know, used to living off the land, so it's not so much what they want as far as jobs and stuff, it's what they want to preserve (Jarrell June 20th, 2011).

Her statement speaks about preserving of a way of life, while the following statement by the NRDC about MTR expresses more conventional environmentalist goals (although cultural considerations are alluded to):

Big coal companies should not be allowed to turn our nations' oldest mountains into molehills, and NRDC is working with local allies to halt this damaging practice. Laws must change, environmental regulations must be enforced, corporations must reform their practices, and legal action must be taken to stop the most ecologically and culturally destructive form of strip mining on earth (NRDC staff n.d.).

These quotes suggest different priorities and foci for activist groups. Additionally, the pan-Appalachian and national groups tend to be working on multiple campaigns at the same time, while the West Virginia groups tend to focus solely on MTR.

Table 5. 5: Organizational Demographics

Organization	Mission	Founded	Members and Staff	Percent in West Virginia
Keeper of the Mountains	To educate and inspire people to work for healthier, more sustainable mountain communities and an end to mountaintop removal	2005	16/0	100
Coal River Mountain Watch	Stop the destruction of our communities and environment by mountaintop removal mining, to improve the quality of life in our area and to help rebuild sustainable communities	1998	18/7	100
Ohio Valley Environmental Coalition	To maintain a diverse organization dedicated to the improvement and preservation of our environment	1987	24/not released but 46 volunteers	100
West Virginia Highlands Conservancy	To promote, encourage, and work for the conservation—including both preservation and wise use—and appreciation of the natural resources of West Virginia and the Nation	1965	18/not released	100
WV Mountain Justice	To abolition of MTR, steep slope strip mining and all other forms of surface mining for coal. We work to protect the cultural and natural heritage of the Appalachia coal fields.	2004	65/0 Mountain Justice works with local groups and volunteers	4 of 7 coalition groups
Appalachia Rising	To end strip mining and support sustainability and self-determination in Appalachia	2010	82/0 but approx. 75 volunteers	Approx. 38
Earth First!	“We believe in using all the tools in the tool box, ranging from grassroots organizing and involvement in the legal process to civil disobedience and monkey wrenching”	1979	No formal organization or members	unknown
Natural Resource Defense Council	To protect the planet's wildlife and wild places and to ensure a safe and healthy environment for all living things		101/1.3 million members	None

Sources: Coal River Mountain Watch, 2009; Keeper of the Mountains Foundation 2010, OVEC staff n.d.; Solley 2011; NRDC staff n.d.; Appalachia Rising staff n.d.; Mountain Justice staff n.d.; EarthFirst! n.d. ; Guidstar 2011

Finally, the activist groups differ in terms of the actions that they pursue. For example, groups such as CRMW primarily fight via protests and rallies, lobbying on behalf of energy efficiency, and legally challenging mining permits (Jarrell June 20th, 2011; Kunkel June 20th, 2011; Walk June 20th, 2011). A wealthier national group like the NRDC funds smaller activist groups and lobbies banks to stop working with companies that engage in MTR, lobbies government to stop MTR, and supports research (Keeper of the Mountains Foundation 2010; NRDC staff n.d.) [see Table 5.5 for further data on activist groups]. Having discussed the activists, I now turn to outlining the initial stance of the stakeholders in the MTR dispute discussed in this case.

AN ENVIRONMENTAL MOVEMENT FORMS

The Environmentalist Stance

The stakeholders' public stances in this MTR mining conflict crystallized early in the dispute, although they have changed somewhat over the life of the conflict. In general, local and non-local environmental activists often adopt the position that the extreme environmental harm of mountaintop removal merits blocking MTR, especially because the mining companies are allegedly behaving in ways that violate United States law. For example, environmental attorneys Joe Lovett, Jim Hecker, and John Barrett, representing the Ohio Valley Environmental Coalition (OVEC), successfully argued that a proposed mining site using mountaintop removal should be prevented because it "will result in the destruction of hundreds of miles of streams, and hundreds of thousands of acres of forests, the adverse effects [of which] are necessarily more than minimal"—

alluding to the legal requirements that mining impacts must be minimal to the landscape (*Ohio Valley Environmental Coalition et al., Plaintiffs, v. United States Army Corps of Engineers et al., Defendants. v. Jupiter Holdings LLC, et. al., Intervenor-Defendants* 2007). Activists also speak of extreme cultural and aesthetic harm done to Appalachian communities (Nease April 12th, 1999). CRMW does not speak exclusively about protecting the ecological resilience of Appalachia, although this is clearly important to them.

CRMW does not use an explicit environmental justice frame in spite of sharing many environmental justice concerns. EJ activists link social justice claims to environmental concerns to create a hybrid master frame (Taylor 2000). Consistent with the framing of other environmental justice activists, CRMW links concern about Appalachian working-class and low-income communities to concern over protecting the mountains, although they do not speak of themselves as environmental justice activists. There is no neat dichotomy between what is good for people and what is good for nature, although the interests of working-class and low-income people may be at variance with the interests of the middle-class and wealthy.

Massey's Stance

Massey has framed the debate by arguing that preventing mountaintop removal pitted working people against environmentalists. For example, in one 2007 court case, the activist group OVEC filed a preliminary injunction against a Massey subsidiary on grounds that current mining permits obtained by the company violated existing

environmental law(*Ohio Valley Environmental Coalition et al., Plaintiffs, v. United States Army Corps of Engineers et al., Defendants. v. Jupiter Holdings LLC, et. al., Intervenor-Defendants* 2007). After a judge ruled in favor of the activist group, Massey responded that it had been forced to fire 66 miners and would need to fire 213 more (Parker April 19th, 2007), although they released no information regarding how many miners they actually dismissed. In another example, Massey subsidiary Green Valley Coal Company planned to bury approximately 430 feet of a stream under a dump for industrial waste (Ward Jr. April 6th, 2004). Green Valley Coal Company attorney Bob McLusky stated that without a new waste dump, the company would need to shut down part of the plant and two mines. He argued that this would cause between 110 and 150 workers to lose their jobs (the company was ordered to halt the creation of the waste dump by U.S. District Judge Joseph R. Goodwin) (Ward Jr. April 6th, 2004). Thus, Massey representatives framed the conflict as the welfare of streams vs. the welfare of miners.

Massey and other coal companies also argued that the harm done to the environment is less than the activists claim, and that coal company actions are legal. For example, the company published this press release statement in 2007:

During surface mining, layers of rock are removed to access coal seams. Most of the rock is placed back in the mined areas during reclamation, but some excess rock must be placed in adjacent hollows, creating what are called “valley fills.” These valley fills, which are necessary to conduct surface mining, typically cover very small stream channels that often contain no water...Massey Energy agrees with the U.S. Government that the current, very detailed permitting process is more than sufficient to protect the environment...We have the best engineers and environmental personnel available (Massey Energy Company April 18th, 2007).

Claims such as those in the quote above are common in the coal industry. For example, Jason Bostic, spokesman for the West Virginia Coal Association, the coal industry's trade union in West Virginia, said:

Protecting the environment, here is my problem....sitting in the shoes of the state coal association and as a native West Virginian from a coal mining family, we are the true practicing environmentalists because the reclamation process improves the environment and allows more coal to be extracted. Now if being an environmentalist means not changing streams, not cutting down trees...if you want to construct a highway or build housing here in southern West Virginia, you are going to have to cause change to the environment. The environmental statutes envision change, things will change, but the extraction of coal is so important to energy security...the question is just can the change be mitigated (Bostic June 14th, 2011).

Massey has also argued that because of the difficulty and expense involved in getting new mining permits, the company was forced to lower their production costs by using the more destructive, but also more financially productive, technique of mountaintop removal. This is a debatable claim. Coal company Alpha Natural Resources (which merged with Massey in 2011) estimates that the typical costs for a surface mining permit are \$661,850 (Alpha Natural Resources 2011). In 2010, Massey reported more than three billion dollars in revenue (One Source Information Services Inc. 2011).

Underground mining can be cheaper than surface mining because the cost of coal is determined by the mining ratio—how much rock and soil have to be moved for each ton of clean coal produced. However, mining companies assert that even if underground mining is cheaper, it is not feasible in some areas because the soil is not compact enough to permit underground tunneling (Alpha Natural Resources 2011). Massey press releases assert that “inherent complexities make it more difficult and costly to mine in Central

Appalachia than in other parts of the United States,” and that these inherent complexities are due, in part, to “our ability to obtain and renew permits necessary for our existing and planned operations,” as well as “our ability to manage production costs, including labor costs” (Massey Energy Company April 21st, 2010). Thus, according to Massey, new surface mines that use mountaintop removal result in a state where “production capacity continues to grow as our new mines mature and new high productivity equipment is put into service at a variety of our surface mines.” Because of mountaintop removal, productivity can continue to increase in spite of the “inherent complexities” of mining in Appalachia (Massey Energy Company April 27th, 2006).

The Union Stance

The United Mine Workers is quieter than one might expect given their militant history. UMW Spokesman Paul Smith summarized the Union’s stance on MTR in an interview:

The union neither supports or opposes it, we support our people, we don't make decisions about how coal is mined, we focus on the people no matter what they do. If people are involved in that type of mining then we must stand up to defend those jobs so that puts us in a situation where people say we support MTR. We support people covered by contracts we negotiate, we have an obligation, a moral obligation, to represent dues payers to best of our ability..... I have been to surface mining operations, I know these people, I think of people against as well. And they are good folks. I don't think of enemies, I think people are trying to do the best that they can no matter which side they are on (Smith June 16th, 2011).

This position focuses on protecting jobs, wages, and working conditions. Environmental degradation and alternative economic development are not high priorities for the union.

The need for jobs appears to immobilize the union; thus they play a minor role in the conflicts in and around Whitesville, as will be seen in the rest of the case study.

Government Actors and Mountaintop Removal

Unlike the corporate and activist stakeholders in the mountaintop removal mining dispute, governmental actors have often resisted involvement in the conflict. Throughout the case, they have often attempted to remain neutral when interacting with the other stakeholders, as will be seen in the disputes in and around Whitesville. This is true even of employees working for the federal Environmental Protection Agency, whose stated goal is to “protect human health and the environment” (Environmental Protection Agency 2011). In general, governmental actors raise concerns about cost efficiency, balancing stakeholder interests, and scientific soundness (Environmental Protection Agency January 7th, 2010). They wish to appear objective and fair (Environmental Protection Agency April 1st, 2010) in permitting decisions, as well as in interpretations of legal mandates and environmental law.

Changing Representations of the Issue

Over the life of the mountaintop removal mining dispute, activists, corporate actors, and governmental actors have altered the manner in which they represent themselves. Massey, for instance, reframed their public image when shareholders, employees, business people, and the greater U.S. society asked, “What does it mean to be a good corporate citizen?” Indeed, the company has altered itself in a number of ways since 1990, as will be discussed in this case. One specific change in Massey’s public

presentation was that the company began releasing Corporate Social Responsibility reports in 2008, in addition to the annually released shareholder reports—reports that included information regarding post-mining land reclamation and other environmental stewardship efforts (Massey Energy Company 2010).

Environmentalists also shifted the way they framed the issues over the life of the conflict. By 2006, for example, activists had begun to describe themselves as pro-jobs and pro-economy, employing language previously used by the coal companies. Activist Vivian Stockman told the *Charleston Gazette*:

We are very glad to see that destructive mining practices at these mines will stop at least for now, but it is unfortunate to see that a flawed process that the corps has used to approve these mines has shown to be so ineffective. By allowing mining at the wrong sites and violating the law, jobs could be lost and economies could be hurt by the blatant disregard of the U.S. Army Corps of Engineers (Ward Jr. June 9th, 2006).

As will be seen, environmentalists spoke repeatedly about the need for jobs in West Virginian communities, and it is probable that this reality caused the change to pro-job, pro-economy rhetoric.

Due to the fact that economic arguments could no longer be claimed exclusively by one group of disputants, and, further, that coal businesses were asked to think about their social and environmental externalities as well as their economic activity, the pro- and anti-mountaintop removal advocates shifted discussion to another source of legitimacy: regionalism. Industry began to compete with activists over who represents West Virginia, as evidenced by this angry comment made by Massey CEO Don Blankenship regarding protestors who trespassed on a Massey mine site:

When protesters perform dangerous acts such as scaling the boom of a piece of equipment to gain media attention, they not only put themselves at risk, but also put our miners and state troopers in danger. Every West Virginian should be outraged that these people come from outside our state to shut down mines that are legally permitted to operate (Ward Jr. June 19th, 2009).

Here, he insinuates that West Virginians are, or should be, concerned about mining operations, which are an important part of the local economy—an economy under attack from “outsiders” (in fact, The protesters were from North Carolina, Washington, D.C., Tennessee, Washington state, Ohio, Maine and Oklahoma. Two listed addresses in West Virginia, and one of those was a temporary address, police said). Blankenship also implies that environmentalists are not from West Virginia. In fact, as mentioned, the activists involved in anti-mountaintop removal are both native and non-native to West Virginia. West Virginia Coal Association representative Jason Bostic expressed a similar sentiment when he stated:

My family mines coal, it is all we have ever done, my brother works in a coal mine. His first year he made 90,000 dollars; he has a strong work ethic and is smart as a tack, and he gets to stay in his native state, can earn enough to have the economic power that 90k entitles you to. So that is a success story. The people who run coal companies, the activists would have you believe these people come from other places, people that benefit most are the front line employees, the first level of management like mine superintendents, they have to live here and have often lived here their entire lives. So the bulk of profits stay in West Virginia through pay checks, property taxes, benefits, severance taxes, and investment in equipment and services—we must continue to update the mining infrastructure (Bostic June 14th, 2011).

In addition to debating who has the right to represent West Virginia, actors also struggled to define themselves and what they wanted. Activist Marie Gunnoe explained it this way: “We are connected to the environment around our home lands. We care about our culture. But that does not make us tree huggers” (Nyden July 4th, 2009). Gunnoe

distanced herself from the environmental activists who presumably come from out of state, unlike people like her who care about “*our* home lands [and] culture”(Nyden July 4th, 2009). It is difficult to know what the average West Virginian thinks about MTR. Author requests for resident interviews in and around Whitesville regarding environmental topics were denied. However, a study of 500 West Virginians found that 39% of them oppose MTR and 82% of those polled were concerned that West Virginian waters would become more polluted due to MTR (Lake Snell Perry & Associates July 14th, 2004). These results must be interpreted cautiously because they do not appear in a peer reviewed journal—nor has the poll data been released publicly.

Nationally, mountaintop removal generated little interest compared to economic problems. When Americans were asked about the environment in recent public opinion polls, the BP oil spill and the earthquake in Haiti were the most common discussions (Pew Research Center January 11th, 2011). However, 74% of Americans support the idea of more governmental funding for alternative energy and 79% support increasing vehicular fuel efficiency (Pew Research Center October 27th, 2010). Americans, like West Virginians, struggle with many priorities.

In addition to debating what it means to be a “good” West Virginian, pro- and anti-mountaintop removal activists are asking what it means to be a “good” American as this conflict progresses. For example, in the 2006 Massey Annual Report, Blankenship expressed concern about U.S. consumption of oil from politically unstable and possibly anti-American countries (Massey Energy Company 2006). For activists from West

Virginia communities, being a “good” American means a variety of things—from protecting American natural beauty to protecting American communities in terms of their aesthetics, health, economic viability, and culture.

STAKEHOLDER ACTIONS IN THE DISPUTE

The Dispute Begins

In June of 1998, CRMW began flying planes over mining sites so people interested in mining practices could witness the environmental destruction the activists sought to prevent (Myers June 2nd, 1998). Local activists lacked the resources to charter planes so one of the local groups, OVEC, secured a donation⁴, which brought in additional funds (Carroll June 24th, 2011). Also in July of 1998, CRMW hosted an anti-mountaintop removal mining protest. It attracted 400 people, including concerned state of West Virginia employees, citizens, activists, and a few industry representatives (Stone July 27th, 1998).

That same month, the activist group West Virginia Highlands Conservancy, intent on creating a federal policy on mountaintop removal mining, filed a federal lawsuit against the DEP and U.S. Army Corps of Engineers. The plaintiffs were later joined by Coal River Mountain Watch group and the West Virginia Environmental Council (Myers December 24th, 1998). The case involved an injunction to prevent the issuance of new mining permits on grounds that state and federal environmental agencies had failed to

⁴OVEC does not release their donor data so the source of the donation is unknown.

perform their legally mandated duties to protect the environment (*Patricia Bragg et al., Plaintiffs, v. Dana Robertson et. al., Defendants* 1999). The plaintiffs stated:

...permits have been issued in violation of the 1977 Surface Mining Control and Reclamation Act and the Clean Water Act. 'The environmental and social impact of mountaintop removal mining extends well beyond the streams that are actually filled...Significant portions of the state's forests and mountains are destroyed. The communities below these massive operations are often devastated (*Coal Age* September 1998).

The plaintiffs questioned whether several mountaintop removal mining permits issued to coal companies were in compliance with state and federal law and asked the federal government to investigate the situation (*Coal Age* June 1998).

In December of 1998, a partial settlement was reached calling for a two-year study to be conducted by the Environmental Protection Agency, The Army Corp of Engineers, and the U.S. Fish and Wildlife Service (Myers December 24th, 1998). The settlement also required that mine permits be granted based on environmental impacts to a greater extent than in the past (Myers December 24th, 1998).

Although CRMW supported the lawsuit, their spokeswoman expressed displeasure with the settlement because it did not stop one particular mine, the Spruce No. 1 in Logan County, West Virginia (Myers December 24th, 1998). Janice Nease of CRMW publicly stated as early as October of 1998 that federal regulators needed to increase their involvement in this issue because state regulators "have been part of the problem and not part of the solution. They often treat the complaints with condescending remarks. ... They are surprisingly creative in finding 'normal' causes for damages [done by mountaintop removal mining]" (Bundy October 18th, 1998).

Evidence that the coal industry was able to dominate local and state politics comes from a number of sources. For example, activists found themselves unable to present the environmental impacts of mountaintop mining in West Virginia high schools; administrators openly admitted that mining companies sponsor school-related activities “all the time” (Catalanello and Myers June 14th, 1999). Also, environmentalists expressed concern because in 1996 the governor of West Virginia, Cecil Underwood, received \$500,000 in campaign contributions from the coal industry (Loeb August 11th, 1997) and then signed into law permission to dump even greater quantities of stripped rock and dirt from mountaintop removal mining into river and stream-traversed hollows (Janofsky May 7th, 1998). Finally, a study by an activist group called the West Virginia Citizen Action Group found that all of the 17 state senators elected in 1996 had received money from coal mining companies (Loeb August 11th, 1997).

In contrast, federal actors were not actually dominated by coal interests; however, they often appeared to be neutral in their views of mountaintop removal mining and lacked a cohesive stance on the issue. During the early and mid-1990s, for instance, the EPA was largely passive regarding the issue of mountaintop removal mining. EPA administrators expressed a willingness to listen to stakeholders and to issue citations if a company was out of compliance with one or more environmental laws, but they expressed no strong, unified view on mountaintop removal. There was also disagreement between state and federal environmental agencies. For example, in 1998, at the request of citizens groups, the EPA held a public hearing in Logan, West Virginia to discuss the federal EPA citations of two permits approved by the West Virginia Department of

Environmental Protection. W. Michael McCabe, the regional administrator for the EPA, stated that "the practices of mountaintop removal and valley fills have raised many questions and concerns from the public in West Virginia. The hearing will provide an impartial forum for them to be heard" (Environmental Protection Agency September 23rd, 1998).

Early Litigation and Governmental Involvement

The federal government eventually responded to demands that they get involved in the mountaintop removal mining conflict. In October of 1998, the Office of Surface Mining released a report censuring West Virginia legislators for failing to provide "plans to develop mined land. Moreover, the state does not have definite approximate original contour (ACC) guidelines, the results of which have allowed coal companies to dump overburden into valley fills and bury streams" (*Coal Age* October 1998). By November of 1998, the EPA had formally objected to three mining permits due to concerns over the impact of mining on the local environment (Hodel November 25th, 1998). And the U.S. Fish and Wildlife Service added their concern regarding 824 streams that were either being buried or were approved for burial (Lambrecht April 16th, 1999). This was not the first time they had made a statement. During the mid-1990s, the U.S. Fish and Wildlife Service had expressed concern over species loss due to mining (U.S. Fish and Wildlife Service: News Release June 16th, 1996), even if no aggressive attempts had been made by the agency to halt the species loss.

As stated earlier, the federal lawsuit on mountaintop mining resulted in a partial settlement in December of 1998, and a two-year study on the effect of mountaintop removal mining was conducted by the EPA, the U.S. Army Corps of Engineers, and the U.S. Fish and Wildlife Service. The settlement also made temporary strictures on the granting of mine permits based on environmental impacts (*Patricia Bragg et al., Plaintiffs, v. Dana Robertson et. al., Defendants* 1999). In January of 1999, the EPA announced that their study of mountaintop removal would include a comprehensive unified federal plan with the U.S. Army Corps of Engineers to regulate mountaintop removal coal mining; specifically, the plan would include guidelines for the examination of the cumulative impacts of mountaintop removal, assessment of mountaintop removal impacts, and examinations into whether mining companies were fulfilling their environmental obligations under U.S. federal law (Environmental Protection Agency January 8th, 1999).

Although CRMW activists may have seen the federal governmental actions as promising, they continued to advocate against mountaintop removal mining. In January of 1999, an anti-mining rally was held by the group (Neighbors January 28th, 1999). In April of 1999, CRMW nominated Coal River in southern West Virginia for inclusion in the endangered rivers list compiled annually by the conservation group American Rivers (Ward Jr. April 11th, 1999). CRMW activists also attempted (unsuccessfully) to hold presentations in West Virginia high schools so that students could hear pro- and anti-mining information (Catalanello and Myers June 14th, 1999). Additionally, CRMW activist Janice Nease stated in an editorial for a local newspaper that “it is time for the

people of West Virginia to stand firm and emphatically say no to mountaintop removal mining.” She went on to reason that:

...the devastation that is the legacy of mountaintop removal mining is irreparable. The decapitated mountains can never be restored, and the streams buried under tons of debris can never be replaced....When the coal companies can no longer mine coal in the most profitable but most destructive manner, they will abandon our state and its people, leaving behind aesthetic, environmental and human devastation (Nease April 12th, 1999).

Militancy on the part of pro- and anti-mountaintop removal actors increased, although these actors also attempted to form alliances with other interested parties. In August of 1999, the issue of mountaintop removal intensified as an anti-mountaintop removal mining government official was attacked by coal miners who accused him of taking their jobs (Steelhammer August 28th, 1999). By October of 1999, representatives of the CRMW stated that mountaintop removal mining should not only be banned because of its environmental cost, but *also* because they claimed that the high level of mechanization used in this type of mining is anti-labor (Parsons October 28th, 1999). This claim suggests an attempt to win over the miners; it did not appear to have a substantial effect on miners’ views of mountaintop removal mining. In the midst of the rising tide of controversy, an important legal decision was made. On October 20th, 1999, U.S. District Judge Charles Haden II ruled that the practice of dumping excess rock and dirt into rivers after the rock and dirt have been moved by mountaintop removal mining violated federal law (*Patricia Bragg et al., Plaintiffs, v. Dana Robertson et. al., Defendants* 1999).

Massey Fights Environmental Litigation

Activists momentarily saw their interests supported by the government, but Massey and other coal companies quickly mounted an opposition. The coal industry would appeal the U.S. District Court decision successfully in 2003 on grounds that the injunction to limit issuance of surface mining permits was overly broad and, therefore, unjust (*Kentuckians for the Commonwealth, Incorporated et al., v John Rivenburgh, Colonel, District Engineer, U.S. Army Corps of Engineers, Huntington District et al.* 2003). In the Massey 2002 Annual Report, Don Blankenship responded to the then-current legal environment in the following statement:

The regulatory arena had some very positive news in February of this year. A federal court decision (the Haden decision, which would have restricted the use of valley fills) was overturned by the Fourth Circuit Court of Appeals. We were also encouraged that the Bush Administration's environmental policies continued to favor coal (Massey Energy Company 2002).

The above quotation intimates that Massey was pleased by the Bush administration EPA appointees and their actions.

During 2003, the EPA continued its pro-coal stance. The agency, in conjunction with the U.S. Army Corps of Engineers, Office of Surface Mining, U.S. Fish and Wildlife Service, and Department of Environmental Protection, issued a set of cross-agency guidelines intended to reduce damage to streams caused by MTR by increasing water quality monitoring and best practice dissemination in reforestation and reclamation (Environmental Protection Agency May 29th, 2003). The revised guidelines for

mountaintop removal mining involved systematization of the mining permit review process instead of case-by-case reviewing, thus making it faster and easier to get permits.

The guidelines also discussed reconsideration of the buffer rule that prevents mining operations from occurring near streams, suggesting that the buffer requirement would be waved regarding valley spills (Environmental Protection Agency 2003). The reconsideration of buffering was particularly worrisome to activists who feared increased water pollution (*Grist Magazine Inc.* May 30th, 2003).

A May 2003 EPA press release indicated the reasoning behind the EPA's revised guidelines:

The U.S. Department of Energy estimates that 28.5 billion tons of high quality (high heating value, low sulfur content) coal remains in the study area. This coal makes an important contribution to the energy needs of the nation and the economy – 52 percent of American energy comes from coal. By providing jobs and tax revenue, coal mining is a key component of the regional economy. Almost all of the electricity generated in the area comes from coal-fired power plants. Constantly improving technologies are being developed and installed to reduce air pollution from coal-fired power plants (Environmental Protection Agency May 29th, 2003).

It is striking that an agency whose mandate is environmental protection should publicly defend and praise an industry whose environmental impacts are often destructive.

Activists worked to challenge the new guidelines, and their efforts were recorded indirectly by the EPA, who noted in another press release that the comment period for the new guidelines had been extended into 2004 at the request of the public (Environmental Protection Agency August 22nd, 2003). The guidelines were finally released in October

of 2005 and finalized in 2011 (Kika July 21st, 2011; Environmental Protection Agency October 28th, 2005).

Another Court Battle

The controversy continued. On March 26, 2006, a federal judge again blocked the practice of mountaintop removal mining. This followed the 1999 and 2004 rulings by Judge Charles H. Haden II and Judge Joseph R. Goodwin, respectively. Both prior cases involved setting limits on or altogether stopping mountaintop removal mining, and both had been overturned in appeals courts (Ward Jr. March 26th, 2006). In the 2006 case, Judge Robert C. Chambers ruled that Massey could not expand operations at three Massey mines and scheduled a follow-up hearing the next week. The hearing was presided over by Judge Goodwin, who had tried one of the previous cases (*Ohio Valley Environmental Coalition et al., Plaintiffs, v. United States Army Corps of Engineers et al., Defendants. v. Jupiter Holdings LLC, et. al., Intervenor-Defendants* 2007).

During the court proceedings, OVEC asked that the judge rule in favor of blocking the mine expansions because the Army Corps of Engineers did not file an environmental impact statement when they granted the permit to expand the Massey mine (Ward Jr. March 26th, 2006). Ohio Valley Environmental Coalition attorneys argued:

The mining and valley fills at these three mines collectively will destroy over 2,000 acres of land and smother over seven miles of streams...Yet, the corps has neglected to examine in a meaningful way the inevitable damage that will be caused by these mines, or to develop any realistic plan for mitigating that damage (Ward Jr. March 26th, 2006).

In the wake of this case, the federal government again joined the fracas. On June 9th of 2006, the Army Corps of Engineers responded to the activists' criticisms by announcing they had suspended mining permits for four Massey mines (Massey added an additional mine to the number reviewed during the interim of the case) (Ward Jr. June 9th, 2006). The suspended permits prevented the mines from being expanded until further notice because the Corps of Engineers wanted to study the activists' claims that the mine expansions would not be legal under current United States environmental law (Ward Jr. June 9th, 2006).

Massey responded to the Corps of Engineers' announcement that its mines would be reviewed for environmental harm in a number of ways. The company explained it had been forced to fire 66 miners and would need to fire 213 more (Parker April 19th, 2007), presumably because the firm no longer had work for these miners (they did not reveal how many workers they actually did fire). The company submitted affidavits to the court from four miners whose jobs had been cut, stating, "These jobs and tax dollars will be lost. Perhaps more significant, an adverse perception will be created in the marketplace that West Virginia coal companies cannot reliably produce and deliver coal" (Parker April 19th, 2007). Massey also sold one of its West Virginia mines in Boone County, the county where CRMW is located. Blankenship declared, "This sale again demonstrates our ongoing effort to actively explore opportunities to divest non-strategic reserves in order to maximize value for our shareholders" (Massey Energy Company October 2nd, 2006). Given that this mining site was in CRMW's home county and that the October 2006 sale of the site followed the announcement that the U.S. Army Corps of Engineers

was reviewing Massey permits over environmental concerns, Massey may have decided that the site was becoming a liability.

Despite the contentious legal environment, in an October 2007 press release Blankenship expressed an intent to increase the proportion of surface mines to underground mines in the near future (Massey Energy Company October 25th, 2007). But Massey staff also sought to reassure shareholders that the company was both profitable and environmentally sound by discussing recycling, land reclamation, and other environmental projects in the 2007 annual report (Massey Energy Company 2007). Still, Massey went forward as planned with mountaintop removal activities in 2008. The company increased mine expansion by 90 million dollars beyond what they had decided to spend in 2007 (Massey Energy Company April 4th, 2008). Expansions included the creation, re-opening, and expansion of mines in Raleigh County, West Virginia, and the re-opening and expansion of a mine in Boone County (Massey Energy Company April 4th, 2008).

The Dispute Continues: Protest, Lobbying, and Federal Involvement

The activists also continued their efforts. In 2008, CRMW activists lobbied West Virginia Governor Joe Manchin to stop a mountaintop removal mining project in Raleigh County that Massey Energy was planning (*Mining Engineering* October 2008). Activists argued that as many as 220 wind turbines could be placed on the mining site, which would provide electricity for approximately 150, 000 homes and employ 50 people (*Mining Engineering* October 2008). With the help of the Sierra Club and others, CRMW

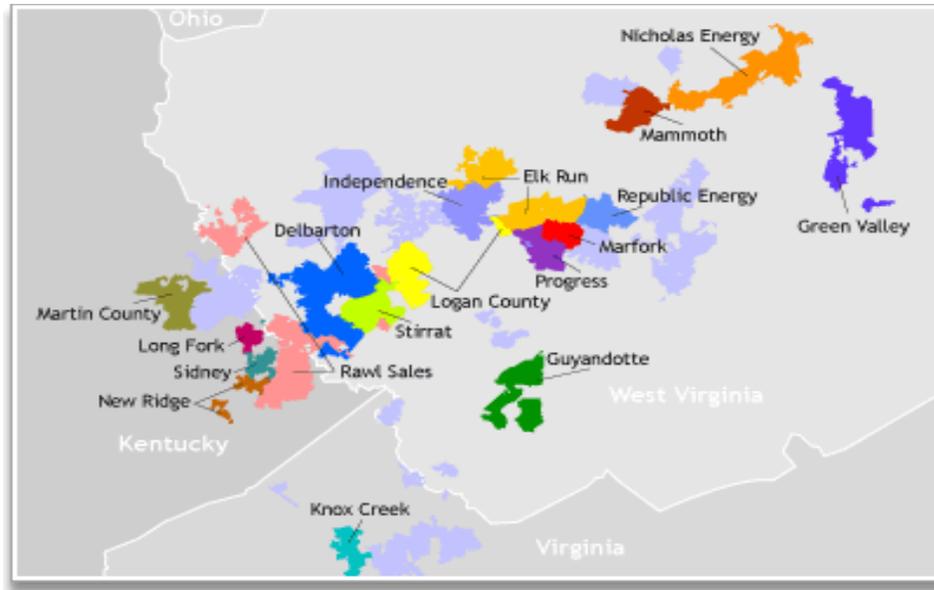
activists also hired an environmental consulting firm called Downstream Strategies (Hansen, Collins et al. 2008). The president of this firm, Evan Hansen, released a statement on December 9th, 2008, arguing that the proposed wind farm would create greater economic benefits to the area than surface mining (Ward Jr. December 9th, 2008). The report stated that benefits of the proposed wind farm included 275 temporary construction jobs and wind farm jobs far into the future (Ward Jr. December 9th, 2008). In contrast, mining would create an estimated 135 jobs per million tons of coal mined for roughly 17 years, while creating millions of dollars in pollution costs (Hansen, Collins et al. 2008).

In spite of the activists' pleas, the state government pursued a policy of non-involvement on the wind farm controversy, while Massey continued to oppose the activists. The governor stated that Massey had correctly filed for a permit to mine and that, therefore, governmental intervention was unwarranted. The West Virginia Department of Environmental Protection stated that the mining would be "conducted, maintained and ultimately reclaimed in accordance with the law" ("Massey moves ahead with mountaintop blasting plans" October 2008).

The West Virginia Department of Environmental Protection and the EPA continued to echo Manchin's stance of non-involvement from 2005 to 2008. During this three-year period, the EPA largely focused on producing a few scientific studies documenting the impacts of mountaintop removal but limited their involvement to these reports (Environmental Protection Agency September 11th, 2008). Massey responded to

the activists' wind farm goals by saying that if "citizens groups want to build a wind-farm in southern West Virginia, they should buy or lease property and develop the project themselves" (Ward Jr. December 9th, 2008).

Figure 5.2: Map Showing the Location of Massey's 23 Mines



Source: Viklund, A. (April 6th, 2010). "25 Miners Killed, 4 Unaccounted for After Coal Mine Explosion in Montcoal, West Virginia." from <https://feww.wordpress.com/category/coal-mine-explosion/>.

Although they continued to expand their operations, Massey Energy appeared nervous about the political and legal environment. In a 2008 press release, Massey summarized their expansion activities this way: "In the 12 months since Massey announced its expansion plans, the Company has opened 15 new mines and added 7 new underground miner sections at existing mines" [see Figure 5.2 for Massey's current mines in West Virginia] (Massey Energy Company October 30th, 2008). The company staff expressed trepidation, however, noting that while demand for coal was steadily

increasing (especially in export markets), the supply of coal was in jeopardy because “total Central Appalachian coal production is constrained by increasing regulatory requirements and activity, depletion of reserves, a tight labor market and high capital costs for equipment and development” (Massey Energy Company October 30th, 2008).

Massey’s concern was not unfounded. In December of 2008, activists including CRMW applauded the decision of Bank of America to reduce lending to firms that practice mountaintop removal mining (Shugart December 17th-23rd, 2008). The announcement followed a trip in which Bank of America executives were flown by the National Resource Defense Council (NRDC) to Kayford Mountain, a site in West Virginia that has been substantially altered by mountaintop removal mining (Shugart December 17th-23rd, 2008). This is important because coal mining is capital intensive and frequently involves borrowing from banks (Moravec and Erwin June 2002). Companies like Massey, whose poor credit score suggests increased likelihood of loan default relative to other coal companies, have particular difficulties securing loans (Moravec and Erwin June 2002).

Accordingly, the firm modified its image, hoping to appear more pro-environmental and pro-labor. In their 2008 annual report, Massey indirectly addressed the ongoing controversy surrounding mountaintop removal by reassuring shareholders: “We continue to employ higher cost but more effective environmental control techniques...” (Massey Energy Company 2008). Blankenship stated that Massey employees recognize the need to “conduct our operations in a legal, responsible, moral, ethical and cost-

efficient manner” (Massey Energy Company 2008), indicating that the CEO perceived a need to defend Massey on moral as well as fiscal grounds. It is likely that the perceived need to defend the company on moral grounds arose not only from the declining support of banks, but also from the litigation Massey faced from its own shareholders beginning in July 2007 due to alleged violations of environmental and labor laws (Massey Energy Company 2008). The shareholders in question belonged to the Manville Personal Injury Trust, which was created in 1986 to compensate construction firm John Manville Corp. employees who were injured on the job by asbestos. Given that the trust was created to help workers, it is not surprising that these shareholders filed suit on grounds that included a case involving a former worker who said he was fired for reporting safety problems at one of Massey’s mines (*Associated Press State & Local Wire* July 6th, 2007). While addressing the need to behave in moral ways, Blankenship also spoke of the need to defend the company from “unfair” litigation that defies “precedent and logic” (Massey Energy Company 2008), thus signaling that the CEO had not entirely abandoned his previous combative stance.

A New Federal Administration

Massey’s environmental woes continued. Lisa Jackson, the Obama Administration’s EPA administrator, asked to meet with mining companies and the U.S. Army Corps of Engineers in 2009 to examine permits that were under review (Environmental Protection Agency March 24th, 2009). One permit the EPA decided to scrutinize was Massey subsidiary Highland Mining’s proposed mine in Logan County,

West Virginia (Ward Jr., March 24th, 2009). The EPA stated that the proposed project would result in permanent harm to local aquatic life and human development, and would not be permitted without an extensive environmental impact statement (Ward Jr. March 24th, 2009). State government also took action. On April 3rd, 2009, 40 members of the West Virginia House of Delegates signed a resolution supporting the development of a wind farm on the Coal River Mountain in West Virginia (Knezevich April 3rd, 2009). The resolution was circulated by and lobbied for by the CRMW and was subsequently referred to the West Virginia House Rules Committee (Knezevich April 3rd, 2009). The resolution would later be blocked by West Virginia House of Delegates Speaker Rick Thompson and members of the House Rules committee (Biggers April 10th, 2009).

Massey responded both directly and indirectly to the renewed activist offense. In a May 2009 statement, Massey spokespersons stated:

Massey Energy invests more money in Central Appalachia than any of its competitors. Whether providing access to comprehensive health care screenings to employees or funding high school athletics and academic scholarships at local area schools, Massey is committed to improving the communities of West Virginia (Massey Energy Company May 28th, 2009).

The firm subsequently challenged the previously mentioned anti-mining activists in court yet again. On June 2nd, 2009, circuit judge Robert Burnside ruled that the argument used by activists—that mountaintop removal constituted a crime—was not legal justification for trespassing on company land in order to protest (Ward Jr. June 2nd, 2009). Regarding the ruling and Massey's perceived need to pursue legal sanctions against activists, Massey attorney Sam Brock said the activists "admit they will not stop.

They admit that being arrested will not stop them. They admit that going to jail will not stop them. They admit that having to pay fines will not stop them” (Ward Jr. June 2nd, 2009).

The activists continued to protest Massey as they said they would; on June 19th, 2009, fourteen people were arrested after causing a disturbance at a Boone County mining operation run by Massey (Ward Jr. June 19th, 2009). Activists were joined in their protest activities by 760 residents of Mingo County, West Virginia, who filed suit against Massey on several grounds, including wrongful death, personal injury, property damage, and nuisances (EarthFirst! July/August 2009). And yet another anti-Massey protest occurred on June 23rd, 2009, at a coal preparation plant near Sundial, West Virginia; 31 picketers were arrested (Nyden July 4th, 2009). Individuals and organizations that did not personally participate in the protests and lawsuits demonstrated support by publicizing the events in West Virginia. For example, EarthFirst! wrote about the Sundial West Virginia lawsuit above and the NRDC, Sierra Club, and Friends of the Earth endorsed the Blair Mountain March (Appalachia Rising staff 2011).

The reactions to the protests were predictably mixed. Coal River Mountain Watch sanctioned the protesters’ actions, while Massey CEO Don Blankenship spoke angrily against them (Ward Jr. June 19th, 2009). In June of 2009, the EPA and several other agencies said that they would take more aggressive action regarding mountaintop removal (Environmental Protection Agency June 11th, 2009). The EPA announced their intent to strengthen oversight and regulation of the practice in the Appalachian states of

Kentucky, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia through a combined effort of the EPA, DOI, and the Army Corps of Engineers (Environmental Protection Agency June 11th, 2009). The EPA also expressed intent to work with state and federal agencies to diversify the economies of the Appalachian states, with a particular focus on generating environmentally sound businesses (Environmental Protection Agency June 11th, 2009).

The EPA, along with other federal agencies, was reacting to the public climate and the views of the Obama administration. As the Secretary of the Interior Ken Salazar said:

The steps we are taking today are a firm departure from the previous Administration's approach to mountaintop coal mining, which failed to protect our communities, water, and wildlife in Appalachia....By toughening enforcement standards, by looking for common-sense improvements to our rules and regulations, and by coordinating our efforts with other agencies, we will immediately make progress toward reducing the environmental impacts of mountaintop coal mining (Environmental Protection Agency June 11th, 2009).

On July 28th, 2009 the company responded with a press release addressing both labor and environmental issues (Massey Energy Company July 28th, 2009).

Massey continued efforts to reduce costs in the second quarter through the idling of higher cost mines, limitation of overtime, selective general and administrative cost reductions, renegotiation of supply contracts and significant wage and benefit reductions. Total workforce has been reduced by approximately 700 members since the beginning of the year...In addition, Massey expects to benefit from meaningful productivity increases as its new mines and work forces mature and total turnover declines (Massey Energy Company July 28th, 2009).

Massey stated their intent to move forward with several contested surface mines (Massey Energy Company July 28th, 2009). In spite of the ongoing battles, Massey released a July

2010 statement saying that continuing regulatory and permitting constraints will actually cause their coal assets to become more valuable as coal availability decreases (Massey Energy Company July 27th, 2010).

OUTCOMES OF THE DISPUTE IN WHITESVILLE

Mountaintop removal is likely to remain a contentious issue in the near future. However, the dispute may be reaching a turning point because of recent events. In December 2010, CEO Don Blankenship announced that he would retire at the month's end (Roddy December 5th, 2010). Earlier that same year, a fire and resulting investigation into Massey's mines led to large economic losses for the company (Massey Energy Company September 16th, 2010). In fact, Massey's profit loss for 2010 totaled \$166.6 million (Maher February 2nd, 2011). In spite or because of the conflicts Massey is experiencing, their 2010 corporate responsibility report discussed the hardships of low-income people around the world who lacked reliable energy and closed with the following statement:

Massey is fully committed to sustaining and improving our environmental stewardship and our safety performance relative to regulatory and industry standards. However, we will continue to demand honest discussions about America's energy future, environmental and regulatory issues because the debate is critical to Appalachia's workforce, all Americans and, in fact, the 2.4 billion globally who are still waiting for electricity to improve and extend their lives (Massey Energy Company 2010).

Finally, and perhaps most importantly for Massey's current circumstances, Massey was sold to Alpha Natural Resources for \$7.1 billion dollars on June 1st, 2011

(De La Merced June 1st, 2011). It remains to be seen what the changes in Massey will mean for the issue of mountaintop removal mining.

Throughout this case, federal government officials have often tried to walk a tightrope between activists and the mining industry. There is reason to think that this trend will continue. The EPA has attempted to create a neutral stance by stating that “restricting mountaintop mining to small watersheds could substantially impact the amount of extraction that takes place” and that “cumulative environmental costs have not been identified” due to the practice (Environmental Protection Agency December 6th, 2010). Further, the EPA staff spoke of “reducing the adverse environmental impacts of mountaintop mining operations and excess spoil valley fills in Appalachia” (Environmental Protection Agency December 6th, 2010) without saying exactly what “excess spoil” means. Administrator Jackson was careful to note that the EPA would continue to work with all stakeholders so that Appalachian communities would not have to choose between environmental and public health or coal mining jobs (Environmental Protection Agency April 1st, 2010).

State actors are likewise cautious. For example, the West Virginia Department of Environmental Protection does not currently have information on mountaintop removal mining on its website. Instead, they only state that their job is:

...to regulate the mining industry in accordance with federal and state law. Activities include issuing and renewing permits for mineral extraction sites and related facilities, inspecting facilities for compliance, monitoring water quality, tracking ownership and control, and issuing and assessing violations (West Virginia Department of Environmental Protection 2010).

This statement reflects careful neutrality without a stance on the practice of mountaintop removal. The DEP is touting the need for an alternative and renewable energy portfolio with “diverse energy resources” that include clean coal technologies, renewable energy development, and customer-based energy efficiency (Herholdt Fall 2009). Former Governor Joe Manchin III became senator of West Virginia in 2010. Regarding mountaintop removal mining, Senator John Manchin III stated: “What we’re trying to do is find balance...I mean, it’s tough to find balance in an extraction state” (Zeller Jr. August 15th, 2010). His statement indicates that he is unwilling to oppose mountaintop removal outright; however, it also suggests that times have changed so that activist concerns are at least being considered by state governmental actors.

Although government actors in this case tend towards caution, some are becoming more assertive. In recent months, the EPA appears to be taking a more aggressive stance by setting water pollution thresholds that are to be tracked and made publicly available, publishing scientific information regarding the effects of mountaintop removal, and making legal guidelines for mountaintop removal mining operations more explicit and strict (Environmental Protection Agency April 1st, 2010). Those guidelines were finalized on July 21st, 2011 (Kika July 21st, 2011). An EPA-sponsored study released in September 2010 linked waste from mountaintop removal mining to aquatic ecosystem decline (Environmental Protection Agency September 30th, 2010).

Additional studies have been released linking mountaintop mining with increased mortality from lung cancer and other respiratory illness—for example, one study found

that Appalachian coal mining areas averaged 684 more lung cancer deaths per year than Appalachian non-coal mining areas. Mountaintop mining is also being linked to cardiovascular and kidney disease (Hendryx 2009; Hendryx and Zullig 2009; Hendryx May 8th, 2008; Hendryx, O'Donnell et al. October 2008). Most recently, MTR has been linked to birth defects such that a comparison of mountaintop mining areas and non-mining areas revealed 235 versus 144 birth defects per 10,000 live births (Ahern, Hendryx et al. 2011).

In spite of the revelation of these grim findings, the mood of labor activists in West Virginia appears cautiously optimistic. The United Mine Workers' president Cecil E. Roberts was quoted as saying that Blankenship's retirement "brings to a close a long and difficult period in the history of the coal industry, one that has all too often been associated with human tragedy" (Malloy December 12th, 2010).

Environmental activists are less sanguine. The activists of CRMW report that mining has begun at one Massey site, Bee Tree on Coal River Mountain, and that 75 acres of land have already been destroyed (Coal River Mountain Watch December 1st, 2010). Activists fear that blasting at the Bee Tree site will cause a dammed area filled with seven billion gallons of coal waste to weaken and eventually overflow (Coal River Mountain Watch December 1st, 2010). Additionally, Massey has another Coal River Mountain permit to mine on a site called Eagle 2; two more permits are currently under review (Coal River Mountain Watch December 1st, 2010). As of April 2012, only one site is being mined on Coal River Mountain although activists continue to halt all mining

and permitting there (Coal River Mountain Watch April 23rd, 2012; Coal River Mountain Watch June 2nd, 2011). Activists also hope to prevent “variances” that allow Massey and other coal companies to temporarily ignore environmental laws (Coal River Mountain Watch December 1st, 2010).

It does appear that the pressure CRMW and other activist groups have exerted on Massey have resulted in some changes in Massey productions, at least in Boone County. When Massey announced in 2007 that they were proposing to open five or six new mining sections in existing mines in the county, the proposed mine additions were intended to be underground sections rather than mountaintop removal. However, 2009 saw increased surface mining in Boone County at Massey sites, indicating that the company has not abandoned mountaintop removal even in the CRMW’s home county (Massey Energy Company March 16th, 2010). The company again appeared to change direction in 2010 (Massey Energy Company March 16th, 2010), pointing to internal disagreement in the firm. In March 2010, Massey purchased Cumberland Resources Corporation, which specializes in underground mining. Regarding the acquisition of Cumberland, Blankenship stated, “Cumberland's track record of low-cost production, their focus on underground mining and their low legacy liabilities are consistent with Massey's history and strategy. We believe this acquisition is an excellent fit for Massey” (Massey Energy Company March 16th, 2010). Still, given the prior strategic shifts that the firm has made and the ongoing controversy regarding mountaintop mining, the future of Coal River Mountain and other Appalachian mining areas is, at best, uncertain.

ANALYSIS OF THE WHITESVILLE CASE

I now discuss the factors that influence activism toward corporations causing environmental hazards in the Whitesville Case. Based on the activists' newspaper statements, it appears that the factors that influence activism directed against corporations causing environmental hazards are: attachment to place, attachment to nature, the need for jobs outside of the environmental-hazard causing coal industry, and health and safety concerns. They also spoke about the value and availability of action channels that activism can be directed through [See Table 5.6]. Why should this be so?

Attachment to Place

CRMW was founded by former miner Randy Sprouse in 1998 due to worry over the jobs lost when communities switched from underground to strip mining, and about the destruction of homes caused by explosives used in strip mining (Shnayerson, 2008, pp. 48-50). Activists also argue that the explosives used cause structural damage to wells (Myers, June 2nd, 1998). In addition to destruction of property, activists worry about losing their way of life, aesthetic harm to their communities, and to the social fabric of the places that they live (Jarrell, June 20th, 2011; Nease, April 12th, 1999; Nyden, July 4th, 2009).

Unfortunately, other communities have experienced this range of concerns, often all at one time and with limited resources, in the United States. Many major American cities have a history of threatening marginalized or vulnerable citizens; examples include race-specific quarantines against Asians in Honolulu, zoning to block blacks from

moving into Chicago neighborhoods, dissipation of Latino communities in San Francisco because of rent increases, and placing undesirable land uses in poor and minority neighborhoods (Gin 2007; Taylor 2009; Maantay December 2002).

Attachment to Nature

Besides concern for homes, wells, and their way of life, activists worry about their local environment. Massey and other coal companies have been responsible for environmental violations such as collapsed valley spills (in which rubble from mining is incorrectly contained) and slurry spills (slurry is the waste generated by processing coal) (Scott, 2010, p. 69). Activists worry that MTR increases dust in the air, permanently alters mountains, landscapes and forests, harms wildlife, and buries or pollutes streams and rivers (Coal River Mountain Watch, March 4th, 2010b; Myers, June 2nd, 1998; Nease, April 12th, 1999; Ohio Valley Environmental Coalition et al., Plaintiffs, v. United States Army Corps of Engineers et al., Defendants. v. Jupiter Holdings LLC, et. al., Intervener-Defendants, 2007).

This finding is consistent with current environmental justice literature in which individuals of different race and class backgrounds may be concerned about the environment, but prioritize different environmental issues for different reasons (Uyeki and Holland 2000). Minorities and poor people tend to be more focused on economic growth than wealthier, white individuals, perhaps because of the poverty that they face (Taylor 2000; Uyeki and Holland 2000; Lashley 2010). Additionally, the placing of undesirable land uses in poor and minority communities may lead to an increased focus

on blocking or removing these entities (Hines 2001; Pastor Jr., Morello-Frosch et al. 2005; Saha and Mohai 2005; Mohai and Saha 2007; Schelly and Stretesky 2009). Additionally, Whitesville residents have high rates of home ownership (only 5.9 percent of housing units are for rent), adding another element to their fight to protect the area that they live in (U.S. Census Bureau 2010).

Recently, the activists of CRMW report that mining has begun at one Massey site, Bee Tree on Coal River Mountain, and that 75 acres of land have already been destroyed (Coal River Mountain Watch, December 1st, 2010). Activists fear that blasting at the Bee Tree site will cause a dammed area filled with seven billion gallons of coal waste to weaken and eventually overflow (Coal River Mountain Watch, December 1st, 2010). Additionally, Massey has another Coal River Mountain permit to mine on a site called Eagle 2; two more permits are currently under review (Coal River Mountain Watch, December 1st, 2010).

Table 5.6: Whitesville Codes

Factors	Counts	Percentages	Summary of Frequency Table
Organizational Factors	3	30.0	The present study involved the collection of 122 articles and 35 interviews to obtain quotes from activists working in West Virginia.
Attachment to Place	9	90.0	
Attachment to Nature	9	90.0	Using codes derived from the model in Chapter One and iterative theory building based on a preliminary review of case study data, activist statements were coded for organizational affiliation and possible factors that might influence social movement participation.
Health and Safety	5	50.0	
Need Jobs	5	50.0	For a more extensive discussion of the analysis strategy, please see Chapter Eight.
Government Support	3	30.0	
Lack of Support	1	10.0	Here, the statements of activists working with CRMW were tallied in the “Counts” column. Perhaps more importantly, the percentage of CRMW activists speaking about a given factor is indicated in the “Percent” column.
Short Term Threat	0	0	
Long Term Threat	1	10.0	Looking at the percentage of CRMW activists speaking about a given factor gives one a sense of what influenced this group of actors to engage in social movement participation.
Corporate Resistance	2	20.0	
Perceived Legitimacy	3	30.0	These percentages suggest that the attachment to place and attachment to nature were particularly powerful incitation for this group of activists to engage in social movement participation.
Shared Perceptions	1	10.0	
Ability to Share Views	3	30.0	CRMW activists also spoke about the need for jobs as well as health and safety concerns spurring them to social movement participation. Lastly, they spoke about the value and availability of action channels.
Action Channels	7	70.0	
Economic Alternatives	5	50.0	Total Activists (N)
Demographic Change	2	20.0	
Burnout	0	0	
Funding	0	0	
Skills	0	0	
Life-stage	0	0	
Unexpected	1	10.0	
Total Activists (N)	10	–	

Source: Author, 3/31/12

Need for Jobs

Coal companies stand accused of doing harm to West Virginian workers, along with harm to nature and homes. For example, Massey has allegedly engaged in a number of poor labor practices that include bypassing safety and environmental regulations and unpaid overtime (Scott, 2010, pp. 5, 146). Massey faced litigation from its own shareholders beginning in July 2007 due to alleged violations of environmental and labor laws (Massey Energy Company, 2008a, p. 32). The shareholders filed suit on grounds that included a case involving a former worker who said he was fired for reporting safety problems at one of Massey's mines (Associated Press State & Local Wire, July 6th, 2007).

Massey is not alone in facing labor issues. *The Daily Mail* examined 2001 West Virginian mine inspections and violations and found that the average coal company received 7.6 violations per mining permit (*Coal Age* September 2002). This indicates that safety, labor, and environmental law violations are the norm rather than the exception. Allegedly, some coal companies screen employees for pro-union sentiments, and also refuse to work with the UMW (Scott 2010). And, when coal companies are pressed into abiding by labor and environmental law, they have alleged that they must necessarily fire workers to offset the costs (Parker, April 19th, 2007; Ward Jr., April 6th, 2004). Some CRMW activists have personally experienced labor issues working in the coal industry, as well as the lack of job options in and around Whitesville (Walk, June 20th, 2011).

And the labor woes caused by coal companies such as Massey did not begin recently. In the 1989-1990 period, the Pittston Coal Company withdrew from the Bituminous Coal Operators Association after Pittston demanded weaker labor regulations, Sunday work shifts, and limitations on health and pension benefits for retired and disabled workers (Brenner & Ness, 2009). The actions of Pittston prompted a major strike by the United Mine Workers in 1989 that led to dozens of arrests and massive fines before reaching a partial compromise that protected health and pension benefits but allowed subcontracting and Sunday shifts (Brenner & Ness, 2009). Mining has a long history of labor violations and conflicts (see Chapter Four).

Not only do CRMW activists see the labor problems in and around Whitesville caused by coal companies, they also see the general economic depression of the area and lack of alternative job options outside the coal industry. In Whitesville, the per capita income is \$18,317 leading residents to struggle economically more than many West Virginians and Americans (U.S. Census Bureau 2010). And activists argue that mining blights the landscape, further reducing job options by eliminating tourism dollars (Loeb, August 11th, 1997). Given these concerns and perhaps wishing to win miners to their cause, CRMW began saying that mountaintop removal mining should not only be banned because of its environmental cost, but also because they claimed that the high level of mechanization used in this type of mining is anti-labor (Parsons, October 28th, 1999). Finally, activists believe that wind farming on coal land rather than mining can create temporary construction jobs and wind farm jobs far into the future (Ward Jr., December 9th, 2008). As noted, there is a history in the United States of marginalized groups facing

a choice between having work and having a safe, healthy environment (Kazis and Grossman 1982; Taylor 2000; Taylor 2002; Taylor 2009).

Health and Safety

In addition to labor conflicts, coal companies have been linked to health and safety problems in West Virginia. As noted, Pittston was also responsible for a flood of waste water in Logan County, West Virginia, in 1972 which killed 125 people and destroyed the homes of 4,000 others (Erikson, 1972). More recently, the Bureau of Labor Data shows that the worst mine disaster in the past 30 years occurred at Upper Big Branch Mine in West Virginia, which is operated by Performance Coal Company, a Massey subsidiary (United States Department of Labor: Mine Safety and Health Administration, n.d.). Recently, 760 residents of Mingo County, West Virginia filed suit against Massey on several grounds, including wrongful death, personal injury, property damage, and nuisances (EarthFirst!, July/August 2009).

Also, CRMW activists speak about elevated cancer rates and other health problems linked to air and water pollution (Walk, June 20th, 2011). Studies have been released linking mountaintop mining with increased mortality from lung cancer and other respiratory illness—for example, one study found that Appalachian coal mining areas averaged 684 more lung cancer deaths per year than Appalachian non-coal mining areas. Mountaintop mining is also being linked to cardiovascular and kidney disease (Hendryx, 2009, May 8th, 2008; Hendryx, et al., October 2008; Hendryx & Zullig, 2009). Most recently, MTR has been linked to birth defects such that a comparison of mountaintop

mining areas and non-mining areas revealed 235 versus 144 birth defects per 10,000 live births (Ahern, et al., 2011). It is unsurprising that these activists would prioritize health and safety. From the 1980s when the United Church of Christ commissioned a study to establish whether waste dumping and race were connected, health and safety concerns have motivated activists using explicit or submerged environmental justice framing (U.S. Government Accounting Office 1983; United Church of Christ: Commission for Racial Justice 1987; Mohai and Saha 2006; Mohai and Saha 2007; Bullard, Mohai et al. 2008).

Action Channels

Given the concerns described above, it is not surprising that CRMW activists want to take action. With a small staff of only 18 permanent employees though, finding ways to express their discontent with the status quo can be challenging for the activists of CRMW. Accordingly, they partner with a number of other organizations that possess a variety of resources that CRMW may not have [see Table 5.4]. These partnerships are important in that they allow more costly activism strategies to be employed by CRMW (Carroll, June 24th, 2011). These action channels are particularly important to CRMW activists due to their perception that government actors will not address the environmental, labor, social, health, and safety problems caused by MTR due to corporate cooption or apathy [see pages 137-139, 142-143].

Thus, attachment to place and nature, health and safety concerns, the need for jobs in and around Whitesville, and the availability and value of action channels fuel CRMW

activists' social movement participation. I will now turn to a second MTR case study, in Naoma, West Virginia.

CHAPTER 6: THE NAOMA CASE STUDY



Image 6.1: Naoma, West Virginia

Source: Viklund, A. (May 25th, 2010). "Sundial, West Virginia." *A Landing a Day*. Retrieved May 30th, 2011, from <http://www.landingaday.wordpress.com/2010/02/23/sundial-west-virginia/>.

INTRODUCTION

In and around Naoma, West Virginia, activists are also fighting Massey Energy Corporation over the issue of mountaintop removal mining. As is true of nearby Whitesville, Naoma is a place where the jobs-versus-environment struggle is also important. The following case study involves multiple stakeholders who reflect the larger

national and global discourse about environmental and cultural resilience and vulnerability, globalization, mechanization, and competing visions of economic development.

In the following sections, I describe the key actors in this conflict. I then discuss the actions taken by stakeholders in the conflict, the outcomes of the stakeholders' actions, and how the case study data answers my core questions, to the extent that it does answer them.

STAKEHOLDERS IN THE NAOMA CASE

Naoma

Naoma is a very small town in Raleigh County, West Virginia [see Image 6.1] (Viklund May 25th, 2010). It has 1,012 people and a per capita income of \$13,779⁵, which is substantially lower than that of West Virginia or the United States as a whole (\$20,953 and \$26,059, respectively)(U.S. Census Bureau 2010).

Due to its small size, anti-mountaintop removal mining activists in Naoma work with a Pan-Appalachian coalition of anti-mountaintop removal organizations and other activist groups that goes by the name of Mountain Justice; the West Virginia branch of the coalition is located in Naoma. Mountain Justice activists want to end mountaintop removal mining and all strip mining for coal; additionally, they want to create diverse, sustainable economies in Appalachia as well as protect the cultural and natural heritage

⁵ Because Naoma is an unincorporated town, the census does not collect data for it. Accordingly, I have used the zip-code that Naoma sits within as a proxy for Naoma demographic information.

of Appalachian communities (Mountain Justice). The West Virginia activists are affiliated with Mountain Justice chapters in Kentucky, Tennessee, and Virginia (Mountain Justice).

Mountain Justice has worked with a number of organizations in the past several years including Climate Ground Zero, Appalachian Voices, the Rainforest Action Network (RAN), and Rising Tide. The organizations vary in terms of funding, percentage of revenue acquired from individual and group contributions, staff size, type of organization (whether coalition or non-profit), stated goals, and geographic scope, which range from the local to the international (Economic Research Institute 2011; GuideStar staff 2011). Additionally, the groups vary in terms of structure. For example, RAN and OVEC follow the classic organizational structure in that they are comprised of full-time employees of differing ranks, while Rising Tide and Climate Ground Zero are volunteer-run and lack a paid staff with defined roles and titles.

There are also differences in the type of person who works for these organizations. For instance, RAN's website claims teachers, scientists, and students among its working ranks, which indicates that at least some of the people who work for them have secondary educations (Taylor 1995-2010).

The goals and strategies of the organizations also vary, as is demonstrated by the following mission statements:

- Mountain Justice—"Mountain Justice seeks to add to the growing anti-MTR citizen's movement. Specifically Mountain Justice demands an abolition of MTR, steep slope strip

mining and all other forms of surface mining for coal. We work to protect the cultural and natural heritage of the Appalachia coal fields. We work to contribute with grassroots organizing, public education, nonviolent civil disobedience and other forms of citizen action” (Mountain Justice).

- Coal River Mountain Watch—“The mission of Coal River Mountain Watch is to stop the destruction of our communities and environment by mountaintop removal mining, to improve the quality of life in our area and to help rebuild sustainable communities... We have been active in federal court to challenge the U.S. Army Corps of Engineers permits for valley fills and made regional news with demonstrations against a sludge dam and preparation plant near Marsh Fork Elementary School” (Coal River Mountain Watch 2009).
- Ohio Valley Environmental Coalition—“OVEC’s mission is to maintain a diverse organization dedicated to the improvement and preservation of our environment through grassroots organizing, education and coalition building, leadership development, media outreach, and strategic litigation” (OVEC staff n.d.).
- Keeper of the Mountains—“The Keeper of the Mountains Foundation aims to educate and inspire people to work for healthier, more sustainable mountain communities and an end to mountaintop removal. We believe a better future in the coalfields requires everyday people to come together and recognize their power to make long-term, lasting change. We envision an organization, led by West Virginians, with real power in West Virginia. We support communities that want to move beyond a coal-based economy and put in its place an economy that values people, land, and mountain heritage.” Keeper of the Mountains engages in community outreach and education (Keeper of the Mountains Foundation 2010).

- Climate Ground Zero—“Our most important mission on the Coal River is to bear witness. The air and water pollution created by this [MTR] is killing people and destroying communities, some of which have been here since this was still an English colony. A way of life is being erased and over a million and a half acres of forests have been destroyed forever.Climate Ground Zero is not an environmental organization; it is an ongoing campaign of non-violent civil disobedience in Appalachia to end mountaintop removal” (Smyth and Caskey 2011).
- Appalachian Voices—“Appalachian Voices brings people together to protect the land, air, water and communities of central and southern Appalachia. We empower people to defend our region’s rich natural and cultural heritage by providing them with tools and strategies for successful grassroots campaigns. Since the impacts of coal threaten Appalachia more than any other single source of pollution, we are committed to reducing coal’s impact on the region and advancing our vision for a cleaner energy future.” Appalachian voices engages in educational outreach and state/federal lobbying (Burrell 2011).
- Rising Tide—“Rising Tide North America was born out of the conviction that corporate-friendly and state-sponsored ‘solutions’ to climate change will not save us. We’re a 100% volunteer, grassroots network of groups and individuals who take direct action to confront the roots causes of climate change. We promote local, community-based solutions to the climate crisis and support climate justice” (Rising Tide staff).
- Rain Forest Action Network—“Rainforest Action Network campaigns for the forests, their inhabitants and the natural systems that sustain life by transforming

the global marketplace through education, grassroots organizing, and non-violent direct action” (Taylor 1995-2010).

As seen above, these organizations do not share the same considerations, goals, and strategies. Some, such as CRMW, only want to end MTR, while others, such as Mountain Justice, speak about eliminating all surface-mining. Their considerations also vary in terms of focus: for example, both OVEC and Rising Tide want to protect the environment, but Rising Tide also focuses on localism and populist organizing not dependent on corporations or the government, a key distinction between the two groups. Likewise, their strategies differ: the comparatively militant Climate Ground Zero believes in non-violent civil disobedience, while OVEC, CRMW, Keeper of the Mountains, and Appalachian Voices focus on educational and legal efforts [see Table 6.1 for organization data].

Table 6.1: Activist Organizations in the Naoma Case

Groups	Location	Revenue	% from Donations	Total Staff	Founded	Working In WV
WV Mountain Justice*	Naoma, West Virginia; Appalachian	—	—	Approx. 65	2004	4 out of 7 groups
Ohio Valley Environmental Coalition (OVEC)	Huntington, West Virginia	\$591,305	99.1%	13	1987	100%
Coal River Mountain Watch (CRMW)	Whitesville, West Virginia	\$463,524	100%	15	1998	100%
Keeper of the Mountains	Charleston, West Virginia	—	Receives donations multiple groups	16	2005	100%
Climate Ground Zero	Rock Creek, West Virginia	—	100% donations from individuals & small businesses	40 volunteers	2005	100%
Appalachian Voices	Boone, NC; Pan-Appalachian	\$1,379,645	96.8%	18 & 295 volunteers	2010	Approx. 38
Rising Tide	Hood River, OR; National	—	100%	None; 100% volunteers	—	—
Rain Forest Action Network	SF, CA	\$3,881,343	95.2%	43	Active since 1995	0

Source: Economic Research Institute (2011). "ERI Surveying Non-Profit Salaries Since 1987." Retrieved June 25th, 2011, from <http://www.eri-nonprofit-salaries.com/index.cfm>. GuideStar staff (2011). GuideStar, GuideStar USA.

*Mountain Justice is a coalition—accordingly, it has no non-profit profile.

As stated earlier in this dissertation, an individual's provenance—where one grew up, has family, works, and lives—can affect how invested an actor is in a place and place issues, as well as the quantity and kind of personal resources an actor may have. Actors living and working in California or North Carolina do not have the same stake in the well-being of West Virginian communities as West Virginians do. Nor do they have the same attachment to place, even if they temporarily live in West Virginia. They also do not share the same economic and personal risks associated with activism. For example, Larry Gibson, associated with both Keepers of the Mountain and Mountain Justice, has described how his family's graves have been destroyed by nearby MTR explosions, the property damage to his home from that blasting, vandalism for his activism that includes bullet holes in the side of his house, he had a dog shot, and he has been forced off the road while driving by angry miners (Pianin March 2nd, 2001; Janofsky May 7th, 1998; Shnayerson May 2006). Reflections of the differences in identity and engagement can be seen in the mission statements excerpted above: CRMW speaks of saving "*our* communities and environment" [emphasis by the author] while Rising Tide states that they "promote local, community-based solutions to the climate crisis and support climate justice" (Rising Tide staff ; Coal River Mountain Watch 2009). The activists described in this chapter face antagonism from West Virginian stakeholders, who accuse them of destroying jobs ("A.M." June 11th, 2011; "T.P." June 11th, 2011; Goodman June 20th, 2011; Jarrell June 20th, 2011; Kunkel June 20th, 2011; Nida June 20th, 2011; Schewel June 20th, 2011; Walk June 20th, 2011; "K.L." June 23rd, 2011; Ploeser June 28th, 2011). However, the consequences of opposing MTR are particularly heavy for West

Virginian activists, who face intimidation and censure from frustrated members of their communities (as well as possible economic consequences) (Scott 2010) and allegedly, from Massey Energy.

Massey Now Alpha

Currently, the CEO of Massey is Baxter Phillips Jr., who assumed the position following the December 2010 retirement of CEO Don Blankenship (Maher and Chon December 4th, 2010; Marketline November 5th, 2009). Massey directly employs 6,743 people and recorded revenues of \$2,692.2 million during the financial year ending in December 2009 (Marketline November 5th, 2009). The company operates 66 mines in West Virginia, Kentucky, and Virginia—46 of the mines are underground and 20 are surface mines (Marketline November 5th, 2009). The company holds reserves for 2.3 billion more tons of coal (Massey Energy Company n.d.).

Abingdon, Virginia-based Alpha has 6,400 employees; in 2009 it recorded revenues of \$2,495.5 million, selling 47.2 million tons of coal. Alpha operates 61 mines (36 underground, 23 surface) in Wyoming, Pennsylvania, Virginia, and West Virginia. Alpha is also involved in developing Marcellus Shale natural gas. Alpha's CEO is Kevin S. Crutchfield, who has been with Alpha since 2003, one year after its founding by the private equity firm First Reserve Corporation (Datamonitor October 26th, 2010).

Government and Union Actors

Mountain Justice lobbies the West Virginia DEP. The DEP is the organization that issues permits and citations to mining companies; when activists attempt to punish

companies for breaking environmental law, the DEP, U.S. EPA, or both become involved. Other governmental entities that Mountain Justice may engage with include the U.S. Office of Surface Mining Reclamation and Enforcement, the U.S. Department of the Interior, the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the U.S. Internal Revenue Service, the U.S. Bureau of Land Management, and the U.S. Bureau of Alcohol, Tobacco, and Firearms.

In theory, Mountain Justice might interact with the UMW, but the union is not active in the Naoma conflict due to their perceived need to keep jobs, including MTR jobs (Smith June 16th, 2011). An exception occurred when union members joined environmental activists in protesting Massey after 29 miners were killed in a Massey mine accident (discussed later in this chapter) (Togneri May 19th, 2010). It is also true that some union miners attended the Blair Mountain March (which will be discussed toward the end of this chapter)—however, they did so without permission and support from the union (Gorman June 10th, 2011).

INITIAL STAKEHOLDER STANCES

Mountain Justice

Mountain Justice Activists have been interested in the environmental effects of MTR since the beginning of their conflict with Massey. However, concern about workers and communities being negatively impacted by mechanization and displacement, as well as safety issues from flooding, water pollution, and air pollution were also among their original concerns—meaning that protecting humans and mountains were both immediate

priorities for this group of activists (Haltom August 1st, 2005; *PR Newswire* February 3rd, 2009; Simmons Jr. January 21st, 2005).

Massey and the Coal Industry

Massey also claimed to represent workers and communities, and they defended their actions by pointing to their permits to mine (Schelzig July 25th, 2005; *Charleston Gazette* May 24th, 2009). Other members and representatives of the coal industry defended themselves by pointing out the legality of their actions; for example, Luke Popovich, spokesman for the National Mining Association, a trade group that represents the coal industry, said that the *Surface Mining Reclamation and Control Act* tightly regulates practices to ensure the land will be reclaimed after mining and will comply with the EPA's toxic release inventory (Williams June 11th, 2007). He added that Appalachian communities often welcome the flat land left by mountaintop removal because of the lack of flat land in Appalachia, and said that surface mining is safer and more efficient than deep mining (Williams June 11th, 2007).

Government Stances

In order to maintain a neutral stance on MTR, the regulatory agencies chose to focus on law enforcement (Schelzig July 25th, 2005). In 2003, the EPA, in conjunction with the U.S. Army Corps of Engineers, Office of Surface Mining, U.S. Fish and Wildlife Service, and Department of Environmental Protection, issued cross-agency guidelines intended to reduce stream damage caused by MTR by increasing water quality monitoring and best practice dissemination in reforestation and reclamation

(Environmental Protection Agency May 29th, 2003). The revised guidelines for mountaintop removal mining involved the systematization of the mining permit review process (instead of case by case reviewing), making it faster and easier to get permits. The guidelines also discussed a possible reconsideration of the buffer rule that prevents mining operations from being conducted near streams, suggesting that the buffer requirement would be waived regarding valley spills (Environmental Protection Agency 2003). The comment period for the new guidelines was extended into 2004 at the request of the public (Environmental Protection Agency August 22nd, 2003). The guidelines were finally released in October of 2005 (Environmental Protection Agency October 28th, 2005).

Meanwhile, the state government was also attempting to keep a distance from the conflict. For example, when 50 protestors representing a variety of activist groups and Southern West Virginia communities protested MTR at the Governor's office on March 16th, 2007, Governor Joe Manchin declined to speak to them and said via a spokesman that local affairs are out of his hands (*Charleston Gazette* March 17th, 2007).

STAKEHOLDER ACTIONS IN THE NAOMA CASE

Birth of Mountain Justice

In September 2004, newly-formed Mountain Justice held a “Mountaintop Removal Awareness Week”—the events included a panel discussion with environmentalists such as Executive Director of Appalachian Voices Ann Hitt, a talk on the ecological impacts of mining waste, and a trip to Larry Gibson's property on Kayford

Mountain (Gibson is both the founder of the Keeper of the Mountains Foundation and a coalfield resident directly impacted by mining on Kayford Mountain) (Miller September 29th, 2004).

Mountain Justice asserted that MTR violated environmental laws, killed wildlife, blocked streams, displaced residents, and contributed to flash floods—accordingly, they sponsored the anti-MTR week at Virginia Tech University’s campus, where the organization was formed in April 2004 (Simmons Jr. January 21st, 2005; Miller September 29th, 2004). Founding member Kim Murphy remembered that her first concerns about modern mining arose when she was five years old and her father, a West Virginian miner, was on strike and out of work. Murphy remembered asking what would happen to the mine ponies, only to be told that they had been replaced by machines (Simmons Jr. January 21st, 2005). Murphy stated, “It was my first brush with mechanization in the coal industry, machines replacing animals, men and now whole communities. Mountaintop removal is the most devastating extension of that mechanization” (Simmons Jr. January 21st, 2005). The organization’s founding members decided that something needed to be done, and started Mountain Justice: their initial plan was to focus on education, letter-writing campaigns, and building a database of the effects of mountaintop removal sites on nearby streams and ecosystems (Simmons Jr. January 21st, 2005). Mountain Justice now has chapters in West Virginia, Virginia, Tennessee, and Kentucky (Mountain Justice).

Mountain Justice activists also began to engage in other anti-MTR activities. For example, activist Chris Dodson participated in a series of events in West Virginia that included testing water for mining-related pollution, protesting at the state capitol and mining properties, and calling or writing to newspaper editors (Thorton June 3rd, 2005; Thorton June 3rd, 2005). In response to these actions, Massey ran an anti-protestor advertisement in which they claimed commitment to what they called the “total environment” of West Virginia. A voice in the advertisement stated: “People need good-paying jobs, funded pension plans, life-saving health care, and quality schools. Massey Energy helps provide all those things to thousands of local families. The needs of the people: That’s what protesters against coal forget” (Schelzig July 25th, 2005).

Early Government Responses

The government also responded to the activists. The Office of Surface Mining and Reclamation said they would examine whether or not the DEP was properly enforcing the rules for regulating mining operations within 300 feet of schools, churches, or homes. “We’re going to spot-check it, and see if there are any systematic problems,” said Roger Calhoun, director of OSM’s Charleston field office (Schelzig July 25th, 2005).

Activists were not satisfied with this promise and continued to organize in the summer of 2005, in spite of the opposition that they faced from Massey and from some coalfield residents. This opposition from coalfield residents can be seen in the statements of activists. For example, Naoma resident/activist Vernon Haltom wrote to the

Charleston Daily Mail to speak against assertions that anti-MTR activists were outside agitators. In describing activists' work, he said that they:

...seek to preserve people's communities that are being destroyed by mountaintop removal. It seeks to preserve the safety of people, such as the thousands directly downstream from failure-prone multi-billion gallon sludge dams. It seeks to preserve the rights of people, such as those who must go through an armed guard to visit their family cemeteries....to preserve the property of people, such as those whose roots in this area go back eight or nine generations and are now told, 'If you don't like coal, move.' And yes, it seeks to preserve people's jobs, such as the 14,000 mining jobs King Coal has eliminated in West Virginia since 1990. King Coal considers only those it can use or control with money. It's time to consider the rest of us as well (Haltom August 1st, 2005)

Similarly, activists Naomi Ullian and Ben Straub described situations where opponents shouted at the activists, tried to run them off the road, and issued death threats (Ullian and Straub August 1st, 2005; Haltom August 14th, 2005). In spite of the hostility, the activists stated that they "...have conducted ourselves in a peaceful and law-abiding manner. We do not and will not engage in violence or property destruction" (Cooper August 8th, 2005).

In spite of all this, activists continued organizing. For example, upon returning to Virginia Tech's campus, Mountain Justice screened anti-MTR films; in West Virginia, they protested outside of the Berkeley County Republican Club's annual Lincoln Day dinner, where then Massey Chairman Don Blankenship was speaking (Thorton February 4th, 2006; *The Associated Press State & Local Wire* February 20th, 2006). Blankenship, meanwhile, stated that he would target any legislator who "voted against the people of West Virginia," and specifically referred to Governor Joe Manchin and West Virginia's Democrat Senator Robert C. Byrd, both of whom had criticized Massey's actions (*The*

Associated Press State & Local Wire February 20th, 2006). Following this exchange there was a lull in the tensions between Mountain Justice and Massey. But it would not last.

CONFLICT AT BEE TREE MINE AND BRUSHY FORK IMPOUNDMENT

The conflict between the Mountain Justice activists and Massey escalated on February 3rd, 2009, when Mountain Justice collaborated with the activist group Climate Ground Zero to organize a protest against Massey Energy. Fourteen protestors were arrested for trespassing and chaining themselves to equipment at Massey's Bee Tree Surface Mine in Raleigh County; the protestors also attempted to deliver a letter to Don Blankenship⁶ (Bontrager February 3rd, 2009; Ward Jr. February 4th, 2009).

Massey responded to the above actions by pointing out the legality of the company's behavior and illegality of their opponents'. Massey spokesman Jeff Gillenwater told reporters that the protestors were rightly cited because they were trespassing and Massey had all necessary permits to mine the Bee Tree location (*The Associated Press State & Local Wire* May 24th, 2009).

The protestors were concerned that blasting from the new mining would destabilize a dam called the Brushy Fork Impoundment, which holds back seven billion

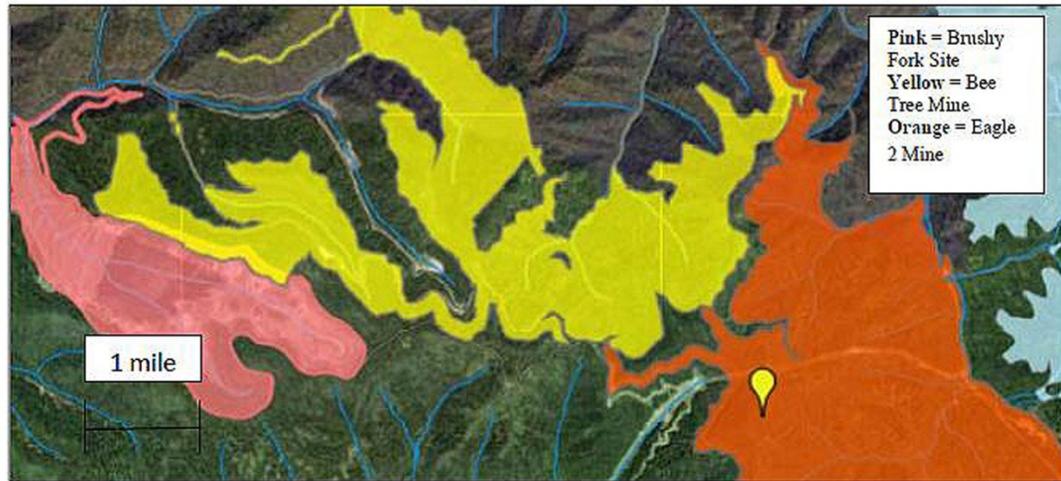
⁶“Cited in the morning action were McIlmoil, of Locust Grove, Va.; Matt Noerpel of Rock Creek; James McGuinness of Montegut, La.; Mike Roselle of Forestville, CA; and Glen Collins of Rock Creek. Cited in the afternoon action were Lorelie Scarbro of Rock Creek; Larry Gibson of Charleston; Charles Nelson of Glen Daniel; Missy Petty of Knoxville, Tenn.; Mary Wildfire of Spencer; Vernon Haltom of Naoma; Allen Johnson of Dunmore; and Heather Sprouse of Charleston (Ward Jr., February 4th, 2009).”

gallons of coal waste (Bontrager February 3rd, 2009). Like other activists working in Appalachia, Mountain Justice advocated that the mining land be converted to a wind farm (Bontrager February 3rd, 2009). They expressed fears about public safety because of the 2008 failure of a coal waste impoundment in Tennessee that released one billion gallons of sludge (Bontrager February 3rd, 2009; *PR Newswire* February 3rd, 2009). They also grew up with the memory of the Buffalo Creek Disaster (Erikson 1972). Vernon Haltom of Mountain Justice said:

The myth of 'clean coal' ignores the tragedy of mountaintop removal, the poisoning of our drinking water, and severe health consequences from coal mining and burning. People are no longer going to stand by silently and let coal companies destroy our communities while the government does nothing (*PR Newswire* February 3rd, 2009).

Figure 6.1 shows the topographic relationship between the Bee Tree Mine, the Brushy Fork waste site, the Eagle 2 Spruce Mine, and the area where activists want a wind farm, all on Coal River Mountain (Osha August 11th, 2011).

Figure 6.1: Map Showing Coal River Mountain Sites



Note: The yellow flag on the map indicates where Mountain Justice and other activists want to place a wind farm.

Source: Osha, J. (August 11th, 2011). "Journey Up Coal River". Huntington, WV, Ohio Valley Environmental Coalition.

Mountain Justice and Climate Ground Zero called on the West Virginia DEP to suspend Massey's permit due to the failed Tennessee dam and a 2000 Kentucky dam failure at a site owned by Massey; the protestors also called on the federal government for help (*PR Newswire* February 3rd, 2009). The DEP remained silent, but the federal EPA did not, as will be seen in the next section. Undeterred by the DEP's reticence, the Mountain Justice activists continued to protest. On March 5th, 2009, Climate Ground Zero and Mountain Justice again protested at Massey's Bee Tree Mine; five activists were arrested⁷ (Munn March 5th, 2009).

⁷ "Among the group were Joe Gorman, a student from West Virginia University, Cassandra Rice a native of Fairmont, WV, Andrew Munn of University of Michigan and member of Student Environmental Action Coalition, Nicole Moston a freelance videographer and Mat Louis-Rosenberg of the group Mountain Justice (Munn, March 5th, 2009)."

Further Government Actions, and Conflict

On March 24th, 2009, the Obama Administration issued a statement through EPA administrator Lisa Jackson, stating that the EPA would more closely scrutinize mountaintop removal permits in the future and more strictly review current permits (Ward Jr. March 24th, 2009). Also, after the federal EPA threatened to step in, the Department of Environmental Protection cited Massey for safety violations involving improper use of explosives at the Brushy Fork site (Marfork Coal Company Inc. Permit November 4th, 2009).

Meanwhile, activists continued to engage in protest, hoping to keep the pressure on Massey and government officials. Their efforts included a five day, 25 mile “senior march” led by 81-year-old Ronald Micklem to the Massey-owned Cannelton Mine; a 75 activist sit-in at the federal EPA headquarters; a sit-in and letter delivery to Governor Manchin’s office; a national protest that took place at multiple locations across the United States in June; and the proposal of the Appalachian Restoration Act by the Democrat Senator Cardin of Maryland (Jenkins March 26th, 2009; Miles October 19th, 2009; Smith October 30th, 2009; *Charleston Gazette* September 18th, 2009). The bill was referred to the Committee on Environment and Public Works on March 25th, 2009, which is the last action that has been taken on it (Cardin 2009).

Senator Cardin was not the only government actor to join the efforts challenging MTR. Other examples of inter-governmental struggle over the future of MTR can be seen in the statements and actions of key legislators and bureaucrats. For instance, West

Virginian Representative Nick Rahall originally inserted language into the 1977 Surface Mining and Control Act that allows mountaintop mining, and he continues to defend the practice. In contrast, in June 2009, the Obama Administration announced an inter-agency plan to reduce the effects of mountaintop mining. Rahall and others lobbied fiercely for mountaintop removal and the Obama Administration listened—the EPA approved 42 of 48 proposed MTR permits and also decided to honor the Bush-era decision to allow exemptions to stream buffers until 2011 (Biggers October 19th, 2009).

Furthermore, in June 2009, the West Virginia Supreme Court upheld a ruling to place a second coal storage facility near the Marsh Fork school that already sits below the Brushy Fork waste site (*Randy C. Huffman, Secretary of the West Virginia Department of Environmental Protection, Appellee, v. Goals Coal Company, and Appellee, and Coal River Mountain Watch, Appellant* June 9th, 2009). The U.S. Supreme Court struck down that ruling when they discovered that one of the state court justices received \$3 million dollars from Massey and therefore violated American law by presiding over a case in which Massey was a litigant (*Hugh M. Caperton et al., Petitioners v. A.T. Massey Coal Company, Inc. et al.* June 8th, 2009).

In spite of making concessions to the state government, the EPA did use their oversight to strike down a permit that would have allowed the largest mountaintop removal mine in West Virginia, as well as freezing 79 other permits (Jones September 11th, 2009). Explaining her decision, Lisa P. Jackson said:

Our role, along with the Army Corps of Engineers, is to ensure that mining companies avoid environmental degradation and protect water quality so that Appalachian communities don't have to choose between jobs and their health. Working closely with mining companies, our federal and state partners, and the public, our goal is to ensure Americans living in coal country are protected from environmental, health and economic damage (Jones January 5th, 2010).

The Protests Continue

In spite or because of regulatory uncertainty, Mountain Justice continued their efforts in West Virginia. Two activists⁸ representing Mountain Justice and Climate Ground Zero engaged in protest by climbing up Blair Mountain trees and refusing to move in spite of allegedly having flood lights shone in their faces and air horns sounded by Massey employees; when the protestors descended after nine days they were arrested and charged with trespass, conspiracy, and obstruction (Sparky February 5th, 2010; *Associated Press State & Local Wire* January 21st, 2010; Morgan January 28th, 2010; Munn January 30th, 2010). Bail was set at \$9,625. Mountain Justice and Climate Ground Zero also joined a protest at a Patriot Coal Corporation site (Taylor October 25th, 2010). Governor Manchin called for "calm in the coal fields" and stated his support for MTR (Ward Jr. January 25th, 2010). The activists ignored him and Massey struck back.

The company requested and received a temporary court order barring activists from its property (*Marfork Coal Company, Plaintiff, v. David Arron Smith, et al., Defendants* January 27th, 2010). Massey, via its subsidiary Marfork Coal, filed suit

⁸One, Eric Blevins, is a native West Virginian (Sparky, February 5th, 2010) while the other, Amber Nitchman is from Pennsylvania (Google (2011). Retrieved May 7th, 2011, from <http://www.map.google.com>., Hawkes, J. (January 26th, 2010). She's Gone Up A Tree for a Cause. *Intelligencer Journal Lancaster New Era*. Rock Creek, WV.

against five activists (including the above mentioned Blevins and Nitchman) who had trespassed on the Bee Tree site and attempted to get a permanent restraining order against:

...Defendants and their officers, agents, servants, employees and attorneys, and those other persons who are in active concert or participation with Defendants . . . who receive actual notice of such order . . . from: (a) trespassing or otherwise congregating on any of the mining properties of corporate entities affiliated with A.T. Massey and Massey Energy . . . (b) interfering, obstructing, blocking, impeding or tampering with any coal operating equipment, trucks or other vehicles of any of the corporate entities affiliated with A.T. Massey and Massey Energy, including but not limited to Marfork (*Marfork Coal Company, Plaintiff, v. David Arron Smith, et al., Defendants* January 27th, 2010).

Responding in a letter from prison, Eric Blevins, one of the activists who had camped in a tree in protest, attempted to explain his actions:

I am not an outsider. I am an Appalachian. Virginia-based Massey Energy is an outsider. The people who live in the mountains and work on the mine sites work harder, longer hours and make less money than those who work at Massey's headquarters in Richmond. All the people here should control how the land around them is used and they should profit the most from it, not people in an office far away who aren't as impacted by the decisions they make that destroy our mountains....I climbed a tree to defend God's beautiful divine creations: the people who live below the Brushy Fork sludge impoundment being threatened with imminent death by the blasting, the plants and animals being slaughtered, Coal River Mountain, our air and our water. The actions of my friends and I were nonviolent and defensive (Sparky February 5th, 2010).

Once again, the insider/outsider framing is invoked by Blevin, as is class consciousness, sovereignty, environmental protection, pacifist direct action, and religious faith. As a West Virginian, Blevins faces the same economic and environmental realities experienced by others living in coal mining communities, as well as censure for his activist work that is hindering coal production and therefore, employment. During the time all this was occurring, the federal EPA was in the process of investigating Massey. It

examined the Brushy Fork waste site (Ward Jr. February 9th, 2010), as well as mines worked by other companies (Environmental Protection Agency January 5th, 2010) but took no further action.

OUTCOMES OF THE NAOMA CASE

In spite of the activists' statements, on February 26th, 2010, U.S. District Judge Irene Berger extended the order against them, although she did not extend the order to cover anyone working with them (*Marfork Coal Company, Plaintiff, v. David Aaron Smith, et al., Defendants.* February 26th, 2010). The order, however, did not stop the activists; in fact, the opposition increased.

In May, approximately 250 environmental activists from Mountain Justice and Rising Tides were joined by 750 union miners in calling for the criminal prosecution of Don Blankenship and the Massey board following the deaths of 29 miners at Massey's Upper Big Branch mine (*Charleston Gazette* April 11th, 2010). This demonstrates that miners are active in workplace safety activism but not activism to stop MTR. In December 2011 and January of 2012, Alpha settled all remaining wrongful death claims requested by widows of the 29 deceased miners, made a \$209 million dollar corporate criminal liability settlement with the U.S. Attorney in Charleston, West Virginia, and announced plans to permanently seal parts of the Upper Big Branch mine in summer of 2012 (Maher April 5th, 2012).

Figure 6.2: Blair Mountain March Recruitment Flyer



Source: Appalachia Rising staff (n.d.). "Appalachia Rising." Retrieved June 26th, 2011, from <http://appalachiarising.org/>.

Then, from June 6th to 11th, 62 activist groups, West Virginian residents, and union members marched 50 miles from Marmet, West Virginia to Blair Mountain, the site of an infamous battle between coal miners and companies over labor rights, which has become another MTR site [Figure 6.2 is the flyer passed out to recruit people to the march) (Nyden May 15th, 2011; Appalachia Rising staff n.d.).

Activists wanted to protect the site from strip mining and have it placed on the historic registry; 250 individuals marched to Blair Mountain, where they were joined by approximately 500 more people for a rally (Nyden June 7th, 2011). The mountain is owned and already being mined by Massey's new owner, Alpha (Nyden June 7th, 2011)—accordingly, Massey, along with other companies that perform mountaintop mining, was the target of the march. In the wake of the march, West Virginia seems to be holding her breath: the activists and Massey remain entrenched in their conflict, with no clear end in sight.

In addition to being in conflict with Massey, activists are in conflict with each other. They have struggled with how they want to represent labor and social issues in addition to environmental issues. For example, Jasper Conner, a member of the Industrial Workers of the World as well as Mountain Justice, argued in a letter to the editor that:

The demand for Green Jobs is important, largely, because when we do move beyond coal, and beyond fossil fuels, we'll need sources of income for hundreds of thousands of people who rely on the fossil fuel industry to feed their families. While this is an important thing to recognize, we also need to recognize that people don't just need a job, they need a living wage job that they can work with dignity..... We should not only focus on developing a Green economy that is good for workers, but one that is good for everybody. Too often economic development happens at the expense of the same people, poor folks and communities of color. Many of the thriving commercial districts in major cities were once black neighborhoods where people had lived for generations. In building our Green economy, we must align ourselves with those fighting gentrification so that we have a Green economy for everyone (Conner March 31st, 2010).

But social justice and class consciousness concerns like those above are not shared universally in the fight against mountaintop removal. Some question whether

these issues should fall under their purview; one organizer confided in me that Blair Mountain March organizers had fiercely debated among themselves whether or not to describe the march as an environmental protest *or* an environmental and labor march (Fuller June 14th, 2011).

Thus, at present, the fight against mountaintop removal continues in and around Naoma. Activists challenge Massey in the name of environmental protection, public health, workers' rights, and Appalachian cultural survival. Some want to provide economic alternatives and jobs. Their reasons for challenging Massey differ from person to person, but the perception that action is urgently needed does not. Although economic alternatives are discussed by activists, they have not yet created alternative economic opportunities in addition to protecting public health and ecological resilience.

ANALYSIS OF THE NAOMA CASE

I now discuss the factors that influence activism toward corporations causing environmental hazards in the Naoma Case. Often mentioned concerns for this group of activists are attachment to place, attachment to nature, and action channels [see Table 6.2]. The codes are found in activist statements taken from newspaper articles.

Attachment to Place and Nature

Mountain Justice Activists discuss ending MTR and all surface mining; the organization was founded to address these goals (Mountain Justice). In addition to trying to stop strip mining and in particular MTR, Mountain Justice was started to protect Appalachian cultural heritage and to create sustainable economies in Appalachia (Mountain Justice). Given that 4 out of 7 Mountain

Justice groups are located in West Virginia, it is unsurprising that activists have an attachment to this particular state, its communities, and its ecosystems (Economic Research Institute 2011; GuideStar staff 2011).

Mountain Justice-affiliated activists like Larry Gibson have also been personally impacted by MTR through the destruction of his family home and cemetery, and the antagonism that he faces due to opposing MTR (Scott 2010; Pianin March 2nd, 2001; Janofsky May 7th, 1998; Shnayerson May 2006). Perhaps because they are personally impacted, activists were interested in both human and natural ill-effects of MTR so multiple goals have been pursued throughout the life of this organization from its founding onward; in particular, activists worried about community dissolution, joblessness, and safety in addition to environmental concerns (Haltom August 1st, 2005; Bontrager February 3rd, 2009; *PR Newswire* February 3rd, 2009; Sparki February 5th, 2010; Simmons Jr. January 21st, 2005; Miller September 29th, 2004). However, given that only about a third of MJ activists spoke about health and safety concerns (37.5%) it appears that concern about Appalachian culture and homes is more important to these activists. Indeed, 75% of them speak about attachment to place which was coded to include concern for homes, communities, or both. For some activists, a threat to their way of life and home may be more destructive than an actual physical threat to their safety or health.

Table 6.2: Naoma Code

Factors	MJ	Percent
Organizational Factors	6	37.5
Attachment to Place	12	75.0
Attachment to Nature	11	68.8
Health and Safety	6	37.5
Need for Jobs	6	37.5
Government Support	2	12.5
Lack of Support	1	6.3
Nature of Threat	0	0
Corporate Resistance	3	18.8
Perceived Legitimacy	1	6.3
Shared Perceptions	6	37.5
Ability to Share Views	6	37.5
Action Channels	8	50.0
Economic Alternatives	5	31.3
Demographic Change	1	6.3
Burnout	0	0
Funding	0	0
Skills	1	6.3
Life-stage	0	0
Unexpected	1	6.3
Total Activists (N)	16	–

Source: Author, 4/10/2012

Action Channels

As noted, Mountain Justice is a pan-Appalachian coalition and 4 of the 7 groups that are part of it work in West Virginia. Given that it coordinates activist efforts between these groups and with others (Economic Research Institute 2011; GuideStar staff 2011) it is not surprising that MJ activists spoke often about action channels. Also, as in other mining areas, activists cannot rely on consistent support from unions due the union's ambivalence about surface mining jobs (Gorman June 10th, 2011; Smith June 16th, 2011). Similarly, neither state nor federal government has been prepared to permanently stop MTR, let alone all strip mining (Biggers April 10th, 2009; *PR Newswire* February 3rd, 2009; Schelzig July 25th, 2005; *Charleston Gazette* March 17th, 2007; *Charleston Gazette* May 24th, 2009)

This reality in which neither government nor organized labor can or will stop MTR creates an incentive for activists to be particularly assertive—if they do not stop it, no one will do so. Further, both industry and activists have escalated their efforts such that activists face negative ad campaigns, political lobbying, and alleged hostility ranging from shouting and counter protests to death threats (Ullian and Straub August 1st, 2005; Haltom August 14th, 2005; *The Associated Press State & Local Wire* February 20th, 2006; Schelzig July 25th, 2005). Concurrently, industrial spokesmen continue to defend MTR due to its legality (*The Associated Press State & Local Wire* May 24th, 2009). In the wake of these events, activists began to aggressively act against the coal industry in the series of protests described in this chapter. Activist statements suggest that due to the inaction of government and the destruction of their communities, previously passive actors are taking action (*PR Newswire* February 3rd, 2009).

Unsurprisingly then, activists in Naoma spoke about attachment to place and nature, as well as action channels, to a greater extent than they spoke of other codes. The following chapter turns to struggles around the chemical industry, and the activists who oppose it.

CHAPTER 7: THE KANAWHA VALLEY CASE STUDY



Image 7.1: Dunbar, WV from the Kanawha River

Source: Waters, J. (January 25th, 2009). Sternwheelers on the Kanawha River. Dunbar WV. Dunbar, WV.

INTRODUCTION

In December 1984, one of the world's worst industrial disasters occurred in Bhopal, India, when a Union Carbide chemical plant accidentally released more than 40 tons of methyl isocyanate (MIC), killing 3,800 people and sickening thousands more; it was the worst chemical accident in recorded history (Chandrashekharan January 7th, 2011; Broughton May 10th, 2005). Several months later, Warren Anderson, Chairman of Union Carbide Chemical Corporation, suggested that the Bhopal spill had been due to

either the incompetence of Indian workers or deliberate sabotage (Karlen and McKillop April 1st, 1985). This proclamation did not ease the fears of some citizens living in West Virginia's Kanawha Valley [see Image 7.1] (Waters January 25th, 2009). The Kanawha Valley hosts the only American facility that produces MIC, making the events in India particularly worrisome to those who live there [see Image 7.2] (St. John May 2nd, 1985). After a five-month hiatus in the production of MIC immediately following the Bhopal disaster, the West Virginia facility resumed normal operations in May 1985. Most local residents welcomed the return to prior production levels; however, the activists of the People Concerned About MIC, a group formed to protect community health and safety, continued to fear for their safety, even after the remodeling the plant had been subjected to during the production break (St. John May 2nd, 1985).

Image 7.2: One of the Most Infamous Images from the Bhopal Disaster



Source: <http://acsishere.blogspot.com/2011/01/bhopal-gas-tragedy-summary-2-with.html>

More than twenty years later, the Kanawha Valley MIC-making facility again found itself in the news. On August 28th, 2008, an explosion and fire occurred in a unit that makes a MIC derived-pesticide called Larvin (Suburban Emergency Management Project 2009; Ward Jr. September 7th, 2008). In the aftermath of the spill the German chemical firm Bayer CropScience AG, which had bought the MIC facility, was investigated by the Environmental Protection Agency for violating chemical accident notification requirements—local residents had not been made aware of the explosion or of the nature of the risks they faced until hours after the explosion took place (Ward Jr. September 7th, 2008).

The scope of the explosion was far smaller than that which occurred in Bhopal but both events have an element in common: they both occurred in poor communities facing public health and environmental risks from chemical facilities that produced pesticides, facilities which some residents felt were necessary for economic reasons. I will begin by discussing the history of the American chemical industry, in order to set the stage for discussion of the contemporary chemical industry and those who challenge it.

THE HISTORY OF THE AMERICAN CHEMICAL INDUSTRY

The 1800s to the 1960s

The American chemical industry supplies approximately a quarter of the world's chemicals (Sicilia 2001). The strength of the United States chemical industry is fairly recent. In the early 1800s, American industries that used chemicals were dependent on British soda ash, caustic soda, and bleach, which were used to make other chemicals and

products such as glass (United States Geological Survey and U.S. Department of the Interior ; Sicilia 2001).

By the late 1800s, American chemical firms were leading producers of several important chemicals and chemical industrial processes. American firms such as DuPont had developed new mining and smelting techniques, as well as new methods for refining iron ore, coal, copper, lead, zinc, and other inorganic substances; as a result, fertilizers, explosives, dyestuffs, pharmaceuticals, and new chemicals were made. World Wars I and II brought the development of new chemical weapons of war, and the needs of the automotive industry in the first half of the 20th century led to the development of new types of plastics, protective coatings, and petroleum products. In the 1930s and 1940s, pesticides, fertilizers, and plastics such polyester, polyvinylchloride, and polypropylene led to high profits and industry expansion (Sicilia 2001).

Rising Environmental and Health Concerns

In the 1960s and 1970s, the chemical industry began to face challenges from public health advocates and environmentalists. One of the first to question the notion that the chemical industry was benign was Rachel Carson. A one-time employee of the United States Fish and Wildlife Service, Carson is best known for her 1962 book *Silent Spring*, which documented the ecological disruptiveness of herbicides and pesticides (such as DDT) to natural systems (Carson 1962; Kevles 2001). Although her work was ridiculed by the chemical industry, it influenced many activists in the emerging environmental movement of the late 1960s and 1970s (Kevles 2001). In 1967, for example, a group of

scientists and attorneys founded the Environmental Defense Fund, the primary goal of which was to ban dangerous pesticides in order to protect both human health and natural systems (Worster and Boyer 2001). Other signs of the upsurge in concern regarding environmental protection and human health were the 1970 founding of Earth Day, and the 1971 publication of Barry Commoner's *The Closing Circle: Nature, Man, and Technology*, which discusses the ill-effects of pollution (Worster and Boyer 2001).

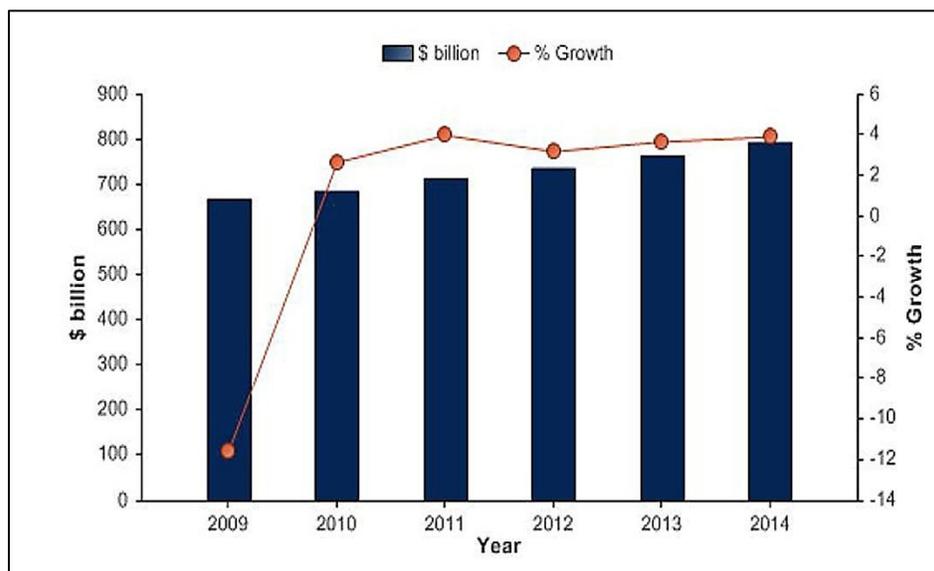
This wave of environmental and public health concern led to new legislation. In 1969, The *National Environmental Policy Act* was passed in order to:

...declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Board of Environmental Quality Advisers (Jackson and Mayo 1969).

The *National Environmental Policy Act* (NEPA) also created a mandate that requires federal agencies to consider the well-being of the natural environment when they are making decisions (Environmental Protection Agency April 5th, 2011).

In spite of the public health and environmental controversies surrounding the chemical industry, its growth remains strong. The contemporary chemical industry will be discussed in the next section.

Figure 7.1: Projected Growth of the United States Chemical Industry 2009-2014



Source: Datamonitor staff (November 2010). *Chemicals in the United States: Industry Profile*. New York, NY.

THE CONTEMPORARY CHEMICAL INDUSTRY

In 2009, the United States chemical market had total revenue of \$668.4 billion dollars, which represents a slight decline in growth compared to the 2005-2008 period. Nonetheless, the American chemical market is expected by economists to grow at a rate of 1.8% per year until 2014 [see Figure 7.1]. In spite of the growing dominance of Asian-Pacific chemical firms, the United States remains a powerful player in the global chemical industry and accounts for 22.8% of the global chemical market, while Europe and the Asia-Pacific region account for 24.6% and 43.7%, respectively (Datamonitor staff November 2010).

The United States chemical industry sells several types of chemicals around the world. These types include base chemicals, pharmaceuticals, specialty and fine

chemicals, as well as agricultural chemicals. Base chemicals comprise the largest production share—35.7% of chemicals produced by the United States chemical industry are base chemicals [see Table 7.1 for definitions of key chemical terminology] (Bureau of Labor Statistics-Office of Occupational Statistics and Employment Projections August 5th, 2011; United States Bureau of Labor Statistics December 17th, 2009; Datamonitor staff November 2010). Additionally, the chemical industry is expanding into nanotechnology, though research and development in this subfield are expensive and time-intensive. One promising application of nanotechnology is energy conservation and waste reduction, since working on a smaller scale can allow lower energy costs and less production of waste (Bureau of Labor Statistics-Office of Occupational Statistics and Employment Projections August 5th, 2011).

The chemical industry's firms interact with a variety of other firms in the course of doing business. Their primary customers are manufacturers of plastics, pharmaceutical companies, and producers of household and industrial chemical products. Oil and gas companies are their primary suppliers because many chemicals are derived from natural gas. Chemical firms produce a diverse product line of commodities that are often not easily substituted for, which partially protects them from economic downturns. However, firms often vie to sell the same products, and the cost of building chemical plants is high, making entering and staying in the chemical industry difficult for many firms (Datamonitor staff November 2010).

Table 7. 1: Chemical Industry Key Terminology

Chemical Industry Sectors and What They Do	
Base or Basic chemicals	<p>“...Produces petrochemicals, gases, dyes, and pigments. Petrochemicals contain carbon and hydrogen and are made primarily from petroleum and natural gas. Production of both organic and inorganic chemicals occurs in this segment. Organic chemicals are used to make a wide range of products, such as dyes, plastics, and pharmaceutical products; however, the majority of these chemicals are used in the production of other chemicals. Industrial inorganic chemicals usually are made from salts, metal compounds, other minerals, and the atmosphere. In addition to producing solid and liquid chemicals, firms involved in inorganic chemical manufacturing produce industrial gases such as oxygen, nitrogen, and helium. Many inorganic chemicals serve as processing ingredients in the manufacture of chemicals, but do not appear in the final products because they are used as catalysts—chemicals that speed up or otherwise aid a reaction.”</p>
Pharmaceutical and Medical chemicals	<p>Produces medications for “...diagnostic, preventive, and therapeutic uses.”</p>
Specialty and Fine chemicals	<p>Basic chemical manufacturers produce large amounts of basic and relatively inexpensive compounds primarily used in the manufacture of consumer goods—specialty or fine chemicals, in contrast, are more expensive chemicals used less often and in smaller amounts.</p>
Agricultural Chemicals	<p>“The <i>agricultural chemicals segment</i>, which employs the fewest workers in the chemical industry, supplies farmers and home gardeners with fertilizers, herbicides, pesticides, and other agricultural chemicals. The segment also includes companies involved in the formulation and preparation of agricultural and household pest control chemicals.”</p>

Sources: U.S. Bureau of Labor Statistics-Office of Occupational Statistics and Employment Projections (August 5th, 2011). "Chemical Manufacturing, Except Drugs." [Career Guide to Industries](#), 2010-2011. Retrieved August 8th, 2011. Bureau of Labor Statistics (December 17th, 2009). "Pharmaceutical and Medicine Manufacturing." [Career Guide to Industries](#) 2010-2011.

Furthermore, there are limited numbers of oil and natural gas firms that exist for chemical companies to buy from, which increases the power of oil and natural gas-selling companies in their dealings with chemical production firms. This is true in spite of rising raw material prices and the fact that oil and natural gas firms also sell undifferentiated products (Datamonitor staff November 2010).

Regulatory constraints also impact chemical production firms. In addition to NEPA, chemical production firms are also regulated by the *Toxic Substances Control Act* (TSCA), which is enforced by the Environmental Protection Agency (Environmental Protection Agency March 30th, 2011). The *Toxic Substances Control Act* gives the Environmental Protection Agency the authority to require reporting on chemical manufacture and use; keep records of chemical manufacture, testing, and use; monitor the importing and exporting of chemicals; and impose restrictions relating to chemical substances and mixtures (Tunney March 16th, 1976). Additionally, the *Pollution Prevention Act* (PPA) directs the EPA administrator to reduce chemical releases and waste, while keeping, recording, and enforcing the reporting of chemical pollution (Lautenberg March 15th, 1989). Finally, *the Clean Air Act Amendments of 1990* govern the reporting of chemical production, emissions, and accidents (Baucus November 15th, 1990).

Although chemical industry employees receive higher average wages than the typical American worker, employment is projected to decline by 13% in the 2008-2018 period due to mechanization, efficiency gains in chemical production, company

consolidation, foreign competition, globalization, raw material prices, and environmental health and safety concerns and legislation [Table 7.2 summarizes chemical worker demographics] (Bureau of Labor Statistics-Office of Occupational Statistics and Employment Projections August 5th, 2011; United States Bureau of Labor Statistics December 17th, 2009). The two exceptions are the paint, coating, and adhesive sub-section, as well as the pharmaceutical/medicine sub-section of the chemical industry, which are both expected to grow. The pharmaceutical/medicine sub-section is particularly resilient due to the need for medicine regardless of the economic climate. Nonetheless, developing new drugs is costly, and firms face competition from companies producing generic drugs; this industry sub-section is therefore likely to seek efficiency gains through mechanization and by moving production overseas (Bureau of Labor Statistics-Office of Occupational Statistics and Employment Projections August 5th, 2011; United States Bureau of Labor Statistics December 17th, 2009).

Chemical industry workers are primarily employed in regions where other manufacturing businesses are located; for example, there are chemical plants in the Great Lakes region near the automotive industry facilities. Also, because chemical production often requires water, and chemicals are often shipped, industrial ports are another typical location for chemical plants. Texas, New Jersey, Louisiana, North Carolina, and Illinois are the top chemical-producing states in America. This is true for all chemical production except for the pharmaceutical and medicine sub-sections, whose workers are primarily in California, New Jersey, Puerto Rico, Pennsylvania, and New York (Bureau

of Labor Statistics-Office of Occupational Statistics and Employment Projections August 5th, 2011; United States Bureau of Labor Statistics December 17th, 2009).

Table 7. 2: Demographic Information for American Chemical Workers

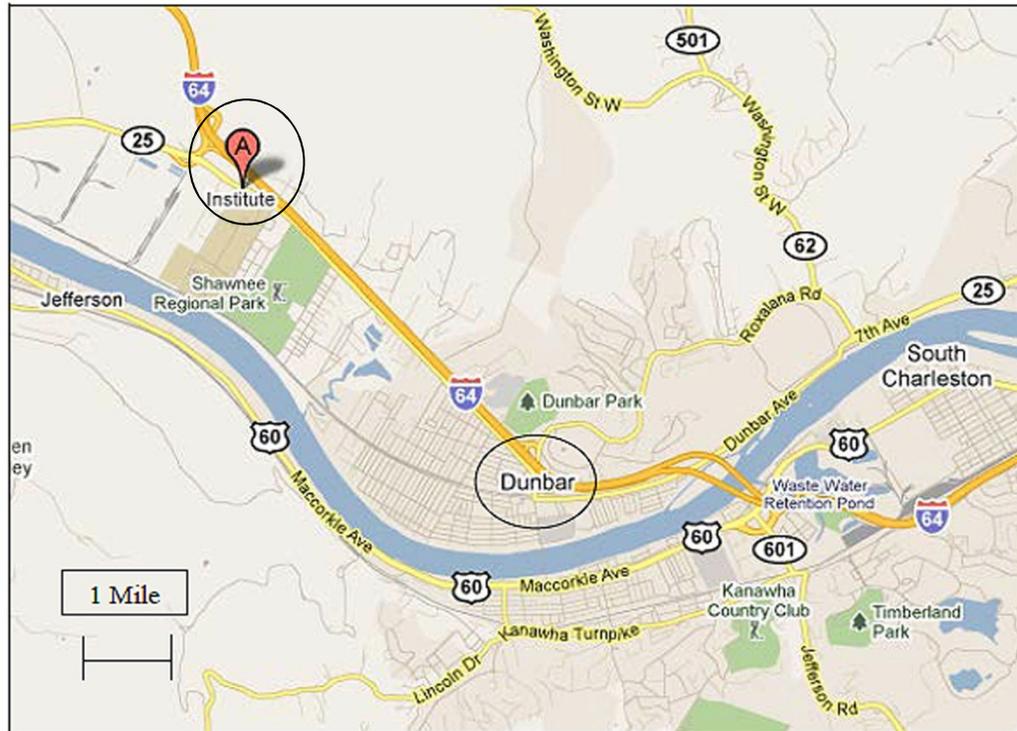
United States Chemical Market Characteristics		
Share of World Chemical Market	—	22.8%
Total Employees*	560,000	100.0%
Basic Chemical Employees	125,100	27.2%
Soap and Other Cleaning Compound Employees	108,200	19.3%
Resin, Rubber, Synthetic fibers and Filaments Employees	105,400	18.8%
Paint, Coating, and Adhesive Employees	62,800	11.2%
Pesticide, Fertilizer, and Other Agricultural Chemical Employees	36,100	6.4%
Other Chemical Production and Preparation Employees	94,400	17.0%
Pharmaceutical and Medicine Manufacturing Employees	282,690	100.0%
Percent Female Employees	—	34.7%
Percent African American Employees	—	10.6%
Percent Latino Employees	—	12.1%
Percent Asian Employees	—	6.2%
Median Hourly Wage	\$21.95	—
Mean Annual Wage	\$54,830	—

*The Bureau of Labor Statistics records those chemical workers who produce pharmaceuticals and medicine separately from other chemical workers.

Sources: U.S. Bureau of Labor Statistics (August 5th, 2011). "Chemical Manufacturing, Except Drugs." (December 17th, 2009). "Pharmaceutical and Medicine Manufacturing." *Career Guide to Industries*, 2010-2011.

KANAWHA VALLEY

Figure 7.2: Map showing Institute and Dunbar, West Virginia



*Here the (A) represents the Bayer Institute facility Site

Source: Google (2011). Retrieved May 7th, 2011, from <http://www.map.google.com>.

Industry in Kanawha Valley began in 1797 when Elisha Brooks began mining salt there. The area was not only rich in salt brine; it also produced natural gas, coal, and oil. The salt mines were destroyed by the Civil War, but in their wake came chemical companies' intent on using salt, natural gas, and oil in chemical production. The first of these, the United Carbon Company, was founded in 1915 by Oscar Nelson; it produced rubber. Union Carbide arrived just five years later, from Buffalo, New York (Cohen 1987). A large rubber manufacturing site was built in Institute, West Virginia, in 1943

(rubber imports had been curtailed by the Second World War), and was bought by Union Carbide in 1947 (Dow Chemical Company 2011). The facility is within walking distance from Dunbar, West Virginia (Institute and Dunbar are 2.45 miles apart), and is next to West Virginia State University, formerly the African-American West Virginia Colored Institute, which was founded in 1890 [see Figure 7.2] (Cohen 1987; Google 2011).

Dunbar is a small city. Of its 7,907 residents, 62.6% are in the labor force, compared to 64.4% of the general United States population; these numbers suggest that Dunbar is in a relatively strong economic position. The vulnerability of Dunbar's citizens is lessened by the fact that only 5.6% of Dunbar's population are employed in manufacturing, giving them independence from the Bayer facility should they wish to challenge the production of certain chemicals⁹(U.S. Census Bureau 2010). Institute, West Virginia is an unincorporated area nine miles from the city of Charleston, which borders on Dunbar. However, because it is unincorporated, census data is not collected for it; accordingly, I use Dunbar's data as a proxy for the Kanawha Valley study area that includes Dunbar and Institute. Dunbar and Institute are the Kanawha Valley towns closest to the Institute facility.

Institute is a predominantly black town. Among its earliest residents were slaves used in both salt and coal mines as cheap labor; slaves worked long hours in frequently

Union Carbide was purchased by DOW on August 4th, 1999; Union Carbide operates units at the Bayer-owned Institute location The Dow Chemical Company (1995-2011). "Dow." Retrieved August 10th, 2011, from <http://www.dow.com/>, Dow Chemical Company (2011). "West Virginia Operations: Institute Manufacturing Site." Retrieved May 22nd, 2011, from <http://www.dow.com/ucc/locations/westvir/awv/inf02.htm>.

dangerous conditions (Cohen 1987; Stealey III 1993). Then, as the chemical industry became powerful in Kanawha Valley blacks began to suffer the ill-effects of pollution produced by chemical plants, without the benefits of chemical plant salaries (Bullard and Wright 1987; Baugh Spring 1991). Hiring discrimination blocked blacks from working in the chemical plants or caused them to be hired in only the most undesirable jobs (Baugh Spring 1991). This pattern of exploited labor and race-based exposure to environmental hazards has occurred in other black communities. The steel industry had a history of not hiring blacks and when black workers were finally hired, they had the most undesirable, ill-paid jobs (Taylor 2009). Also, Shell Oil placed a chemical plant in Norco, Louisiana in the African-American section of town but declined to hire black workers even as black people were exposed to the highest concentrations of pollution from their facility (Grunberg 2002).

STAKEHOLDERS IN THE KANAWHA VALLEY CASE

People Concerned About MIC

Headquartered in Charleston, West Virginia, People Concerned about MIC (PCAMIC) is a community organization in the Kanawha Valley “dedicated to the protection of health and safety of all who reside, work, and study in the vicinity of local chemical plants producing highly toxic chemicals” (People Concerned About MIC). It was started in 1985 when Kanawha Valley residents realized that large amounts of MIC were stored at the Institute site at the same time that they heard about the devastation caused by MIC in Bhopal, India (People Concerned About MIC). This is in keeping with

social movement theory in which a suddenly occurring grievance provides an opening for activism and the incentive for it (Gamson 1997; McAdam 2003). Although activists in this group have occasionally traveled to events outside West Virginia, for the most part, they work only within the state. The organization is entirely volunteer-run and has no employees or members; however, the current, informally-appointed spokesperson/director is Maya Nye (Nye June 21st, 2011). Unlike activists in the other cases in this dissertation, PCAMIC has typically worked alone, only occasionally inviting other activists to one of their events or attending events hosted by other activists (Ward Jr. March 15th, 1994; *PR Newswire* November 29th, 1985).

The activists involved in PCAMIC are primarily from the Kanawha Valley. For example, Maya Nye is from one of the small towns in Kanawha Valley—St. Albans—and is the daughter of a chemical plant worker who spent 23 years working in the chemical industry (Nye June 21st, 2011). Most of the volunteers grew up, live, and work (or worked) in the Kanawha Valley area. Their goals and the cause that they have chosen to focus on—the elimination of MIC—are directly related to their own potential exposure to MIC and chemical emissions generally. This is true in spite of the fact that, as family members and friends of people who work in chemical plants, PCAMIC volunteers sometimes identify with and receive censure from other Kanawha Valley residents, who see them as threatening to take and taking jobs (Harman June 18th, 2011; Yeager June 19th, 2011; Dixon June 21st, 2011; Nye June 21st, 2011; Zuspan June 27th, 2011).

PCAMIC lacks financial and political resources, and their lack of these resources impacts their goals and strategies¹⁰. PCAMIC focus on community awareness meetings and the occasional protest, which will be seen in the following pages. They have also asked repeatedly for information from Union Carbide, and then Bayer. Their strategies are predictably low-cost and call for limited training or experience on the part of activists. The lack of financial resources makes this group different from CRMW and Mountain Justice in that those community groups have been able to get external funding and make ties to national and regional organizations.

Dow-Union Carbide and Bayer

Union Carbide is now owned by DOW Chemical Company (DOW), and both continue to work at the Institute site along with Bayer, who owns the facility. Accordingly, I will now discuss Dow, Union Carbide, and Bayer, respectively.

Dow Chemical Company's headquarters are in Midland, Michigan. The firm's products include industrial and pharmaceutical chemicals, oil and gas products, plastics, agricultural products, building materials, automotive products, electronics, household goods, water-processing chemicals and technology for water purification, packaging and paper goods, and paints. Dow Chemical Company was incorporated on May 18th, 1897,

¹⁰PCAMIC is not registered as a non-profit with the IRS which means that their income is less than \$25,000 per year. PCAMIC declines to publish or release data on their numbers of volunteers and on their funding for strategic reasons United States Department of the Treasury. "Internal Revenue Service." Retrieved August, 19th, 2011, from <http://www.irs.gov/>, Nye, M. (August 19th, 2011). Conversation with Maya Nye of PCAMIC. Ann Arbor, MI and Charleston, WV.

under the leadership of Herbert H. Dow, who wanted to sell bleach commercially. In 1906, the firm began to produce agricultural chemicals, beginning with pesticides to kill insects feeding on fruit trees; during the same period, DOW began producing food preservatives. By 1913, DOW had exited the bleach manufacturing business, and in the 1920s and 1930s, it moved into the production of automotive materials such as pistons and gasoline, while also beginning the production of plastics (Brandt 1997).

By the 1950s, DOW was producing products and services internationally; by the 1960s, 1970s, and 1980s, it had moved into pharmaceuticals, technology for water purification, and computer materials, respectively. In the 1980s and 1990s, DOW continued to expand its various product lines as well as its international presence in the chemical industry. In 1999, DOW purchased Union Carbide Corporation for \$11.6 billion dollars—in effect becoming the world’s second largest chemical company, with \$24 billion dollars of annual revenue, 49,000 employees, and 343 subsidiaries worldwide (The Dow Chemical Company 1995-2011). Within Dow, Union Carbide has approximately 2,400 employees and makes base, pharmaceutical, and specialty chemicals in New Jersey, Louisiana, Texas, and West Virginia (The Union Carbide Corporation 1995-2011). The current Chief Executive Officer of Dow is Andrew N. Livernis, who became Chairman and CEO of DOW on April 1st, 2006; he has worked at DOW for 35 years (The Dow Chemical Company 1995-2011). During this interval DOW experienced much growth. But this growth has not occurred without controversy.

In addition to dealing with the Bhopal, India legacy of Dow-sub subsidiary Union Carbide, Dow has been criticized for some of its pesticides that are linked to salmon and steelhead fish mortality in California, Idaho, Oregon, and Washington (Kemery September 11th, 2009). Dow has also been accused of releasing dioxin downstream from its Midland, Michigan facility (Rowan January 4th, 2008) and for contaminating soil and ground water with polychlorinated biphenyls (PCBs) in New Jersey (Doyle 2004; Maltby 2004; Cahill August 19th, 1999).

Bayer has also faced controversy, as will be seen in the following pages. The German chemical and pharmaceutical group employs approximately 111,400 people in Asia, Europe, North and South America, Africa, and the Middle East. Founded in 1863 by Friedrich Bayer and Johann Friedrich Wescott, Bayer began as a dye-production firm. In the first half of the 20th century it merged with several other firms, began producing plastics in addition to dyes, and became multinational. In the second half of the 20th century, Bayer began producing pharmaceuticals, along with specialty, base, and agricultural chemicals.

Table 7. 3: Dow and Bayer Demographics

Firm Characteristics	Dow Chemical Characteristics	Bayer Chemical Characteristics
2010 Sales	53.7 billion	46.55 billion
Number of Subsidiaries	343	291
Incorporation Date	1947	1863
Employees	50,012	111,400
Number of Products	< 5,000	~5,000
Number of Countries Sold To	160	150

Sources: DOW Chemical, <http://www.dow.com>, Bayer Corporation (March 2011). "Bayer in the United States." Retrieved August 9th, 2011, from <http://www.bayerus.com>; <http://www.bayer.com/en/bayer-group.aspx>.

The company's current chairman is Manfred Schneider, who has worked at Bayer since 1966 (Datamonitor June 15th, 2011). Dow and Bayer's characteristics are summarized in Table 7.3 (The Dow Chemical Company 1995-2011; Bayer Corporation March 2011).

Governmental Actors and the United Steel Workers Union

The primary government organizations involved in this case are the EPA and their state arm, the DEP (Jackson and Mayo 1969; Lautenberg March 15th, 1989; Tunney March 16th, 1976; Baucus November 15th, 1990). The *Clean Air Act Amendments of 1990* established a Chemical Safety and Hazard Investigation Board also known as the Chemical Safety Board (CSB) to make recommendations on the safety of chemical production, processing, handling and storage; the board liaises with the Occupational Health and Safety Administration (OSHA) as needed (Baucus November 15th, 1990). OSHA is also responsible for monitoring safety violations in the workplace (United States Department of Labor: Occupational Safety & Health Administration).

Additional actors involved in this case are from unions and trade organizations; however, their roles are peripheral ones. The primary union involved with the chemical industry is the United Steel Workers (USW), which also covers chemical workers (United Steel Workers 2011). For unspecified reasons, the United Steel Workers declined to be interviewed for this study (similarly, Bayer, Dow, and Union Carbide did not return calls); fortunately, my primary concern is why activists do what they do, rather than other stakeholders. Also, USW members, along with Synthetic Organic Chemical Manufacturers Association members, and Affiliated Construction Trades Foundation employees, have sporadically attended meetings held by PCAMIC and other activists (Ward Jr. April 5th, 1994; *PR Newswire* November 29th, 1985). Their role appears to be that of occasional, silent observers. I will now turn to examining the conflicts between People Concerned About MIC and three Kanawha Valley chemical corporations: Union Carbide, Dow, and Bayer.

CHEMICAL CONTROVERSY IN KANAWHA VALLEY

In the Wake of Bhopal

As noted earlier, on May 4th, 1985, the Institute facility resumed production of MIC; most local residents welcomed the return to earlier production levels, but the activists of PCAMIC feared for their safety (St. John May 2nd, 1985). Given that most of these activists are volunteers, it is difficult to know how many of them had family working at the facility—but it is likely that those whose families were vulnerable to production cuts had greater ambivalence about restarting production. The remodeling

involved a \$5 million dollar equipment installment to contain poisonous gases created during MIC manufacture, according to Union Carbide spokesman Thad Epps (St. John May 3rd 1985). Additionally, Union Carbide invited local leaders to tour the plant, hired an independent consulting firm to conduct safety tests, and hired a public relations firm in hopes of allaying resident fears (Isikoff May 5th, 1985). In spite of the new equipment, the MIC production schedule was delayed due to “minor mechanical and instrument conditions” according Union Carbide; PCAMIC activists remained worried and drove back and forth in front of Union Carbide’s front gate with signs taped to their cars reading “MIC is a killer” and “Remember Bhopal” (St. John May 3rd 1985). The activists asked, “Why don’t they take the \$5 million to come up with something else—find a replacement for MIC?” (St. John May 3rd 1985).

However, Union Carbide had a strong incentive to continue making MIC. Spokesman Thad Epps noted that the company had a backlog of orders to fill and Union Carbide headquarters spokesman Tom Failla added that finding a replacement would not be easy because approximately a quarter of all pesticides are made from MIC (St. John May 3rd 1985). This assertion is difficult to verify. The EPA Office of Chemical Safety and Prevention/Office of Pesticide Programs, whose mandate is to protect the public from pesticides and toxic chemicals, does not keep pesticide-specific production data. In fact, the only companies who keep such data are precisely those who are not interested in publishing it (Gesalman August 9th, 2011).

Whether or not MIC was as widely needed as Union Carbide claimed, some Kanawha Valley residents remained worried. Their fears were worsened by the inadequacy of Union Carbide's emergency planning—one activist described the company's siren as sounding as loud as “a ruptured duck,” and a Union Carbide spokesman confirmed that the siren's noise “didn't get through concrete walls too well...Some people couldn't hear it” (Isikoff May 5th, 1985). Union Carbide would go on to donate a \$10,000 siren to the Institute volunteer fire department, which seemingly satisfied the concerns of Dunbar Mayor Frank Leone, who stated, “They've got the best people in the business working at the plant” (Isikoff May 5th, 1985).

Spills

The PCAMIC activists remained apprehensive. Their fears would prove justified just a few months after the Institute plant resumed making MIC. On August 11th, 1985, 500 gallons of a chemical called aldicarb oxime were accidentally released, making 135 people ill (Kissel November 30th, 1985). Hundreds more were treated at an emergency medical center in West Virginia. Attorney General C. Brown said that the state was considering suing Union Carbide due to chemical leaks from their facility (Kissel November 30th, 1985).

The August 11th leak was followed by another leak on the 13th that spilled 1,000 gallons of brake fluid chemicals into the Kanawha River from a Union Carbide storage container; 50 people called the police or local hospitals complaining of burning or stinging eyes and nausea. This prompted Estella Chandler, spokesperson for PCAMIC, to

state: “In light of the past three days, it just shows that leaks can and do happen and one could be a catastrophic leak; after Bhopal, Carbide said it couldn’t happen here but we knew then that it could” (Arters August 14th, 1985). Additionally, Californian House Representative Henry Waxman revealed that an internal Union Carbide memo dated September 11th, 1984 warned of a "runaway reaction that could cause a catastrophic failure in the storage tanks holding the poisonous gas" at the Institute plant (how Waxman obtained the memo was not revealed) (Werfelman January 24th, 1985).

The repercussions of the spills extended beyond the initial ill-health effects. Residents were divided between valuing the company for its local economic contribution and criticizing it for the public health and environmental problems the company had caused. Yet, in spite of the spills, critics of Union Carbide began to face opposition—not from Union Carbide, but from other Kanawha Valley and South Charleston residents who lived downriver of the Union Carbide facility. For example, Charleston resident Betty Ray stated: “When I was growing up....Carbide was just like an institution here. Carbide has been a very supportive source and contributor to the economy” (Hochman August 16th, 1985). At the same time, Union Carbide Chairman Warren Anderson admitted that an investigation was underway to determine how much methylene chloride had been released in addition to aldicarb oxime; activists were worried because the EPA had stated that methylene chloride was potentially carcinogenic. Also, in spite of the initial reassurances regarding aldicarb oxime, Union Carbide altered its original stance that the chemical was only a low level irritant, and admitted that it was capable of causing cancer, birth defects and, in high concentrations, death (St. John August 19th, 1985).

STAKEHOLDER ACTIONS IN THE KANAWHA VALLEY CASE

Meetings and Fear

In response to the spills and some residents' concerns about public health, a meeting was held by PCAMIC. That meeting occurred on August 18th. It was attended by 250 people and demonstrated that some Union Carbide employees shared the same fears and anger as the activists: at one point in the proceedings Union Carbide worker Eric Howard yelled, "Carbide has been sidetracked by profits! I can get another job! But by God, I can't get another life!" (St. John August 18th, 1985).

In response, Union Carbide chemical and plastics division president Robert D. Kennedy sat quietly, fielding remarks about the five-day lag between the August 11th leak and the admission that a suspected carcinogen was among the leaking chemicals, as well as about the 20-minute lag between Carbide's first awareness of the leaks and their call to emergency response officials (St. John August 18th, 1985). Kennedy noted that 6,000 of the area's 10,000 chemical industry workers were employed by Union Carbide and stated, "I think we can't shut down because I don't think we're an organization of quitters, that we can't manage ourselves. Jobs are an issue, sure. But if we don't make those chemicals somebody will" (St. John August 18th, 1985). Kennedy said the company was implementing a new policy that required alarms to sound if a leak was even suspected and promised an investigation into the release of the suspected carcinogen methylene chloride (Daniel August 19th, 1985). It is not known if the policy was implemented or the chemical investigated.

Environmental Racism and Political Tensions

As frustration toward the company continued to grow, some Kanawha Valley residents, especially from Institute, began to speak of racism. Estella Chandler of PCAMIC stated, “Our chemical problem originated because Institute is a black town. The chemical industry tends to put its plants in communities that are black or poor or both. Institute is like Bhopal. We’re like the Third World” (Daniel August 19th, 1985). Additionally, she suggested that most chemical plants, like most coal mines, are owned by wealthy people who live outside of the state (Daniel August 19th, 1985). There is evidence that supports her claim: currently, Union Carbide is headquartered in Houston, Texas; Dow is in Midland, Michigan; and Bayer, who later bought the Institute facility, is headquartered in Leverkusen, Germany, with American headquarters in Pittsburgh, Pennsylvania (The Dow Chemical Company 1995-2011; Union Carbide Corporation 1995-2011; Bayer Corporation March 2011). However, the census demographics suggest that both Black and White residents of Kanawha Valley are doing well in terms of economic well-being relative to the primarily white communities in this study.

Still, it is worth noting that this is a classic EJ claim but it comes in 1985 – two years before the publication of the UCC study, *Toxic Wastes and Race* (1987). By the early 1990s minority and low-income activists in places like “Cancer Alley,” Louisiana and Chicago’s Southside neighborhood, the “Toxic Donut” were making similar arguments about unequal exposure to environmental hazards based on race and class as

well as unequal remediation efforts (Bullard, Mohai et al. 2008; Mohai, Pellow et al. 2009).

In addition to concerns about racism, and the toxicity of chemicals being released, the *number* of chemical releases caused increasing distress and anger. As of August 24th, 1985, eight Carbide-linked leaks had occurred in what was increasingly being referred to by West Virginian citizen-activists and journalists as “Chemical Valley,” a 25 mile area of chemical plants along the Kanawha River. The added burden of additional leaks fueled the dissatisfaction of PCAMIC members, who argued, “We need a lot more than reassurances” (Kissel August 24th, 1985).

One way that the Kanawha Valley activists looked for “more than reassurances” was to attend environmental awareness-raising events. On November 29th, 1985, Chandler would speak at the Interfaith Center on Corporate Responsibility in New York City, at an event sponsored by the Citizens’ Commission on Bhopal (*PR Newswire* November 29th, 1985). She was joined by scientists such as Karim Ahmed of the Natural Resources Defense Council, New Jersey assemblyman Byron M. Baer, assistant U.S. attorney for the Eastern District of New York Kevin Cleary (who also served as pro-bono attorney for the Bhopal victims), as well as representatives of the United Steel Workers, Synthetic Organic Chemical Manufacturers Association, and OSHA employees (*PR Newswire* November 29th, 1985). Shortly thereafter, OSHA cited the Institute facility for 221 safety violations, including 130 which they called “willful” violations of American law (Paxton April 10th, 1986).

Changing Hands

In a political environment involving ongoing scrutiny, Union Carbide decided to take additional action. On December 14th, 1985, the company announced that it would share costs with Kanawha County to build a second road out of Institute in case of future evacuations (I found no evidence that they did so) (*The Associated Press* December 14th, 1985). Residents of “Cancer Alley” in the Southside of Chicago experienced a similar situation; their neighborhood hosted approximately one quarter of the chemical manufacturing plants in the U.S. yet they were given limited emergency planning support and little acknowledgement of their disproportionate pollution burden by local and federal government (Kang 2009).

There were also rumors that Union Carbide was considering selling the Institute facility, and PCAMIC was banned by the company from attending corporate press conferences (Paxton April 10th, 1986). In December 1986 the facility was sold to French chemical manufacturer Rhone-Poulenc (Dow Chemical Company, 2011). It changed hands several more times before finally being sold to Bayer, which owns the site proper, while Union Carbide, now a Dow subsidiary, rents the site as a tenant (Dow Chemical Company 2011).

In spite of changing ownership, the environment of mistrust worsened as the facility staff continued to provide insufficient information. On February 2nd, 1986, another MIC leak occurred that injured seven people, yet Kanawha Valley residents would not find out about the spill until three days after it happened (Kissel February 14th,

1990). The facility was involved in further scandal when journalists reported on then-owner Rhone-Poulenc's \$1.6 million dollar fine for "intentional disregard of, or plain indifference to" federal safety laws in connection with chemical accidents (Ward Jr. March 10th, 1994). Plant manager Van Long stated:

Throughout this entire ordeal, we have made a tremendous attempt to be open and candid about the incident, our investigation and our efforts to improve our performance. We are aware of the strain this experience has placed on our relationships with our neighbors. We hope Kanawha Valley residents and the chemical industry understand, as we do, the positive aspects of the community involvement in understanding what happened and communicating that information publicly (Ward Jr. March 10th, 1994).

Worst Case Scenarios

Activists were unimpressed by the company's statements. In January of 1992, Pam Nixon of PCAMIC wrote a letter to the Kanawha Valley chemical companies requesting that they outline what worst case scenarios for chemical release from their facilities would look like; she also asked that emergency plans be made and publicly released, along with safety audits (Ward Jr. March 15th, 1994). For two years, PCAMIC continued to request worst-case scenario information, increased emergency planning, and an end to MIC stockpiling (Ward Jr. April 5th, 1994). PCAMIC also hosted a meeting of environmental and labor organizations that included the West Virginia-Citizen Action Group, the West Virginia Environmental Council, and the Affiliated Construction Trades Foundation; the activists wanted to make Rhone-Poulenc pay for more safety tests at the Institute plant (Ward Jr. April 5th, 1994).

The companies initially refused to release worst case scenario information on grounds that releasing such information would only frighten the public, and some said they lacked the information (Ward Jr. March 15th, 1994). But on March 15th, 1994, 12 companies, including Rhone-Poulenc, agreed to release data, including accident histories and worst-case scenarios for each plant¹¹—the information was released on June 3rd and 4th, 1994 (Stadelman June 3rd, 1994; Ward Jr. March 15th, 1994). Pam Nixon, now the chairwoman of PCAMIC, was actively involved in the public education efforts, participating as the lone citizen representative on a hazard assessment committee that convened to compile the worst case scenario data (Dickerson June 2nd, 1994).

Although encouraged by their success in convincing the companies to release more information regarding chemical plant risks, activists were not entirely satisfied with the result of their campaign. They were displeased by the lack of local citizen and activist inclusion in the information-generating process and worried that without non-corporate actors' involvement, risks from the plants might be underestimated (McCoy and Stadelman June 3rd, 1994; Ward Jr. June 5th, 1994). Also, they were disappointed at the lack of safety audits (McCoy and Stadelman June 3rd, 1994; Ward Jr. June 5th, 1994). Furthermore, they were alarmed to learn that a worst case scenario at the Institute facility would involve 253,600 pounds of MIC—only 84,000 pounds were released in the Bhopal, India disaster. Rhone-Poulenc admitted that the large amount of MIC held at the

The worst case scenario was defined as what would happen if there was complete release of the chemical(s) from the largest storage tank at a facility (Stadelman, June 3rd, 1994; Ward Jr., March 15th, 1994).

Institute facility was the result of large batches of chemicals being cheaper to produce than smaller ones (Stadelman June 3rd, 1994; Ward Jr. May 8th, 1994).

Attempts to Settle Differences

Activists looked for several venues through which to address their concerns. PCAMIC met with chemical plant managers from Rhone-Poulenc in an effort to secure a plant audit with public input and a company-paid technical consultant who would report to citizens (Nyden July 6th, 1994). The company refused to permit the audit to occur and refused to decrease the inventory of MIC on site; they were also unwilling to participate in a Bhopal Commemoration that PCAMIC activists held ten years after the disaster (Ward Jr. November 13th, 1994; Ward Jr. October 31st, 1994). However, the activists and chemical company representatives agreed to continue meeting privately in a committee made up of four plant managers, four local residents, four members of the West Virginia State University faculty, Institute facility union representative Ralph Casto, and two West Virginia State Administrators (Ward Jr. November 5th, 1997). Unfortunately, this effort to solve problems collaboratively would also fail—no agreement regarding audits was made due to differing goals and a lack of trust on all sides (Ward Jr. October 31st, 1994).

Other efforts were also unsuccessful in resolving chemical-related disputes. The Kanawha-Putnam Local Emergency Planning Committee is a 21-member board created in 1995 to gather information on chemical plant accidents and plan emergency responses to those accidents (Ward Jr. March 30th, 1995). They drew criticism for having only one

citizen representative—the board instead was composed of plant managers, firefighters, and hospital staff members (Ward Jr., March 30th, 1995). Further, the committee only met at noon on Wednesday, in spite of requests from citizens and several board members for a time more accessible to citizens (Ward Jr. August 2nd, 1995).

In spite of failed efforts, PCAMIC remained active, holding events such as a “Chemical Emergency Response Teach-In” at West Virginia State University in December 1994 (Ward Jr. December 2nd, 1994). Increasingly, however, tempers frayed as PCAMIC activists felt that too little was being accomplished. The activists considered suing Rhone-Poulenc when after two years they had still not received an audit and learned that the company was considering increasing manufacturing at the Institute facility (McElhinny February 26th, 1996).

Activists were not the only people frustrated in “Chemical Valley.” The chemical workers and their families were themselves divided—some felt that their health and safety were not adequately protected, while others felt that no attention was paid to their efforts to *protect* communities from dangerous chemicals (Peeks November 26th, 1996). For example, J.J. Comer, a Rhone-Poulenc worker, said that his fellow employees were dedicated to the proposition of preventing fires, explosions, and other accidents, although “the risks are never reduced to zero” (Peeks November 26th, 1996). Institute facility workers formed the Neighbors and Employees Communications Committee in 1998 to counter what they perceived to be unfair media coverage. “If you believe the media

reports, everyone in Institute hates the plants and fears for their lives,” said one member (Foster July 1st, 1998).

Facing opposition from industry and, to a lesser extent, chemical workers and local communities, the PCAMIC activists changed tactics. Pam Nixon of PCAMIC was appointed on November 1st, 1998, as the state of West Virginia’s environmental advocate working for the West Virginia Department of the Environment (DEP) (Myers October 1st, 1998). At the same time, five years after the original worst-case scenarios were released, a second round of scenarios was presented to the public (Ward Jr. May 2nd, 1999). Also, amendments to the *Clean Air Act* went into effect in 1999 requiring chemical companies to provide emission and production reports to the EPA as part of the operating permit attainment process (Baucus November 15th, 1990). In spite of data sharing between chemical companies, the public, and the EPA, PCAMIC remained unsatisfied, pointing out that risks were not being reduced, even if the reporting of risks had changed (Ward Jr. May 2nd, 1999).

Changing Hands Again and a New Fight

Management at the Institute facility changed—though PCAMIC’s concerns did not—when Dow purchased Union Carbide in 1999. Prior to this purchase, Union Carbide had continued to operate at the Institute site under Rhone-Poulenc’s management. With Dow’s purchase of Union Carbide, work continued at the Institute site, even as the site itself was sold to Bayer AG chemical company by Rhone-Poulenc (Dow Chemical Company 2011). It would seem by the fewer number of leaks reported in the early 90s

that Bayer had brought improvements to the management of the Institute facility. But this illusion of safety would eventually be shattered.

Image 7.3: Fire at the Institute site, West Virginia in 2008



Source: Suburban Emergency Management Project (2009). "Bayer Pesticide Plant Disaster, 2008, Institute, West Virginia." Retrieved May 14th, 2011, from <http://www.semp.us/contactus.php>.

On August 28th, 2008, the Institute facility experienced a fire and chemical explosion that killed two workers and forced thousands of residents to take shelter in their homes to avoid toxic fumes [see Image 7.3] (U.S. Department of Labor ; Ward Jr. September 4th, 2008). PCAMIC scheduled a discussion forum one week later on September 4th, 2008, which approximately 100 people attended. Many complained of a lack of timely information regarding what had happened (Ward Jr. September 4th, 2008). For example, 911 emergency radio recordings provided evidence that Fire Chief Andre Higginbotham, who was supposed to be contacted by Bayer under existing local emergency plans, had stated as the emergency unfolded, "I can't get any information. Stand by. I'm trying to get some information right now"(Ward Jr. September 14th, 2008).

Higginbotham, along with other firemen, police, and local governments, would wait almost two hours for information—they called the plant repeatedly and then, in desperation, resorted to calling plant members and retirees, as well as asking the media if they had heard anything (Ward Jr. September 14th, 2008). Lacking reliable information, the emergency respondents were unsure of what to do or tell local citizens. Most impacted were workers Barry Withrow, who died on site, and Bill Oxley, who would die in the hospital due to severe chemical burns (Nye November 18th, 2008). Charleston area medical safety director C.W. Sigman confirmed that Oxley was not decontaminated prior to leaving the plant, thus exposing ambulance drivers, nurses, doctors, and others who came into contact with him to the same chemicals that he died from (Nye November 18th, 2008).

The federal government shared the distress of citizens over this event, with the result that the EPA launched an investigation into whether Bayer violated chemical accident notification requirements mandated by federal law (Baucus November 15th, 1990). The investigation was conducted by the United States Chemical Safety Board, which was created by the *Clean Air Acts Amendments of 1990* and which collaborates with the EPA and other government agencies as needed (United States Chemical Safety Board ; Ward Jr. September 7th, 2008).

However, the Chemical Safety Board faced a challenging situation when Bayer strenuously resisted the release of information. The company successfully convinced the Chemical Safety Board to cancel a public meeting about what had happened and also

fought to prevent the results of the federal investigation from being publicly released (Ward Jr. February 25th, 2009; Hamill March 29th, 2009). The Chemical Safety Board staffers said that it was the first time in their 11 years of operation that a corporation had attempted to block the release of information to the public (Hamill March 29th, 2009). Bayer attempted to justify this limited information-sharing by pointing out that the company has a dock for barge shipments on the Kanawha River; as such, Bayer argued, the Institute facility should be governed by the *2002 Federal Maritime Transportation Security Act*, which restricts information sharing to prevent terrorism (Hamill March 29th, 2009). Activists were unimpressed by this logic.

The company's behavior in the aftermath of the explosion worsened the activists' anger. Bayer refused to attend the September 4th public meeting held by PCAMIC and instead held their own meeting more than a month after the explosion; further, two public relations firms, Charles Ryan Associates and Ann Green Communications, strictly monitored the meeting by insisting that all attendees sign in before entering the meeting room, disallowing comments, and limiting which questions would be answered (Ward Jr. October 9th, 2008).

The state government belatedly joined the federal government and activists in examining the explosion. The West Virginia House Energy and Commerce Committee held a congressional committee meeting in which they found that Bayer: 1) had purposely withheld information from emergency responders, 2) had tried to marginalize local activist groups by refusing to give them information, 3) had acted irresponsibly in

terms of employee training and safety procedures, and 4) had invoked anti-terrorism law to avoid public scrutiny regarding the explosion and ongoing large scale production of MIC (Frommer April 21st, 2009). They concluded that the chemical explosion which sent a 5,000 pound chemical tank rocketing into the air and across the plant could easily have hit a storage tank holding as much as 40,000 pounds of MIC, which was located only 80 feet away from the heart of the explosion (Ward Jr. April 22nd, 2009).

Thus, Bayer's attempts to avoid releasing information may be linked to an attempt to hide how close they had come to an MIC explosion. Indeed, after a preliminary investigation, John Bresland, Chairman of the Chemical Safety Board, stated that video footage of the explosion was missing because someone disabled the recording function from surveillance cameras in the unit where the explosion occurred (Ward Jr. April 22nd, 2009). Furthermore, he found that a protective "blast mat" around the MIC tank was removed and destroyed after the explosion, which prevented analysis of damage caused by explosion debris (Ward Jr. April 22nd, 2009). Additional violations include the following: 1) air monitors designed to detect MIC were out of service at the time of the explosion, 2) employees had not been taught how to operate a new, complex computer system that the plant had installed, and 3) plant employees had repeatedly worked 12 to 18 hour days with few days off in the months prior to the explosion, suggesting worker fatigue (States News Service April 23rd, 2009). A recent history of OSHA violations can be seen below in Table 7.4 (United States Department of Labor: Occupational Safety & Health Administration 2011).

Table 7. 4: Safety and Health Violations at the Institute WV Plant

Inspections	Company	Union Status	Violations	Status of Violation	Results
3/19/2004	Bayer	Unionized	4 health	4 Serious	Fine \$7,500
3/19/2004	Union Carbide	Unionized	1 health, 1 safety	2 Serious	Fine \$3,750
7/19/2005	Bayer	Unionized	3 health	3 Unclassified	Fine \$11, 0000
8/29/2008	Bayer	Unionized	11 safety and health	8 Serious, 1 Repeat, 2 Other	Fine \$143,000
4/21/2009	Union Carbide	Unionized	1 safety	Serious	Fine \$3,675
2/18/2010	Union Carbide	Non-Unionized	1 safety	Other	Fine \$2,000

Source: United States Department of Labor: Occupational Safety & Health Administration (2011). "Data and Statistics." Retrieved September 17th, 2011, from <http://www.osha.gov>.

Appalled by the conditions revealed within the plant, individuals who had not previously involved themselves in the fight against MIC now spoke against it. West Virginia State University faculty unanimously approved a resolution to remove the stockpile of MIC while West Virginia Senator Jay Rockefeller, (D-WV) called for an independent review of the explosion by the Chemical Safety Board. The Board agreed to conduct one (Ward Jr. May 21st, 2009). Oddly, The Oil Chemical and Atomic Workers

(OCAW) appear to be silent about these events in spite of their prior action in regard to occupational health and safety.

OUTCOMES IN THE KANAWHA VALLEY CASE

The investigation, along with a few other factors, led Bayer to finally make a radical cut in MIC production. On August 27th, 2009, Bayer announced that they would cut MIC production by 80% within the next year, at a cost of \$15 million, but without estimated losses of any jobs (Ward Jr. August 27th, 2009). This would reduce their typical MIC holdings at the Institute site from 240,000 pounds to approximately 44,000 pounds. The 2008 explosion destroyed some of the facilities that used MIC, which would have had to be rebuilt; also, the EPA announced that it was banning the pesticide carbofuran, of which MIC is a key ingredient (Ward Jr. August 27th, 2009). Additionally, Senator Jay Rockefeller (D-WV), the powerful chairman of the Senate Commerce Committee, vocally supported the investigation into the 2008 explosion (Hohmann August 30th, 2009) These factors placed additional pressure on Bayer besides that being directed at them by activists.

Furthermore, in January 2010, the West Virginia DEP found that the underground storage tank where MIC was stored had not been properly maintained nor tested, which added to the heightened scrutiny that the firm already faced (Ward Jr. January 10th, 2010). Also, following the banning of carbofuran, the EPA announced that it was phasing out another pesticide produced with MIC, called aldicarb (Ward Jr. August 18th, 2010). Finally, a week before the Chemical Safety Board was due to report the results of its

investigation, Bayer announced that it would stop making MIC altogether by mid-2012 and would lay off 220 workers at the Institute site (Ward Jr. January 12th, 2011). Bayer executives explained further that newer, less toxic chemical formulas were now available for production (Ward Jr. January 12th, 2011).

While PCAMIC welcomed the end of MIC production, a cause they had fought so long against, they continued to harbor some concerns about Bayer. Maya Nye, spokeswoman for PCAMIC, said she worried that the phasing out of MIC would be depicted as a case of environmental protection trumping the need for jobs (Ward Jr. January 12th, 2011). After a 26 year struggle, Kanawha Valley activists had finally succeeded in halting the production of an environmental hazard-causing chemical. However, they were unable to do so without the loss of jobs, making the economic well-being of Kanawha Valley residents more tenuous than it already is. PCAMIC has focused on health and safety issues not job creation, but public perceptions that PCAMIC activists are taking jobs will likely hinder the activist's future efforts.

ANALYSIS OF THE KANAWHA VALLEY CASE

Below, I discuss the factors that influence activism directed at corporations in the Kanawha Valley Case. The most mentioned codes in this case study are health and safety, the need for jobs outside of the environmental-hazard causing chemical industry, action channels, and corporate resistance [See Table 7.5]. Here the codes are drawn from newspaper statements.

Health and Safety

Health and safety was the number one concern of PCAMIC activists; 84.6% of them mentioned this in newspaper statements. The issue resonates with activists because the Kanawha Valley hosted the only American facility that produced MIC, making the events in India particularly worrisome to those who live there (People Concerned About MIC ; St. John August 18th, 1985; Daniel August 19th, 1985; St. John May 2nd, 1985; Isikoff May 5th, 1985). The activists of PCAMIC continued to fear for their safety, even after the remodeling of the facility during the post-Bhopal production break (St. John May 2nd, 1985). Those fears were worsened by Kanawha Valley chemical spills and lack of information provided by chemical companies, as discussed below in the corporate resistance section. Further, PCAMIC's mission statement says that the organization is "dedicated to the protection of health and safety of all who reside, work, and study in the vicinity of local chemical plants producing highly toxic chemicals" making these goals the original core of their activities and primary motivators (People Concerned About MIC). PCAMIC has had some success in obtaining information about chemical threats to health and safety but the group has repeatedly pointed out that changes in reporting of hazards do not automatically reduce the dangers caused by them (Ward Jr. May 2nd, 1999). Thus, their concerns about health and safety continue.

Need for Jobs

Another challenge faced by activists and others living in Kanawha Valley is that employment in the chemical industry is declining (Bureau of Labor Statistics-Office of

Occupational Statistics and Employment Projections August 5th, 2011; United States Bureau of Labor Statistics December 17th, 2009). This creates a situation in which areas such as “chemical valley” face increasing joblessness and economic instability; activists who oppose the chemical industry must face antagonism from those who look to this industry for work (Hochman August 16th, 1985; St. John August 18th, 1985; Ward Jr. January 12th, 2011). This is true in spite of the fact that less than five percent of Dunbar’s population are employed in manufacturing, giving them independence from the Institute facility (Google 2011; U.S. Census Bureau: American Community Survey 2005-2009). PCAMIC volunteers spoke of being seen as taking jobs (Harman June 18th, 2011; Yeager June 19th, 2011; Dixon June 21st, 2011; Nye June 21st, 2011; Zuspan June 27th, 2011). This is a major problem that activists talked about when they spoke about attempting to challenge the chemical industry.

The concern about job loss in Kanawha Valley is linked to demographic changes in and around that area. As noted, for many years blacks were not hired by the chemical companies, making defying them less risky for activists. But discussions with contemporary PCAMIC activists revealed that many of the original activists have died or aged out of the movement and newer recruits are more likely to be white and affiliated with the plants—either through their own work experiences or through the experiences of friends and families (Dixon June 21st, 2011; Nye June 21st, 2011). Similarly, the composition of the Kanawha Valley community changed as historically black West Virginia State College became integrated in 1954; former PCAMIC leader Estella Chandler noted that many students are white children of chemical plant workers who

“...just parrot the sentiments of their parents” (Daniel August 19th, 1985). These changes create jobs versus environment tensions in Kanawha Valley that mirror those in Whitesville and Naoma, but in Kanawha Valley, these tensions are comparatively recent. Nonetheless, as table 7.5 shows, concern about the need for jobs and job loss is rising in importance to PCAMIC activists since 84.5 percent of them spoke about this code.

Corporate Resistance

These concerns are exacerbated by corporate actions in Kanawha Valley; 53.8 percent of activists spoke about facing corporate resistance. In the aftermath of the 2008 spill at the Institute facility, the German chemical firm Bayer CropScience AG, which had bought the MIC facility, was investigated by the Environmental Protection Agency for violating chemical accident notification requirements—local residents had not been made aware of the explosion or of the nature of the risks they faced until hours after the explosion took place (Ward Jr. September 7th, 2008). Companies such as Bayer and Dow have been linked to a number of health and environmental scandals which cannot improve their credibility with activists (Doyle 2004; Rowan January 4th, 2008; Kemery September 11th, 2009).

Table 7.5: Kanawha Valley Codes

Factors Present	PCAMIC	Percent
Organizational Factors	5	38.5
Attachment to Place	4	30.8
Attachment to Nature	1	7.7
Health and Safety	11	84.6
Need Jobs	11	84.5
Government Support	2	15.4
Lack of Government Support	2	15.4
Short Term Threat	1	7.7
Long Term Threat	2	15.4
Corporate Resistance	7	53.8
Perceived Legitimacy	1	7.7
Shared Perceptions	3	23.1
Ability to Share Views	6	46.2
Action Channels	8	61.5
Economic Alternatives	0	0
Demographic Change	2	15.4
Burnout	1	7.7
Funding	0	0
Skills	0	0
Life-stage	0	0
Unexpected	1	7.7
Total Activists (N)	13	–

Source: Author, 4/10/2012

Activists tried repeatedly to get information about chemicals stored at the Institute facility, and about safety measures and planning, but they frequently faced resistance even when spills occurred (Ward Jr. April 5th, 1994; Paxton April 10th, 1986; Frommer

April 21st, 2009; Ward Jr. April 22nd, 2009; Ward Jr. August 2nd, 1995; Kissel August 24th, 1985; Kissel February 14th, 1990; Nyden July 6th, 1994; Dickerson June 2nd, 1994; McCoy and Stadelman June 3rd, 1994; Stadelman June 3rd, 1994; Ward Jr. June 5th, 1994; Ward Jr. March 15th, 1994; Isikoff May 5th, 1985; Ward Jr. November 13th, 1994; Kissel November 30th, 1985; Ward Jr. October 9th, 2008; Ward Jr. October 31st, 1994). The spills increased activist fear that a major chemical safety disaster could happen in Kanawha Valley and that corporations were publicly underestimating the risk of injury and illness that could be caused by chemicals (Paxton April 10th, 1986; States News Service April 23rd, 2009; Arters August 14th, 1985; St. John August 19th, 1985; Ward Jr. February 25th, 2009; Ward Jr. January 10th, 2010; Ward Jr. March 10th, 1994; Hamill March 29th, 2009; Nye November 18th, 2008; Ward Jr. September 4th, 2008; Ward Jr. September 14th, 2008)

Lastly, beginning with Union Carbide, firms at the Institute site claimed that MIC was widely used in the creation of pesticides and hard to replace; it is difficult to find evidence for or against this claim because such evidence is kept in company records and withheld from the public (St. John August 18th 1985; Geselman 2010). This pattern of withholding key information even when health and safety was at risk likely caused a high percentage of activists to speak about corporate resistance.

Action Channels

In spite of the need for jobs and the reality of corporate resistance, the issue of chemical health and safety in the production, distribution, and use of chemicals rose in

public awareness beginning in the late 1960s and 1970s (Carson 1962; Kevles 2001; Sicilia 2001). PCAMIC is part of this recent upsurge in concern and their unique proximity to MIC storage and production, coupled with the chemical spills and health effects of those spills, led activists like Sue Dixon to take action. She explained:

After Bhopal, I became active, you know, all of this...we just kind of flowed together because we realized we were in more danger than they had ever told us...when I was pregnant with my second child, I lived in a house that is two blocks over [from the facility] and I was upstairs, and in the middle of the night I woke up so sick, like sea sickness, that way I know it was from the Sevin plant, and I was so sick and dizzy that I called the plant because I was pregnant. I had never called them before. I called them and asked them what the problem was. I said "My house is filled with these fumes and I am so sick." And he acted like he didn't know and he promised he would call me back, after I told him I was pregnant, I said, "I'm pregnant and I need to know what to do." And he said he would call me back.....And that particular child of mine....I thought a lot about it recently, she's 31 right now, but from the time that she was born....she was sickly.....her skin wasn't right, there were just different things and she's had ventures into the hospital and the doctors swore they couldn't find out what was wrong with her. So I've often suspected that maybe what she was exposed to, because I've suffered from it, so I...that's just a thought....So I guess when my children were small and after Bhopal that was when I became more active (Dixon June 21st, 2011).

Mrs. Dixon's story of fear for her family and for herself is echoed by activists as well as by Kanawha County and Dunbar government employees. While activists mention other topics, the concern for health and safety is immediate and pervasive, and stakeholders feel compelled to act in spite of the need for jobs and corporate resistance that they face (Harman June 18th, 2011; Yeager June 19th, 2011; "P.N." June 21st, 2011; Nye June 21st, 2011; Zuspan June 27th, 2011).

I now turn to my analysis chapter, in which I compare the three cases to each other, and to the existing literature on environmental justice conflicts, social movements, mediation, and negotiation.

CHAPTER 8: ANALYSIS AND FINDINGS

The primary research question in this study is this: What are the factors that influence activism targeting corporations that cause environmental degradation and produce environmental hazards? This chapter will 1) establish a theoretical foundation for engaging this question by revisiting key terms discussed earlier; 2) further discuss the analytical tools and methods employed during the research process; and 3) compare the findings in the three case studies. The chapter will also identify findings from this dissertation that make new contributions to the theoretical literature as well as help us understand social movement activism more fully. It concludes with a discussion of the study's limitations and a look forward toward future research directions.

As noted in Chapter Two, this study defines a social movement as a series of group actions involving individuals who share a real or perceived grievance(s), direct their resources toward the amelioration of this grievance, and experience varying degrees of success due to cognitive, cultural, legal, and economic factors. This definition draws on prior sociological work that suggests actors are moved to engage in collective action based on number of factors: their ideas, beliefs, values, and grievances; connections to others who share those grievances; the way in which these individuals interpret the grievances that they face; and the political, economic, legal, social, and cognitive environments that would-be activists are embedded within (Diani, 2003; Friedman &

McAdam, 1992; W. Gamson, 1997; W. A. Gamson, Fireman, & Rytina, 1982; McAdam, 1982, 1994, 2003; McAdam & Paulsen, 1993; McAdam & Snow, 1997, 2000; Soule, 1997; Strang & Soule, 1998; Walsh & Warland, 1983). For the purposes of this study, social movement participation, also referred to as activism, primarily includes, but is not limited to, participation in rallies, protests, law-making and enforcement, teach-ins, committees, forums, and the writing of editorials. Individual activism is included in social movement participation, as is non-profit organization activism.

The units of analysis consist of the work that activists perform either singly or collectively and the statements made by these activists. The analysis itself examines factors that influence social movement participation: in other words, that which helps or hinders activist organizations and individuals in the choice to actively oppose corporations causing environmental hazards.

There are several relevant sub-categories of individual activists that warrant discussion. Local activists, often referred to in this study as locals, are people born in West Virginia who live(d) and work(d) in West Virginia when they discussed their opposition to corporate-caused environmental harm. Resident activists, also referred to in this study as residents, are people who were not born in West Virginia but who currently reside there or resided there when they made statements about their activism. Non-local activists, also referred to in this study as non-locals, are people who did not/do not live or work in West Virginia. This definition of non-locals includes those activists who visit the

state. For instance, Robert Kennedy Jr. traveled to West Virginia for speaking engagements, though his primary residence is outside of the state.

Finally, it is worth restating what exactly these activists are fighting individually and collectively: environmental hazards. These can include the emission of substances into the environment; the extraction of resources and related environmental and public health ill-effects; the manufacture of environmentally-harmful products; and the pursuit of practices that cause harm to human and natural systems. Having reviewed the research question, key terms, and the units of observation and analysis, I will now turn to the analysis itself.

ANALYTIC STRATEGY

Creswell (2009) advocates a multi-step analysis process that includes organizing and preparing data via transcription; scanning images and typing up field-notes; reading through all data; coding by grouping words, phrases, or passages according to similarities in content; providing a narrative(s) concerning these codes; and composing an interpretive passage in which the “lessons learned” are summarized. In my data assessment, I use qualitative and quantitative analysis primarily drawn from newspaper articles and supplemented with other sources such as interviews.

The qualitative coding process involves first reading through documents and asking, “What is this about?” followed by creating categories and distributing text excerpts into categories according to substantive content. From this method of reviewing materials, one draws out topics that become codes. Other code-creating strategies involve

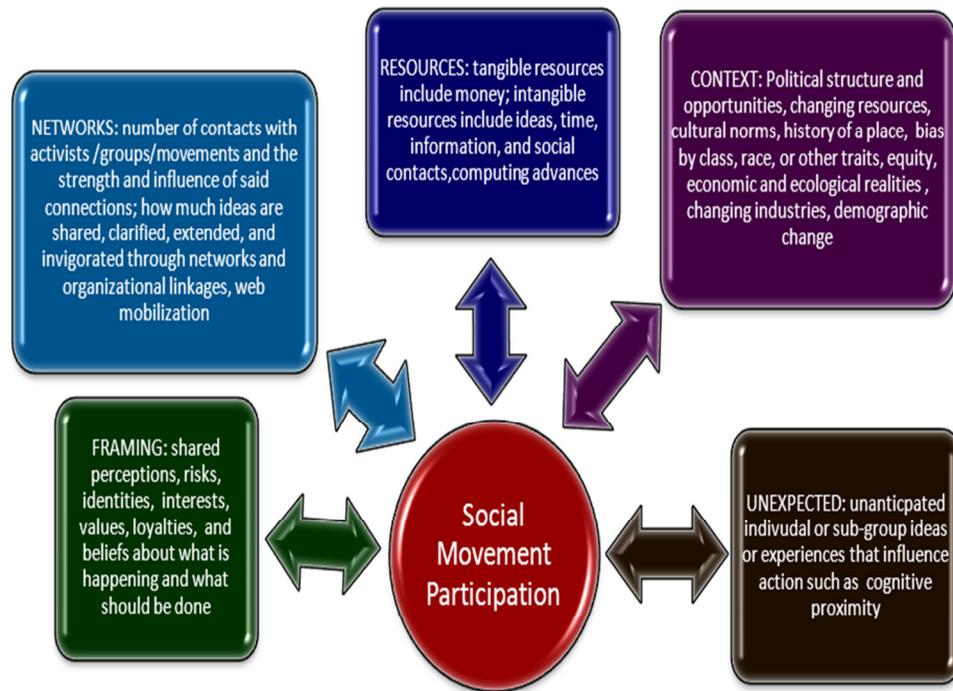
selecting codes based on past research data, creating codes based on what is surprising or unusual in one's research or making codes that address a theory or theoretical perspective (Creswell 2009). I began my own coding process by returning to the theory discussed in Chapters One and Two; drawing from existing theory, I coded articles and interviews in which activists state what factors have influenced their social movement participation. For example, prior social movement theory suggests that people are more likely to engage in social movement participation if they know other participants (Walsh and Warland 1983; Soule 1997; McAdam 2003). I then compared actors in the three cases both to each other and to the literature via the model presented in Chapter One [a revised version of that model is presented in figure 8.1; it has been added to by the findings of this study]. I then compared locals, residents, and non-locals to each other, as well as to the model. Coded data was drawn primarily from newspaper articles, and media coverage of activist statements was briefly discussed. Finally, I summarized key findings for organizations and residency groups, discussed what the findings suggest in terms of the research question above, and talked about directions for future research as well as limitations of the present study.

THEORETICAL MODEL

The model below is derived from prior theoretical and empirical work on social movements, negotiation and mediation, and environmental justice, as well as from codes suggested by the current study. The model indicates the factors which were found to influence social movement participation in this study: framing, networks, resources, context, and unexpected factors. The first four have been found to be influential in

earlier research in social movement participation. However, the fifth category – unexpected factors – is drawn from the unique factors found to influence social movement mobilizing and participation in this study. These are also factors that have not been given much attention in earlier social movement studies. Each branch of the model will be discussed below.

Figure 8.1: A Revised Theory of Causal Factors Leading to Social Movements



Source: Author, 4/22/2012

FRAMING

Framing is an important part of mobilization, and as later discussion shows, played a key part in all three case studies examined. Actors are motivated to participate in

social movements by how they see or “frame” the world. In a relevant work, Snow et al. (1986) explain that a frame is a “schemata of interpretation” that a person uses to identify and label perceived occurrences, attach meaning to those occurrences, and thereby decide which actions to take. Framing, they argue, is comprised not only of grievances but “the manner in which grievances are interpreted and the generation and diffusion of those interpretations” (p. 466). For example, CRMW initially spoke only in terms of environmental destruction and made comments like "People who live here under these strip mines don't know what's going on right at their back door. They don't realize the devastation," (Myers June 2nd, 1998). But activists altered their language to reflect connections with miners and mining communities as when activist Janet Nease said “I am a coal miner's daughter, and my father was one of the thousands of miners replaced by mechanization. He had to suffer loss of income and had to be retrained for other employment. Life was difficult for my family, but not impossible” (Nease April 12th, 1999). This shift in language is an attempt to share and diffuse environmental grievances by talking about sharing the cost of environmental protection and downplaying the severity of it.

When actors share ideas, values, and interests, “glue” is created that binds them together—either as individuals or as groups. This glue aids in the creation of a social movement and is called framing. The impact of a frame depends on the frame’s strength, salience, scope, flexibility, inclusiveness, and ability to alter individual identities (Ferree, 1992; W. Gamson, 1997; W. A. Gamson, 1992; Geshwender, 1968; McAdam, 1982, 1983, 1994; McAdam & Paulsen, 1993; McAdam & Snow, 1997, 2000; Olson, 1965).

An example of this occurred when the Blair mountain march was represented as protecting Appalachian history, working on behalf labor, and protecting the natural environment [see Figure 6.2]. The flyer shown in Figure 6.2 advertises the march and speaks about protecting “our history” regardless of where the activists are actually from, shows images of men firing shotguns in reference to a historic labor battle, and includes images of strip mining. Combining these references to labor, history, and environmental destruction is an attempt to increase the scope and inclusiveness of the anti-MTR frame. An important part of recruiting and sustaining social movement participation involves using framing to talk about, invigorate, and focus grievances—as well as proposed solutions to those grievances—for possible movement participants. Of course, this process will be more successful with some individuals than others based on their self-conceptions, motives, and affiliations (McAdam & Snow, 2000; Snow, Rochford, Worden, & Benford, 1986).

Prior work on framing suggests a number of factors that influence activism in the current study. For example, possible reasons for engaging in activism against corporate-caused environmental hazards in West Virginia include attachment to nature, i.e. a desire to protect the natural environment in West Virginia, the natural environment in general, or both. Likewise, attachment to one’s home, community, or both may influence activists. A desire for health and safety, as well as the need for jobs in and around the studied communities, could also spur activism. Additionally, the need for jobs can hinder activists to the extent that activism is perceived as taking away industry jobs. Thus,

attachment to place and nature, concern for health and safety, and the need for jobs were framing codes that activist statements were placed into.

These codes can be found in other environmental and environmental justice case studies. A classic example of framing influenced by attachment to nature was Rachel Carson's book *Silent Spring* that discussed insecticides as destructive to nature rather than helpful to agriculture (Carson 1962). In the infamous Love Canal case, activist Louis Gibbs framed chemical waste dumping as poisoning of families rather than acceptable product disposal—a clear example of health and safety framing (Levine 1982). The need for jobs code was salient to members of the Navajo nation where high poverty rates and misinformation led Native-American workers to mine carcinogenic uranium deposits on reservation property (Brook 1998).

One other code needs to be mentioned in order to gain the fullest possible picture of framing factors. The code, "Perceived Legitimacy", attempts to capture how one thinks of herself, what constitutes a legitimate action, and whether ones' linkages to other people are legitimate. Since this code addresses how one sees the world and ones' self, it is part of the framing branch of the model.

Several dimensions of framing were examined in this dissertation. First and foremost, the dissertation examined the way organizations and activists framed the issues. This reflects an approach used by numerous social movement scholars. However, this dissertation goes beyond this to examine how different types of activists (locals, residents, and non-locals) frame the issues and come to a shared understanding of how to

articulate their grievances. This dissertation also examines corporate counter framing and the activists' responses to corporate framing, especially that of Massey corporation—this is an under-explored topic that has only been discussed directly by a few social movement scholars (Gedicks 1993; Gedicks 2001; Trumpy November 2008).

Another dimension of framing is articulating alternative visions. The dissertation examined this through the articulation of alternative job creation ideas put forward by activists in the coal mining conflicts. Therefore, included here is the code “Economic Alternatives” since, in an economically depressed area, having economic alternatives or potential alternatives to environmental-hazard related jobs may be a frame that activists can use to influence social movement participation. Alternatively, when activists speak about the absence of economic alternatives, they are speaking about a potential barrier to social movement participation by activists or would-be activists. In sum, the framing codes are “attachment to place,” “attachment to nature,” “health and safety,” “need for jobs,” “perceived legitimacy” and “economic alternatives.”

NETWORKS

It needs to be noted that shared frames alone do not lead to collective action—these ideas must be diffused from individual to individual, organization to organization, and even movement to movement. As such, the number of linkages that actors have to others, how important those linkages are in the eyes of these actors, how well actors transmit ideas to each other through these links, how much these ideas are altered during transmission, and how similar linked actors are (or how similar they become) to each

other all influence social movement participation (Diani, 2003; McAdam, 2003; Soule, 1997; Strang & Soule, 1998; Tucker, 2011; Walsh & Warland, 1983). Indeed, a major component of who does or does not get involved in social movements often has to do with less effective mobilization strategies such as using mailing lists to marshal untapped and unorganized pools of potential recruits (Snow, et al., 1986; Soule, 1997; Soule & Schussman, 2005).

Building effective networks are critical to mobilization efforts. Research on movements such as the civil rights movement indicates that people who are connected to networks are the easiest to identify and tap for new social movement mobilization (Walsh and Warland 1983; Friedman and McAdam 1992; Soule 1997; Taylor 2000; McAdam 2003; Tucker 2012). The bloc recruitment approach (i.e., recruitment through preexisting networks and institutions) has proven to be an effective way to recruit and mobilize activists. Hence, this dissertation examined the network and institutional ties that were exploited to facilitate movement participation.

Several codes were used to identify the network dimension of the model. Certainly, the ability to share ideas among activists is a network related code. To capture the sharing of ideas, a network code “ability to share views” was created based on the prior work discussed in the paragraphs above where ideas have been shared through strategies like bloc recruitment. I argue that “action channels” is also a relevant code here because communication between activists is the mechanism through which activist action (such as protesting, teach-ins, law-making efforts and so on) is planned. Again, the prior

work above suggests that activities like protesting needed to be coded for in this study as a way that activists communicate their grievances. Similarly, because networks are also conduits for ideas, I infer that the code “Shared Perceptions” can be classified as a network code, although this code is also linked to framing. However, the dynamic element of “sharing” also suggests movement, in this case movement of thoughts between people through networks. Scholars such as Soule (1997) found that shared perceptions are conducive to social movement participation and mobilization, leading me to create this code. Accordingly, I place “Shared Perceptions” in the network branch, rather than the framing one, along with “ability to share views” and “action channels.”

RESOURCES

Social movement scholars have long held that resource mobilization is a critical component of social movement participation (Gamson, Fireman et al. 1982; McAdam 1982; Friedman and McAdam 1992; Zald 1992; McAdam 2003). These resources may include knowledge and skills that actors possess as well as their ability to control assets that other actors want or have (Lax and Sebenius, 1986, Folger and Poole, 1984, Campbell, 2005, McCreary 1999, McKearnan and Field, 1999). Additionally, money and other more tangible resources, referred to in the social movement literature as “structural factors,” impact social movements participation; these resources are also often lacking in less affluent and minority areas such as those studied in this dissertation (Ash & Fetter, 2004; Diani, 2003; McAdam, 2003; Saha & Mohai, 2005). I examined the mobilization of the following types of resources in this dissertation: funding; collaboration with local, regional, and national organizations (for expertise, human resources, etc.); people (for

mass protests and other activities); and the media for coverage of the issues. Examples of the role of funding in this study include the leveraging of financial support to charter planes by CRMW activists (see chapter five) and the rhetorical and artistic skills needed to mobilize support through flyers, email, and word of mouth that MJ activists used to recruit participants to the Blair Mountain march (see chapter six).

Relatedly, Gin and Taylor's (2010) work points to the significance of media coverage in environmental justice struggles. Though the Internet played a role in publicizing the issues in the three case studies and drawing national attention to them, it is beyond the scope of this project to conduct an Internet (Web) analysis; this will be the subject of future research by the author. However, researchers such as Tucker (2012) have explored the impact of the Internet on environmental justice mobilization. In sum, the codes "Funding" and "Skills" that activists possessed are categorized as belonging to the resource branch of the model.

CONTEXT

Actors may be constrained or aided by a number of other factors in addition to the frames, resources, and networks that they have. For example, past, current, or past and current bias can lead to group specific hardship and inequality (Ash & Fetter, 2004; Bullard, Mohai, Saha, & Wright, 2008; Chakraborty, 2009; Chakraborty & Armstrong, 1997; Mohai & Saha, 2006, 2007; Ringquist, 2005; Saha & Mohai, 2005). Such inequality can influence the choice to participate in social movements, as can political, cultural, and economic/corporate realities such as the dominance of the coal industry in

West Virginia (W. Gamson, 1997; Geshwender, 1968; McAdam, 1982, 1983; McAdam & Snow, 1997; Morris, 2000; Schwartz & Paul, 1992; Turner & Killian, 1997). I therefore compartmentalize the codes “government support” and the “lack of government support” as well as “corporate resistance” as context factors that may influence social movement participation. This code was suggested in the present study by activist statements about allegedly unhelpful government organizations such as the DEP who grant MTR permits and permit “allowances” that temporarily suspend environmental law (see chapters five and six). Massey and Bayer’s alleged misconduct in terms of withholding information from activists and using destructive environmental practices suggested the code “corporate resistance.” I also code for the influence of dramatic events such as the Bhopal tragedy in India which elevated concern about pesticide-related health and safety issues. Social movement scholars refer to these as suddenly imposed grievances (Gamson 1997). I categorize all such instances under the code “Sudden Threats.” All others are categorized as ongoing threats. Because mountain-top removal mining has been ongoing since the 1990s, it would be categorized as an ongoing threat. The list of contextual codes is therefore “government support or lack of it,” “corporate resistance,” and “sudden versus ongoing threats.”

UNEXPECTED FACTORS

Finally, there are always unknown factors that may influence participation in social movements. These can be individual or group specific motivators that prompt individuals to participate in social movements. Attempting to capture these motivators, the code “Unexpected” represents the unexpected branch of the model. For example, one

activist mentioned being prompted by patriotism to engage in social movement participation.

Other unexpected codes are suggested by the current study. A number of authors writing on qualitative research methodology suggest that qualitative research must be iterative (Creswell, 2009; Maxwell, 2005; Yin, 2009). Given these considerations, the code “life-stage” was added based on activist perceptions that social movement participants were either seniors or very young people, with very few individuals in the 25 to 65 age range (S. Dixon, June 21st, 2011; Harman, June 18th, 2011; Stanley, June 11th, 2011; Walk, June 20th, 2011). Recent research is also beginning to suggest that age may factor into social movement participation such that younger, childless people are more likely to participate in social movement activism (Soule & Schussman, 2005). I therefore class the codes “life-stage” and “demographic change” under the heading of unexpected factors that may partly explain social movement participation but were not included in the original model in this dissertation. On a related note, if individuals have been engaged in social movement participation over a period of time, they may become tired of the demands of that participation. Indeed, activists from PCAMIC suggested that some older activists were simply tired of fighting against target corporations (Dixon June 21st, 2011). As such, I include “burnout” as an unexpected code [see Table 8.1 for the relationship between codes and branches of the theoretical model].

As noted, the frequency and intensity with which actors spoke about coded topics varied depending on whether they were Locals, Residents, or Non-Locals. I therefore

coded statements based on the residency status of activists and used these sub-divisions to speak about cognitive proximity—an unexpected factor that indicates how salient a concern like attachment to place is to a given actor (cognitive proximity will be discussed more in later passages). So, the list of codes placed in the unexpected branch of the model are “demographic change,” “burnout,” “life stage,” “unexpected,” and “cognitive proximity.”

Table 8. 1: Codes

Coding Category	Codes
Framing	Attachment to place Attachment to nature Need for jobs Health and safety Perceived legitimacy Economic alternatives
Networks	Action channels Ability to share views Shared perceptions
Resources	Funding Skills
Context	Government support Corporate resistance Sudden threat versus ongoing threats
Unexpected	Cognitive proximity Demographic change, life-stage, burnout Any other unexpected factors

Source: Author, 3/20/2012

Based on the prior research described above, as well as preliminary examination of the activist statements in this dissertation, the model above predicts that framing, resources,

networks, contextual, and unexpected elements influence social movement participation against corporate-caused environmental hazards. The following passages discuss the analysis conducted to test this theory, as well as the findings drawn from this analysis.

ACTIVIST STATEMENTS

Using the codes above, I examined activist quotes in newspapers and interviews in order to unpack the factors that influence activism against corporations causing environmental hazards. The following passages will focus on the content analysis of 122 articles in order to observe what the 98 activists featured within stated directly about their motivations for social movement participation. The analysis includes 317 statements drawn from newspapers. To supplement the newspaper analysis, selected quotes from the 35 interviews I conducted are dispersed throughout the case studies and analysis as illustrations of the points being made. Statements from activists working with the three primary activist organizations in the case studies: CRMW (the Whitesville case), PCAMIC (the Kanawha Valley case), and MJ (the Naoma case) are compared to each other and to the model.

Next, local, resident, and non-local statements are compared to each other and to the model, using newspaper and interview statements. The newspaper articles are drawn from state, national, and international newspapers. State papers include the *Charleston Gazette*, the *McClatchy-Tribune Business News*, and the *Charleston Daily Mail*; National papers include the *New York Times*, the *Wall Street Journal*, the *Washington Post*, the *Roanoke Times*, and the *Knoxville News Sentinel*; international news coverage was taken from the *United Press International* [for a description of newspaper data, see Table 8.2].

Table 8. 2: Newspaper Data

Characteristics of Newspaper Sources	
Number of Articles	122
Most Represented Paper	Charleston Gazette (32.8)
Time Period Articles Were Published in	
1984-1989	16 (13.1%)
1990-1999	36 (29.5%)
2000-2011	70 (57.4%)
Geographic Scope of Newspapers	
Local or State	86 (70.5%)
National or International	36 (29.5%)

Source: Author, 3/29/2012

This analysis includes 44 local, 14 resident, and 40 non-local activists [see Table 8.3]. If an individual is quoted in articles, I avoid quoting them from interviews in order to avoid double-counting. Similarly, if an individual is active in more than one case study, I only speak of them in one case to avoid counting their statements twice. In the interviews, statements regarding “Mountaintop removal” and “mountain,” may reflect researcher bias. This is due to the reality that I asked participants directly about mountaintop removal in the interviews conducted for this study. Accordingly, I measure attachment to nature using statements about land, water, air, or all three rather than paying attention to mentions of mountains or mountaintop removal.

I also discussed the need for jobs; however, I did so in the second half of interviews. Participants typically volunteered “jobs” in answer to the questions, “If you know people who support mountaintop removal, what do they say about it?” and, “If you know people who support chemical production, what do they say about it?” These

questions occurred during the first half of the interviews, before I broached the topics of economic development and hard times [see Appendix for interview protocols]. This is to say that during interviews I did nothing to influence respondent answers regarding the initial mention of the “jobs” or “economic alternatives” codes.

Table 8. 3: Demographics of Activists

	Residential Status					
	Local	%	Resident	%	Non-Local	%
<i>Organization</i>						
Unknown	13	13.3%	5	5.1%	12	12.2%
CRMW	10	10.2%	0	0.0%	0	0.0%
MJ	5	5.1%	1	1.0%	10	10.2%
PCAMIC	8	8.2%	5	5.1%	0	0.0%
Other	8	8.2%	3	3.1%	18	18.4%
<i>Gender</i>						
Male	25	25.5%	8	8.2%	23	23.5%
Female	19	19.4%	6	6.1%	17	17.3%
<i>Race</i>						
Unknown	27	27.6%	12	12.2%	36	36.7%
White	14	14.3%	1	1.0%	3	3.1%
Black	3	3.1%	0	0.0%	0	0.0%
Other	0	0.0%	1	1.0%	1	1.0%
<i>Total by Resident Type</i>	44	100%	14	100%	40	100%

NOTE: In table 8.3, activists are counted more than once, meaning that an activist can be White, male, and also a member of CRMW. This is why the Totals for resident type do not match the columns above them.

Source: Author, 3/23/2012

FINDINGS

COMPARING CRMW, MJ, AND PCAMIC

The statements in the newspaper articles were coded using R Project for Statistical Computing (Gentleman and Ihaka 2012). Initially, I ran frequency tables to obtain counts and percentages of activists mentioning a particular code [Table 8.4]. Next, I ran Fisher Exact Tests, which assesses the degree of correlation between organizational affiliation and the variables of interest [see Table 8.5]. Fisher tests were preferred over the more commonly used Chi-Square test because of their ability to estimate correlation between variables accurately even with limited data; especially given that Residents were under-represented in this sample, the Fisher test was a sound methodological choice. Fisher's tests are especially appropriate for this analysis since the sample of residents is small.

Differences emerge when comparing activists from the three primary activist organizations in this study. Table 8.4 represents counts of statements regarding a particular variable by members of CRMW, MJ, or PCAMIC; it also shows what percentage of quoted activists from CRMW, MJ, or PCAMIC spoke about a particular variable. Table 8.4 identifies the factors that most strongly influence activism; here, factors that were mentioned by more than two thirds (66%) of activists working with an organization are highlighted. The "Other" category represents activist organizations besides CRMW, MJ, and PCAMIC that were mentioned in the articles. Activists who were quoted in the articles mentioned their affiliation to these other groups.

Table 8. 4: Codes in Articles by Activist Organization

Factors	CRMW	%	MJ	%	PCAMIC	%	OTHER	%
Organizational Factors	3	30.0	6	37.5	5	38.5	9	31.0
Attachment to Place	9	90.0	12	75.0	4	30.8	12	41.4
Attachment to Nature	9	90.0	11	68.8	1	7.7	20	69.0
Health and Safety	5	50.0	6	37.5	11	84.6	7	24.1
Need Jobs	5	50.0	6	37.5	11	84.5	7	24.1
Government Support	3	30.0	2	12.5	2	15.4	2	6.9
Lack Support	1	10.0	1	6.3	2	15.4	7	24.1
Sudden Threat	0	0	0	0	1	7.7	0	0
Ongoing Threat	1	10.0	0	0	2	15.4	0	0
Corporate Resistance	2	20.0	3	18.8	7	53.8	7	24.1
Perceived Legitimacy	3	30.0	1	6.3	1	7.7	1	6.9
Shared Perceptions	1	10.0	6	37.5	3	23.1	6	20.7
Ability to Share Views	3	30.0	6	37.5	6	46.2	10	34.5
Action Channels	7	70.0	8	50.0	8	61.5	15	51.7
Economic Alternatives	5	50.0	5	31.3	0	0	4	13.8
Demographic Change	2	20.0	1	6.3	2	15.4	1	3.4
Burnout	0	0	0	0	1	7.7	0	0
Funding	0	0	0	0	0	0	0	0
Skills	0	0	1	6.3	0	0	3	10.3
Life-stage	0	0	0	0	0	0	0	0
Unexpected	1	10.0	1	6.3	1	7.7	2	6.9
Activists	10	100.0	16	100.0	13	100.0	29	100.0
Total Statements N=317	60	100.0	76	100.0	68	100.0	113	100.0

Source: Author, August 13th, 2011

It becomes apparent that attachment to place is a powerful motivating for some activists, in particular those working for CRMW and MJ. This is far less true of the activists working with PCAMIC. PCAMIC differs from the other organizations in terms of attachment to nature as well. While the classic image of an activist fighting environmental hazards is of a nature lover trying to protect the land, water, air, flora, and fauna from degradation or elimination, only a low percentage of activists from PCAMIC say that they value nature compared to activists from other groups. Instead, they focus to a far greater degree on health and safety concerns. Indeed, their mission statement states that PCAMIC is “dedicated to the protection of health and safety of all who reside, work, and study in the vicinity of local chemical plants producing highly toxic chemicals” (People Concerned About MIC). Also, comparatively higher percentages of PCAMIC activists talk about the need for jobs compared to activists from the other organizations. Whitesville’s current employment rate is 41.8 percent, Naoma’s is 29.8 percent, but Kanawha Valley’s is 57.8 percent so it is interesting that PCAMIC activists spoke so much about the need for jobs when comparatively speaking, they already had them (U.S. Census Bureau 2010).

These findings follow the expected trends outlined by environmental justice scholars.

Taylor writes:

Social location or positionality also influences the construction of social problems. Social location refers to the position a person or group occupies in society. That position is influenced by factors such as gender, race, and class. Social location affects how people construct the meanings that define grievances, opportunities, and collective identities (C. M. Mueller, 1992, pp.19-20; Oliver & Marwell, 1992; Zald, 1996, pp. 267-268)... For instance, mainstream environmental activists and environmental justice activists are, for the most part, in different social locations. As such, they have vastly different environmental experiences, and those experiences influence how they perceive environmental issues, construct discourses, organize campaigns, and develop activist strategies (2000).

Empirical support for the ideas stated in the above quotation are suggested by the quantified level of racial diversity of Kanawha Valley compared to the Whitesazville and Naoma

areas (7.9 versus 0 and .1 percent respectively), which increases the likelihood of race-specific experiences and grievances. Sarah Lashley (2010) also found that race was infused with environmental claims in the minority communities she studied. Also, prior environmental studies found that while Caucasian and minority individuals may both be concerned about the environment, they prioritize different environmental issues for different reasons: also, minorities tend to be more focused on economic growth than Caucasian individuals, perhaps because of the poverty that still troubles many communities of color (Uyeki and Holland 2000). Indeed, in a related piece, Taylor explains that:

Environmental justice activists and scholars connect “social justice concerns like self-determination, sovereignty, human rights, social inequality, access to natural resources, and disproportionate impacts of environmental hazards with traditional working-class environmental concerns like worker rights and worker health and safety, to develop an environmental justice agenda” (Taylor 2000).

It is therefore unsurprising that the mission statement of the CRMW reads: “[We want to] Stop the destruction of our communities and environment by mountaintop removal mining” (Coal River Mountain Watch March 4th, 2010), while PCAMIC’s goals are eco-centric only as they pertain to health and safety. In spite of the fact that both organizations engage in activism toward corporations causing environmental hazards, there are differences in their foci that are consistent with extant environmental justice research. Examples of this include the Warren County, Triana, and the Los Angeles Lancer case studies in which minority activists fought waste dumping or incineration projects to protect public health (Levine 1982; Bullard and Wright 1987; Bullard, Glenn et al. 1997; Burger 1998; Hunter 2000; McGurty 2000; Bullard, Mohai et al. 2008). Recent work suggests that over time EJ organizations tend to adopt mainstream environmental concerns in addition to traditional environmental justice ones (Lashley 2010).

As a final noteworthy difference, CRMW activists speak more about action channels than the other activists. Given that financial data was unavailable from MJ and PCAMIC, it is unclear whether a difference in available funding is galvanizing CRMW activists to be particularly enthusiastic about their action channels. However, the CRMW activists have the highest percentage of locals among the three primary activists groups examined in this study [see Table 8.2], implying that these actors are likely prompted by greater cognitive proximity—the need to “do something” about the problems that they face. Also, PCAMIC mainly engaged in activism such as holding teach-ins and participating in committees, while the anti-mountaintop removal groups consistently took assertive action in the form of sit-ins, protests, and rallies. Thus, these groups of activists seem to vary both terms of how much they value action channels, and in terms of the type of action channel that they value.

Tests of Independence: Organizations and Codes

In addition to examining the frequency with which organization-affiliated activists speak about a particular code, I also assessed the statistical significance of organizational affiliation with each variable in table 8.5. As previously stated, the case study activists varied in terms of attachment to place and nature, health and safety, and the degree to which they value action channels. Using Fisher Exact tests, the number of statements made by members of CRMW, MJ, and PCAMIC concerning these four variables was found to differ to a statistically significant degree [see Table 8.5].

The activists in these groups also varied on a number of other factors. For instance, the nature of the threat that they face— whether sudden like the Bhopal explosion or long term like mining ill-effects—is unsurprisingly significant to these groups of activists and variable depending on the particular challenges they face. Activists also vary in terms of the value that

they place on having shared perceptions with each other and with community members, as well as in their ability to share their views. This is consistent with the case study findings in which CRMW and MJ worked with others while PCAMIC worked largely alone.

Table 8. 5: Fisher Tests Correlating Organization Affiliation with Codes

Codes in Article statements by Organization	
Codes	P-Value
Organizational Factors	0.1468
Attachment to Place	0.0005724***
Attachment to Nature	.0000***
Health and Safety	0.002218***
Need for Jobs	0.2681
Government Support	0.1542
Nature of Threat	0.006353***
Corporate Resistance	0.09912*
Perceived Legitimacy	0.2862
Shared Perceptions	0.004702***
Ability to Share Views	0.008871***
Action Channels	0.01454***
Economic Alternatives	0.001016***
Demographic Change	0.04708**
Burnout	0.2347
Funding	—
Skills	0.6122
Life Stage	—
Unexpected	0.3749

P-value .1 = *; P-value .05 = **; P-value .01 = ***

Source: Author, 3/30/12

The variables found to be statistically significant are attachment to place and nature, health and safety, the nature of the threat, shared perceptions, ability to share views, demographic

change, economic alternatives, action channels and to a lesser degree, corporate resistance [see Table 8.5]. The organizations also vary in age: PCAMIC was started in the 1980s, CRMW in the late 1990s and MJ in 2000s. It is therefore plausible that demographic change would be a problem for PCAMIC as activists age out of the movement thereby reducing activist numbers, but less so for the other groups. Finally, there are differences in the extent to which these activist groups concern themselves with economic alternatives for the case study areas. PCAMIC was, and is, explicitly focused on health and safety, while the other groups have spoken increasingly about the importance of sustainable economies and job growth—again, the differing value placed on a factor by organization is consistent with case study observations. It is odd, however, that a high percentage of PCAMIC activists talked about the need for jobs, yet they spoke very little about economic alternatives.

Having discussed the differences in activists by organizational affiliation, I will now compare these findings to the model, and discuss in detail the differences between Locals, Residents, and Non-Locals.

COMPARING ORGANIZATIONS TO THE MODEL

The branches of the model suggest that networks, framing, resources, context, and unexpected factors unique to an actor or group of actors lead to social movement participation in the cases examined. However, based on the data collected on the three primary activist organizations in this study, one branch of the model stands out as having a greater influence on social movement participation than the others: that of framing. The codes “attachment to place,” “attachment to nature,” and “health and safety”—all framing factors—were mentioned by the highest percentages of activists in the key activist organizations. At the same time, how much each of these factors was mentioned by activists affiliated with a particular activist organization

(CRMW, MJ, or PCAMIC) varied to a statistically significant degree. This suggests the power of framing, and also that framing does *not* compel social movement participation in the same way for all activists, even when they all face environmental issues, labor issues, or some other class of social problem.

The power of framing and networks for these activist groups is not surprising. Prior social movement literature demonstrates that embeddedness in social networks creates an incentive for people to engage in social movement participation in order to retain links to other people who they value (Friedman and McAdam 1992). This desire for connection to valued others works with both dispositional factors and sense-making attempts by actors to help them decide which actions to take—the resulting cognitive realities can lead to both changes in self-perception and to a collective identity with a shared sense of purpose (Morris 1981; Gamson, Fireman et al. 1982; Snow, Rochford et al. 1986; McAdam and Paulsen 1993; McAdam and Snow 2000). EJ scholars such as Taylor (2000) and Pellow (1999; 2001) have also expounded on the importance of framing in EJ conflicts. These framing and networking realities can in turn lead to social movement participation. For the activists in the organizations discussed above, their own sense-making work of what is happening around them, what needs to be done about it, and who they need to become is evident from their statements. CRMW activists spoke of being murdered, of being killed, and of having “their” water and “their” air polluted (Walk June 20th, 2011). The fact that MTR is framed by such individuals as a lethal threat suggests that actors must fight back: that to do so is an act of life or death, as is joining the social movement activism of other like-minded people.

As the current study suggests, however, it would be a mistake to assume that all activism toward corporations causing environmental hazards is motivated by the same frames and

networks to the same degree. McAdam and Snow (2000) add that people may join a movement for a variety of reasons, maintain multiple identities of varying importance, and imperfectly or variably embrace a collective identity along with whatever actions that identity is connected with. This theory is relevant in that it helps to explain the differences between CRMW, MJ, and PCAMIC—all three of whose activists are concerned about corporate-caused environmental hazards but differ in identity due to factors such as race or occupation in mining towns. They are also motivated by differing goals—or differing salience of goals related to what needs to be fought and why.

It is of theoretical interest to note that although activists in Coal River Mountain Watch, Mountain Justice, and PCAMIC discussed environmental hazards, social inequality, worker health and safety, and self-determination—all easily identifiable as environmental justice issues—the environmental justice frame was submerged for all sub-groups of activists. However, it should be noted that though PCAMIC did not explicitly use the EJ label (having started before the label was put in common usage in the early 1990s), they evoked a classic EJ frame early on by linking racism with exposure to environmental hazards and by stating that this was more likely to happen in black communities than others. Though the groups in Whitesville and Naoma did not specifically evoke whiteness, it is an implicit part of their framing; race need not be mentioned to play a role in identity and the articulation of issues (Scott 2010). The lack of an explicit EJ frame in conflicts such as the ones studied in this dissertation is not altogether unexpected.

For instance, Wrenn (2008) found that the environmental justice frame was not present in his study of the reactions to the Mead Westvaco paper mill plant in Alleghany County, Virginia (which borders West Virginia). Though this area shares environmental justice characteristics with West Virginian communities such as high poverty rates and corporate environmental externalities, residents of Alleghany County also did not use the environmental justice frame. In

addition, Anglin (2002) examined West Virginian, Virginian, and Kentuckian communities and found the absence of environmental justice themes; instead, activists described their struggles with the coal industry in terms of “the connections between the United Mine Workers of America and generations of miners past and present, religious discourse, and the economic stability of mountain communities” in addition to speaking of protecting their way of life, looking for a living wage, achieving ecological and local socio-economic sustainability, and having the ability to pass down a legacy for their children. Williams (2001) added to the discussion of environmental justice cases without the explicit use of environmental justice frames; his examination of the low-income, mostly African-American community living around the Anacostia River found appreciation and concern for the river coupled with economic concerns, but without the EJ label.

Given that activism toward corporations causing environmental hazards is motivated by various frames (sub-merged or otherwise) to varying degrees, it makes sense to explore the differences between activists and their thinking in greater depth. These differences will be explored in the following passage by looking at individuals’ cognitive proximity to the environmental hazards discussed in this study. As noted, cognitive proximity is an *unexpected* factor that was not predicted by the model, and indicates how salient a concern like attachment to place may be to a given actor. This factor is explored by dividing the activists into locals, residents, and non-locals, whose statements are then compared.

Before leaving the subject of activists grouped by organization, however, a few more observations are in order. One is that groups of activists did differ to a statistically significant degree on how they valued 1) the ability to share their views, 2) having shared perceptions, 3) the availability of economic alternatives, 4) the importance of demographic change, and 5) the nature

of the threat they faced. Again, the case study evidence suggests that PCAMIC is older and thus facing more demographic change; they have also worked largely alone without widely disseminating their views or seeking like-minded people to build coalitions with. Also, as noted, their goals were health- and safety-related in spite of being in an area where the corporations causing environmental hazards were also important to local economies.

Given that the activist statements in this study point to the critical importance of framing in influencing social movement participation, it may be that the initial frame of dealing with health and safety acted as a trap for PCAMIC activists, limiting their scope and their ability to build alliances and take on new goals. This possibility is supported by the data showing that while 46.2 percent of PCAMIC activists mention the importance of being able to share views, their isolation during their 23 year fight against MIC meant they either could not or would not share their views through partnership with other groups, coalition building, or media campaigns.

This is in contrast to the similarly low-income but more geographically isolated, largely minority activists seeking to thwart the arrival of an environmental hazard-causing chemical plant in St. James Parish, Louisiana. As noted, they were successful in blocking the multi-national corporation Shintech from placing additional chemical facilities in their locality. These activists collaborated with Greenpeace and other national groups as well as the Tulane Law Clinic to fight against Shintech (Hines 2001). The activists in PCAMIC and in St. James Parish had similarities in terms of demographics, opponents, opportunities, and challenges—yet one engaged in coalition building and made a successful media campaign, while the other did not. The activists differed in terms of framing, with PCAMIC speaking about health and safety, while the St. James Parish activists used a broader and more inclusive frame, in which they spoke of their struggle in terms of civil rights, fighting environmental racism, protecting the environment, and creating local

economic opportunity (Hines 2001). Also, the activists fighting in Norco, Louisiana successfully lobbied Shell oil to purchase their homes. Their success can be partly attributed to the help that they received from outside groups such as the Bucket Brigade (Grunberg 2002). The power of framing continues to be important when one examines the activists in this study via a different light—that of residency and the cognitive proximity that residency brings to certain ideas and concerns.

COMPARING LOCALS, RESIDENTS, AND NON-LOCALS

ARTICLE STATEMENTS

As noted, the newspaper articles were coded using R Project for Statistical Computing (Gentleman and Ihaka 2012). I ran frequency tables to obtain counts of activists mentioning a particular code. Next, I ran Fisher Exact tests to assess the degree of independence between residency status (local, resident, or non-local) and one of the other variables. A value of .05 or below indicates a statistically significant relationship.

The differences in residency groups reflect degrees of cognitive proximity to the geographic areas examined in the case studies and the people who live in them. Mentions of attachment to place, health and safety, need for jobs, and economic alternatives varied by residency status. Table 8.6 shows counts of locals, residents, and non-locals mentioning a particular variable; it also shows the percent of that residency group that spoke about the variables. As the case studies would suggest, locals were significantly more concerned about these factors than non-locals [See Tables 8.6]. The code most mentioned by locals was attachment to place, as seen below. Table 8.7 examines statistically significant differences between residency groups in terms of mentioning the variables.

Table 8. 6: Residential Status and Codes Represented in Article and Interview Statements

Factors Present	Locals	%	Residents	%	Non-Locals	%
Organizational Factors	8	18.2	5	35.7	13	32.5
Attachment to Place	29	65.9	3	21.4	13	32.5
Attachment to Nature	25	56.8	4	28.6	20	50.0
Health and Safety	20	45.5	7	50.0	10	25.0
Need Jobs	15	34.1	4	28.6	1	2.5
Government Support	8	18.2	0	0	2	5.0
Nature of Threat	1	2.3	0	0	0	0
Corporate Resistance	11	25.0	6	42.9	8	20.0
Perceived Legitimacy	4	9.1	2	14.3	3	7.5
Shared Perceptions	5	11.4	4	28.6	8	20.0
Ability to Share Views	13	29.5	3	21.4	11	27.5
Action Channels	19	43.2	7	50.0	18	45.0
Economic Alternatives	9	20.5	3	21.4	3	7.5
Demographic Change	4	9.1	0	0	2	5.0
Burnout	1	2.3	0	0	0	0
Funding	0	0	0	0	0	0
Skills	0	0	1	7.1	4	10.0
Life-stage	0	0	0	0	0	0
Unexpected	3	6.8	1	7.1	1	2.5
Activists	44	100.0	14	100.0	40	100.0
Statements (N=342)	175	100.0	50	100.0	117	100.0

Source: Author, 3/23/12

Table 8. 7: Tests Correlating with Codes

Codes in Article Statements by Residency Status	
Codes	P-Value
Organizational Factors	0.3276
Attachment to Place	0.001101***
Attachment to Nature	0.183
Health and Safety	0.0898*
Need for Jobs	0.0003676***
Government Support	0.1629
Nature of Threat	0.4556
Corporate Resistance	0.3627
Perceived Legitimacy	0.115
Shared Perceptions	0.4549
Ability to Share Views	0.9062
Action Channels	0.8009
Economic Alternatives	0.03654**
Demographic Change	0.614
Burnout	1.0
Funding	—
Skills	0.1539
Life Stage	—
Unexpected	0.5581

P-value .1 = *; P-value .05 = **; P-value .01 = ***

Source: Author, 3/21/2012

Oddly, residents were actually more concerned about health and safety, and about economic alternatives, than locals. This may be explained by the resident group being composed of professionals working on particular environmental, health and safety, or economic issues, in collaboration with locals. This possibility is suggested by activists such as Cathy Kunkel. In the

Whitesville case (CRMW), resident Cathy Kunkel, who worked as the economic development officer for CRMW, explained her activist goals in the following way:

Well, with MTR I would like to see it stop. Economic development...I think it would be interesting if there were some sort of economic diversification trust fund perhaps based on the coal severance tax. I think that there needs to be more of a recognition just that coal is on its way out here and economically preparing for that post-coal future (Kunkel June 20th, 2011).

Given her job title and her choice to move to West Virginia to work on economic alternatives to mountaintop removal, it is not surprising that she, and resident workers like her, would be particularly focused on a given issue like economic development or alleviating a particular health or safety threat.

Since the number of locals and non-locals sampled in this study was sufficient to make it possible, Chi-Square tests measuring the significance of the relationship between key factors were performed as a check on the Fisher tests conducted above (residents, the smallest group, are excluded here). Several factors were tested; other factors were tested but did not show statistical significance. Again, it was demonstrated that locals are more concerned about the attachment to place factor, as well as more concerned about the need for jobs.

Table 8. 8: Key Factors Chi-Square Tests

Resident Status: Comparison of Locals and Non-Locals On Key Variables			
Article and Interview Statements (N=335)			
Codes	X ²	df	P-Value
Attachment to Place	8.0659	1	0.004511***
Attachment to Nature	0.1655	1	0.6842
Health and Safety	2.9792	1	0.08434
Need for Jobs	11.5895	1	0.0006633***

P-value .1 = *; P-value .05 = **; P-value .01 = ***

Source: Author, 3/22/2012

In table 8.8, statistical significance is measured at the .05 level.

COMPARING RESIDENT TYPES TO THE MODEL

The model suggests that framing, networks, resources, context, and unexpected individual and group motivations influence the choice to engage in social movement participation. As suggested by the data in the current study, framing is the dominant factor that influences locals' activism toward corporations causing environmental hazards. They are motivated by the following framing factors to a greater extent than their non-local allies: attachment to place, health and safety, and the need for jobs in case study communities. The present study presents empirical data indicating that activists *within* a particular social movement are motivated by different perceptions, risks, identities, interests, values, loyalties, and beliefs. The Chi-Square tests above add evidence of the cognitive proximity of job issues, economic alternatives, and attachment to place for local activists. This is in keeping with recent social movement theory that suggests a more nuanced view of how identity impacts social movement participation and elevates the importance of identity factors in social movement participation (McAdam and Snow 2000; McAdam 2003).

Though activists did not speak openly of kinds of resources they mobilized, it is clear that this was an important part of their activism. Activists sought and received ample outside funding (Whitesville has 514 people yet it has an organization with a budget of over \$400,000 to fight MTR – this is probably the organization in town with the most funding). Further, they mobilize other resources such as helicopters to fly people over MTR sites and collaborate with national organizations like the NRDC. The collaboration leverages the resources of partner organizations. Resources leveraged include additional funds, human resources, expertise, etc. The case study activists are adept at mobilizing people when necessary – for example, during the mass rallies and

marches to symbolic sites such as Blair Mountain where they used classic civil rights and EJ tactics such as marching. These activists have mobilized media resources – in particular, the anti-MTR activists have been able to keep that issue in the media for more than 20 years. So, while resource mobilization is not expressed in activists' statements, the supplemental analysis conducted through interviews, documents, and research on the organizations show that resource mobilization is a key component of activism in these cases.

RECAP OF KEY FINDINGS AND CONCLUSION

The intent of this dissertation was to discover what factors influence activism toward corporations causing environmental hazards. To do so, two levels of analysis were conducted and examined: one pertaining to organizations, the other to individuals. It was demonstrated that activists affiliated with the organizations CRMW, MJ, and PCAMIC were influenced by a number of factors that were not consistent across organizations. What *was* consistent was the power of framing factors. The most critical framing factors were: attachment to place, attachment to nature, the need for jobs, safety and health, and economic alternatives. These factors were mentioned by high percentages of activists in the case study organizations. Nonetheless, these activists varied significantly in terms of which factors in the framing, network, resource, context and unexpected branches of the model influenced them. Specifically, there were differences in the degree to which the activists in these organizations spoke about demographic change (an unexpected factor), the type of environmental threat that they faced (a contextual factor), economic alternatives (a resources factor), and network related factors such as the ability to share their views, the existence of shared perceptions, and the presence and value of action channels. As discussed, they differed in terms of the framing factors that they spoke about, and how much they spoke about them.

When the activists were divided into groups by residency status rather than activist organization, similar differences emerged. As the case studies suggested, mentions of attachment to place, health and safety, need for jobs, and economic alternatives varied by residency status: locals were far more concerned about these factors than non-locals. In particular, 65.9 percent of locals spoke about attachment to place as influencing social movement participation, while only 32.5 percent of non-locals said the same. Whether activists were examined by residency group or organizational affiliation to see what they spoke about most, it becomes clear that framing had a powerful influence on their social movement participation. There are, however, statistically significant differences between activists' statements, and they differ in terms of context, resources, unexpected variables, and network strength and access. Although this work is exploratory, it suggests reasons why some actors engage in social movement participation while others who face similar problems do not. Their own comments suggest that one should not assume that activists think about problems in the same way or seek to address them in the same way; their comments also suggest that they are influenced by their linkages to other people, their resources, and the contexts that they are embedded within, as well as individual and group specific unexpected factors.

This finding supports recent social movement theory that warns against regarding framing and identity building as static and monolithic (McAdam and Snow 2000). It also adds to the body of empirical work suggesting that actors are moved to participate in collective action based on their ideas and grievances, connections to others who share those grievances, the way in which these individuals interpret the grievances that they face, and the political, economic, legal, social, and cognitive environments that would-be activists are embedded within (Gamson, Fireman et al. 1982; McAdam 1982; Walsh and Warland 1983; Friedman and McAdam 1992;

McAdam and Paulsen 1993; McAdam 1994; Gamson 1997; McAdam and Snow 1997; Soule 1997; Strang and Soule 1998; McAdam and Snow 2000; Diani 2003; McAdam 2003).

This study also challenges social movement theorists to identify and investigate differences between movement supporters in more robust ways. Prior studies have suggested that a major element of who does or does not get involved in social movements has to do with mobilization of unorganized pools of potential recruits (Snow, Rochford et al. 1986; Soule 1997; Soule and Schussman 2005). This was true for CRMW and even more so for MJ, but not for PCAMIC, even though mobilizing for health and safety (among other goals) has been done before by minority and low-income people, in cases such as the Shintech chemical plant case (Hines 2001). Other recent research also finds evidence of minority and less affluent community activists using the Internet and other sophisticated strategies in their organizing (Tucker 2012).

However, this study suggests that some negotiation regarding the framing of grievances occurs between collaborators as groups seek to mobilize resources necessary to oppose opponents effectively. This negotiation is not necessarily related to resources that a group of activists have—as previously mentioned, less affluent and minority communities have successfully networked and built opposition to corporate-caused environmental hazards in spite of being resource poor. In the context of the cases examined for this dissertation, the negotiation occurs around the articulation of frames and issues salient to three subgroups of activists – locals, residents, and non-locals. This is important as many environmental conflicts involve a similar range of activists. The relationship between these three groups have not been studied extensively, however, the way these groups manage their relationship with each other is critical to their effectiveness. Bailey et al. (1993) shows how mobilization was stymied in Emelle, Alabama when local and non-local activists could not agree on a blended or shared vision of the framing to oppose a landfill. However, Blumberg and Gottlieb's work in South Central Los Angeles on the anti-incinerator

campaigns demonstrates how local, resident, and non-local groups can meld their framing and strategies effectively (Blumberg and Gottlieb 1989) .

Therefore, I suggest that this “missing step” between framing and networking has to do with the mutability of the primary frame that activists use; they must be able to keep their sense of purpose while seeking help, galvanizing interest from others, and somehow attending to the interests of those others without losing sight of their original goal.

LIMITATIONS

The fact that this dissertation focused on only three cases limits the kinds of conclusions that can be drawn. However, I identify common themes across the three cases and suggest which themes might occur in cases beyond the communities in the study. Though admittedly exploratory, a study of this kind can be used to generate hypotheses that can be tested in future research. It is true that qualitative work such as that found in this study can be weakened by inaccuracy of findings; however, strategies to improve the accuracy of qualitative findings include 1) triangulating data, 2) including negative or discrepant data, 3) using thick, rich description, 4) employing careful transcription, and 5) being aware of the possibility of researcher bias (Creswell, 2009). All of these strategies were employed in the current study.

As is the case with other recent research, my study’s limitations derive from the kinds of sources that I used. Bryan (2008) notes that bias can be introduced by media agents who may sensationalize a topic and also make actors appear more polarized than they really are in order to tell a clear-cut story. Bryan also notes that internal cognitive processes may differ from what people say and do. There are also dangers in using activist statements since they may misrepresent themselves, either intentionally or unintentionally. Triangulation of data can also address sources of media and self-reporting bias by providing alternative views of the same

events, situations, and processes described by media representatives or study subjects. For example, all evidence regarding marching, protests, lobbying, and other activist actions to protect Appalachian communities support the activist claims of attachment to place.

In the analysis above, residents are under-represented; therefore, conclusions drawn about their thinking must be tentative. On the other hand, Activist organizers are over-represented, since when I used snow-ball sampling activists directed me toward influential actors. Finally, this study does not examine activists and activist organizations that did *not* mobilize—these individuals and groups, as well as rank and file activists and Resident activists, are subjects for future research.

FUTURE DIRECTIONS

Given that there is very little empirical data on intra-movement and sub-group framing of factors that influence activists, additional research in this vein is merited. It would be interesting to examine not only differences in framing in other movements (if such differences exist), but differences in the intensity with which sub-groups of activists perceive frames, and how different sub-groups in a movement rank their frames in order of importance. Additionally, social movement theory fails to explain situations where framing does not lead to networking and mobilization. This topic should be further explored to understand the social movement process in full. For example, PCAMIC may have had fewer resources from the national level due to the fact that the chemical plants are in a poor, relatively urban area and don't appear to threaten wild nature in the way that MTR does. White activists engaged in fighting MTR may therefore be able to mobilize a marginalized discourse of EJ, health, safety and jobs, at the same time as accessing mainstream (white) environmentalist narratives of protecting nature.

Future studies can and should explore whether residents of working-class and low-income communities have information about alternative, environmentally-friendly economic

futures that could sustain existing communities; where they get that information; whether or not visions of “green” alternative futures are empowering to these individuals; and whether or not they feel that they can participate in the creation of these alternative futures. Other possible studies involving a more detailed analysis on the role of the Internet in organizing and mobilizing would add to social movement scholars understand of how activists move from idea to action. Also, given that working-class and low-income individuals might require new job training, changes in their salaries, or relocation if communities transition to having more environmentally-friendly economies, it would be valuable to assess how residents of low-income and working-class communities feel about these changes. Without assessing the acceptance of and knowledge about alternative futures, such futures will be difficult to create.

APPENDIX 1A

Anderton, D., A. Anderson, et al. (1994). "Environmental equity: the demographics of dumping." ~~Demography~~ **31**: 229.

Been, V. (1995). "Analyzing evidence of environmental justice." ~~J. Land Use Law~~ **11**: 1.

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Massey Subsidiaries	Locations	Massey Subsidiaries	Location
A T Massey Coal Co	Barboursville, WV	Nicholas Energy Co	Drennen, WV
A T Massey Coal Co	Richmond, VA	Performance Coal Co	Naoma, WV
A T Massey Coal Co Inc.	Richmond, VA	Performance Coal Co	Montcoal, WV
Alex Energy Inc.	Drennen, WV	Power Mountain Coal Co	Drennen, WV
Alex Energy Inc.	Summersville, WV	Progress Coal Co	Twilight, WV
Aracoma Coal Co	Ethel, WV	Rawl Sales & Processing Co	Matewan, WV
Aracoma Coal Co	Logan, WV	Rawl Sales & Processing Co	Sprigg, WV
Aracoma Coal Co Inc.	Holden, WV	Republic Energy	Eskdale, WV
Coalgood Energy Co	Coalgood, KY	Sidney Coal Co	South Williamson, KY
Cumberland Resources Corp	Norton, VA	Sidney Coal Co	Belfry, KY
Cumberland Resources Corp	Stonega, VA	Sidney Coal Co Inc.	Sidney, KY
Cumberland Resources Corp	Appalachia, VA	Stirrat Coal Co	Omar, WV
Cumberland Resources Corp	Abingdon, VA	Stirrat Coal Co	Omar, WV
Delbarton Mining Co	Delbarton, WV		
Delbarton Mining Co	Delbarton, WV		
Elk Run Coal Co	Sylvester, WV		
Elk Run Coal Co Inc.	Sylvester, WV		
Goals Coal Co	Whitesville, WV		
Green Valley Coal Co	Leivasy, WV		
Green Valley Coal Co	Leivasy, WV		
Guyandotte Energy	Matewan, WV		
Independence Coal Co	Seth, WV		
Independence Coal Co	Surveyor, WV		
Independence Coal Co	Madison, WV		
Independence Coal Co	Uneeda, WV		
Independence Coal Co Inc.	Madison, WV		
Knox Creek Coal Corp	Raven, VA		
Lauren Land Co	Belfry, KY		
Lauren Land Co	Matewan, WV		
Logan County Mine Services Inc.	Holden, WV		
Long Fork Coal Co	Belfry, KY		
Mammoth Coal Processing Plant	London, WV		
Marfork Coal Co Inc.	Whitesville, WV		
Marfork Coal Co Inc.	Naoma, WV		
Martin County Coal Corp	Inez, KY		
Massey Coal Services	Eskdale, WV		
Massey Coal Svc Inc.	Chapmanville, WV		
Massey Energy Co	Stone, KY		
Massey Energy Co	Sidney, KY		

Source: One Source Information Services Inc. (2011). "Massey Energy Company." from <http://globalbb.onesource.com/homepage>.

APPENDIX 1B

Interview Protocol

~~Dissertation Title: Environmental Justice and Corporate Power: An Analysis of Citizens' Responses to Environmental Degradation in Three Low-Income Communities~~

Subject Group: **Residents**

(The following questions assess perceptions of the issue and reasons for attempting to address the issue.)

Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.
2. Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent.
3. Other answer (if volunteered only).

Here are two statements people sometimes make when discussing money and wealth. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Wealth can grow so there's enough for everyone.
2. People can only get rich by hurting others.
3. Other answer (if volunteered only).

Here are two statements people sometimes make when discussing the environment. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Global warming is a very serious problem.
2. Global warming is a somewhat serious problem.
3. Global warming is not a serious problem at all.

Now I am going to read off a list of voluntary organizations. For each one, could you tell me whether you are an active member, an inactive member, or not a member of that type of organization? (Read out and code one answer for each organization)

	Active	Inactive	Don't belong
Church or religious organization	2	1	0
Sport or recreational organization	2	1	0
Art, music or educational organization	2	1	0
Labor Union	2	1	0
Political party	2	1	0
Environmental organization	2	1	0
Professional association	2	1	0
Humanitarian or charitable organization	2	1	0
Consumer organization	2	1	0
Any other (write in):_____	2	1	0

Do you hear people talking about mountaintop removal mining in your community?

What do they say about it?

Do you think that people should keep doing mountaintop removal?

(The following questions address how community members are trying to deal with the environmental problem and why community members are trying to deal with the environmental problem.)

If you talk to people who want it to stop, what do they say they want for your community?

Do you know what they are doing to try to stop mountaintop removal?

If you know people who support mountaintop removal, what do they say about it?

(The following questions address how community members are dealing with poverty.)

How are the people in your community dealing with tough economic times?

Do you know lots of people who are trying to change jobs or are looking for a second job?

Do you know people who have given up on finding a job?

(The following questions address finding more people to speak with.)

When you think of people who are strongly involved in mountaintop removal, who do you think of?

Is there anyone else that you would recommend I talk with?

Interview Protocol

Dissertation Title: Environmental Justice and Corporate Power: An Analysis of Citizens' Responses to Environmental Degradation in Three Low-Income Communities in West Virginia

Subject Group: **Resident-Workers** (Coal River Mountain Watch, Mountain Justice, People Concerned about MIC, The Coalition Against Bayer Dangers, The United Mine Workers of America, The United Steelworkers, The West Virginia Department of Environmental of Environmental Protection, West Virginia Department of Labor)

(The following questions assess perceptions of the issue and reasons for attempting to address the issue.)

Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.
2. Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent.
3. Other answer (if volunteered only).

Here are two statements people sometimes make when discussing money and wealth. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Wealth can grow so there's enough for everyone.
2. People can only get rich by hurting others.
3. Other answer (if volunteered only).

Here are two statements people sometimes make when discussing the environment. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Global warming is a very serious problem.
2. Global warming is a somewhat serious problem.
3. Global warming is not a serious problem at all.

Now I am going to read off a list of voluntary organizations. For each one, could you tell me whether you are an active member, an inactive member, or not a member of that type of organization? (Read out and code one answer for each organization):

	Active	Inactive	Don't belong
Church or religious organization	2	1	0
Sport or recreational organization	2	1	0
Art, music or educational organization	2	1	0
Labor Union	2	1	0
Political party	2	1	0
Environmental organization	2	1	0
Professional association	2	1	0
Humanitarian or charitable organization	2	1	0
Consumer organization	2	1	0
Any other (write in): _____	2	1	0

Do you hear people talking about mountaintop removal mining in your community?

What do they say about it?

If you talk to people who want it to stop, what do they say they want for your community?

If you know people who support mountaintop removal, what do they say about it?

(The following questions address how community members are trying to deal with the environmental problem and why community members are trying to deal with the environmental problem.)

How is your organization dealing with mountaintop removal?

Is there anything that you would like to see happen on this issue?

Have you heard anything about how other communities are dealing with mountaintop removal mining?

(The following questions address how community members are dealing with poverty.)

How are the people you know in your community dealing with tough economic times?

Do you know of any new businesses in your community?

Do you know lots of people who are trying to change jobs or are looking for a second job?

Do you know people who have given up on finding a job?

What about how other communities are dealing with economic hard times?

(The following questions address finding more people to speak with.)

When you think of people who are strongly involved in mountaintop removal, who do you think of?

Is there anyone else that you would recommend I talk with?

Interview Protocol

Dissertation Title: Environmental Justice and Corporate Power: An Analysis of Citizens' Responses to Environmental Degradation in Three Low-Income Communities in West Virginia

Subject Group: **Corporate actors** (Massey Energy Company, Dow Chemical Company)

(The following questions address corporate perceptions of environmental and economic issues.)

Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.
2. Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent.
3. Other answer (if volunteered only).

Here are two statements people sometimes make when discussing money and wealth. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Wealth can grow so there's enough for everyone.
2. People can only get rich by hurting others.
3. Other answer (if volunteered only).

Here are two statements people sometimes make when discussing the environment. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Global warming is a very serious problem.
2. Global warming is a somewhat serious problem.
3. Global warming is not a serious problem at all.

Now I am going to read off a list of voluntary organizations. For each one, could you tell me whether you are an active member, an inactive member, or not a member of that type of organization? (Read out and code one answer for each organization):

	Active	Inactive	Don't belong
Church or religious organization	2	1	0
Sport or recreational organization	2	1	0
Art, music or educational organization	2	1	0
Labor Union	2	1	0
Political party	2	1	0
Environmental organization	2	1	0
Professional association	2	1	0
Humanitarian or charitable organization	2	1	0
Consumer organization	2	1	0
Any other (write in): _____	2	1	0

How are the people you know in your community dealing with tough economic times?

Do you hear people talking about mountaintop removal mining in your community?

What do they say about it?

(The following questions address corporate actions on environmental and economic issues.)

How is your company dealing with mountaintop removal?

Is there anything that you would like to see happen on this issue?

How is your company dealing with hard economic times?

How is your company dealing with environmental issues?

(The following questions address finding more people to speak with.)

When you think of people who are strongly involved in mountaintop removal, who do you think of?

Is there anyone else that you would recommend I talk with?

Interview Protocol

Dissertation Title: Environmental Justice and Corporate Power: An Analysis of Citizens' Responses to Environmental Degradation in Three Low-Income Communities

Subject Group: **Residents**

(The following questions assess perceptions of the issue and reasons for attempting to address the issue.)

Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.
2. Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent.
3. Other answer (if volunteered only).

Here are two statements people sometimes make when discussing money and wealth. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Wealth can grow so there's enough for everyone.
2. People can only get rich by hurting others.
3. Other answer (if volunteered only).

Here are two statements people sometimes make when discussing the environment. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Global warming is a very serious problem.
2. Global warming is a somewhat serious problem.
3. Global warming is not a serious problem at all.

Now I am going to read off a list of voluntary organizations. For each one, could you tell me whether you are an active member, an inactive member, or not a member of that type of organization? (Read out and code one answer for each organization):

	Active	Inactive	Don't belong
Church or religious organization	2	1	0
Sport or recreational organization	2	1	0
Art, music or educational organization	2	1	0
Labor Union	2	1	0
Political party	2	1	0
Environmental organization	2	1	0
Professional association	2	1	0
Humanitarian or charitable organization	2	1	0
Consumer organization	2	1	0
Any other (write in): _____	2	1	0

Do you hear people talking about chemical production in your community?

What do they say about it?

Do you think that people should keep producing chemicals?

(The following questions address how community members are trying to deal with the environmental problem and why community members are trying to deal with the environmental problem.)

If you talk to people who want it to stop, what do they say they want for your community?

Do you know what they are doing to try to stop chemical production?

If you know people who support chemical production, what do they say about it?

(The following questions address how community members are dealing with poverty.)

How are the people in your community dealing with tough economic times?

Do you know lots of people who are trying to change jobs or are looking for a second job?

Do you know people who have given up on finding a job?

(The following questions address finding more people to speak with.)

When you think of people who are strongly involved in chemical production, who do you think of?

Is there anyone else that you would recommend I talk with

Interview Protocol

Dissertation Title: Environmental Justice and Corporate Power: An Analysis of Citizens' Responses to Environmental Degradation in Three Low-Income Communities in West Virginia

Subject Group: **Resident-Workers** (Coal River Mountain Watch, Mountain Justice, People Concerned about MIC, The Coalition Against Bayer Dangers, The United Mine Workers of America, The United Steelworkers, The West Virginia Department of Environmental of Environmental Protection, West Virginia Department of Labor)

(The following questions assess perceptions of the issue and reasons for attempting to address the issue.)

Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.
2. Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent.
3. Other answer (if volunteered only).

Here are two statements people sometimes make when discussing money and wealth. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Wealth can grow so there's enough for everyone.
2. People can only get rich by hurting others.
3. Other answer (if volunteered only).

Here are two statements people sometimes make when discussing the environment. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Climate change is a very serious problem.
2. Climate change is a somewhat serious problem.
3. Climate change is not a serious problem at all.

Now I am going to read off a list of voluntary organizations. For each one, could you tell me whether you are an active member, an inactive member, or not a member of that type of organization? (Read out and code one answer for each organization):

	Active	Inactive	Don't belong
Church or religious organization	2	1	0
Sport or recreational organization	2	1	0
Art, music or educational organization	2	1	0
Labor Union	2	1	0
Political party	2	1	0
Environmental organization	2	1	0
Professional association	2	1	0
Humanitarian or charitable organization	2	1	0
Consumer organization	2	1	0
Any other (write in): _____	2	1	0

Do you hear people talking about chemical production in your community?

What do they say about it?

If you talk to people who want it to stop, what do they say they want for your community?

If you know people who support chemical production, what do they say about it?

(The following questions address how community members are trying to deal with the environmental problem and why community members are trying to deal with the environmental problem.)

How is your organization dealing with chemical production?

Is there anything that you would like to see happen on this issue?

Have you heard anything about how other communities are dealing with chemical production?

(The following questions address how community members are dealing with poverty.)

How are the people you know in your community dealing with tough economic times?

Do you know of any new businesses in your community?

Do you know lots of people who are trying to change jobs or are looking for a second job?

Do you know people who have given up on finding a job?

What about how other communities are dealing with economic hard times?

(The following questions address finding more people to speak with.)

When you think of people who are strongly involved in chemical production, who do you think of?

Is there anyone else that you would recommend I talk with?

Interview Protocol

Dissertation Title: Environmental Justice and Corporate Power: An Analysis of Citizens' Responses to Environmental Degradation in Three Low-Income Communities in West Virginia

Subject Group: **Corporate actors** (Massey Energy Company, Dow Chemical Company)

(The following questions address corporate perceptions of environmental and economic issues.)

Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.
2. Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent.
3. Other answer (if volunteered only).

Here are two statements people sometimes make when discussing money and wealth. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Wealth can grow so there's enough for everyone.
2. People can only get rich by hurting others.
3. Other answer (if volunteered only).

Here are two statements people sometimes make when discussing the environment. Which of them comes closer to your own point of view? (Read out and code one answer):

1. Global warming is a very serious problem.
2. Global warming is a somewhat serious problem.
3. Global warming is not a serious problem at all.

Now I am going to read off a list of voluntary organizations. For each one, could you tell me whether you are an active member, an inactive member, or not a member of that type of organization? (Read out and code one answer for each organization):

	Active	Inactive	Don't belong
Church or religious organization	2	1	0
Sport or recreational organization	2	1	0
Art, music or educational organization	2	1	0
Labor Union	2	1	0
Political party	2	1	0
Environmental organization	2	1	0
Professional association	2	1	0
Humanitarian or charitable organization	2	1	0
Consumer organization	2	1	0
Any other (write in): _____	2	1	0

How are the people you know in your community dealing with tough economic times?

Do you hear people talking about chemical production in your community?

What do they say about it?

(The following questions address corporate actions on environmental and economic issues.)

How is your company dealing with chemical production?

Is there anything that you would like to see happen on this issue?

How is your company dealing with hard economic times?

How is your company dealing with environmental issues?

(The following questions address finding more people to speak with.)

When you think of people who are strongly involved in chemical production, who do you think of?

Is there anyone else that you would recommend I talk with?

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