MARCELLUS SHALE LANDOWNER COALITIONS:

FORM, FUNCTION, AND IMPACT

A Thesis in

Rural Sociology

by

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ABSTRACT

The rapid development of shale gas across Pennsylvania’s rural farm and forestland prompted communities in the region to quickly seek information that could guide their leasing decisions in a way that they hoped would increase profits, improve quality of life, and protect the natural resources of their region. Many of the private landowners living in affected areas turned to landowner coalitions as a tool for information sharing and collective bargaining. Landowner groups have played an instrumental role in shale gas development in the Marcellus region. In Pennsylvania alone, nearly forty landowner groups have formed to gain collective bargaining power in negotiations with industry representatives. Little research has been done to evaluate the outcomes attained by landowner coalitions in Pennsylvania or explore how they have affected shale gas development in the region. Using primary data collected throughout a five-county region in Northeastern Pennsylvania, this research seeks to fill this gap.

Findings reveal three main categories of landowner coalitions and outlines a typical timeline of the process from inception to signing leases. While landowner coalitions generally received better lease terms, bonus payments, and royalty percentages on average than did individuals operating within the same context, and ultimately provided benefits to the greater community, this research identifies situations in which the landowner coalition model would not be beneficial. Variables of coalition success, both internal group characteristics and external contextual factors, are also identified. Focusing specifically on the effects of landowner coalitions on Pennsylvania’s farm operations, this research finds that participating in a landowner coalition helped farmers by enhancing an economic windfall used to maintain or reinvest in the farm, and procuring lease terms that were particularly advantageous for protecting farming operations. However, sometimes the additional income created unforeseen economic
consequences and some land took a long time to be truly productive again after development. Research suggests that the landowner coalition model may prove promising in application to other land use issues on the rural landscape, and continues to be used in negotiations of natural gas and wind energy leasing.
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CHAPTER 1: Introduction

The Marcellus Shale formation lies beneath portions of Pennsylvania, New York, Ohio, Maryland and West Virginia. It has been labeled as one of the largest unconventional gas reserves in the United States and in the world (US Energy Information Administration 2017). The commercial development of natural gas by oil and gas companies began in the region in 2005. Development increased rapidly, with over seventeen times the number of wells drilled in 2011 than in 2007 (PA DEP 2013). The formation covers nearly two-thirds of Pennsylvania, and by the beginning of 2018, over 10,000 unconventional gas wells had been drilled across the commonwealth (PA DEP Office of Oil and Gas Management SPUD Data 2018). The magnitude and rate of development in the region has generated a flurry of research on economic, environmental, and community impacts of unconventional natural gas development.

Since many landowners in Pennsylvania own their subsurface mineral rights, oil and gas companies had to approach landowners and sign contractual leases in order to access this reserve. The rapid development of shale gas across Pennsylvania’s rural farm and forestland prompted landowners to quickly seek information to guide their leasing decisions in order to increase profits, improve quality of life, and protect the natural resources on their land and in the surrounding region. Many farm and forest landowners in affected areas turned to landowner coalitions as a tool for information sharing and collective action against powerful industrial interests, hoping to maintain their ability to control local land use decisions. Although research has been done in neighboring New York State, little research has been done to evaluate the outcomes attained by coalitions in Pennsylvania or explore how they have affected shale gas development in the region. This research seeks to fill this gap.
The primary purpose of this study is to present a grounded theory of landowner coalitions that is based upon research guided by four main research questions: What are landowner coalitions? How/why did they come about and what process(es) did they go through? What results were they able to achieve? And what are the advantages and disadvantages of membership in a landowner coalition? In addition, a secondary objective aims to produce useful information that can be disseminated through outreach opportunities to those facing questions about group leasing. To this end, the goal of this secondary objective is to evaluate evidence-based recommendations best practices and procedures for future landowner coalitions, the impact of Marcellus Shale development landowner coalitions on the long-term sustainability of farmers and farming communities in Pennsylvania, and the landowner coalition’s ability to serve as a model of collective action for farmers in the Northeastern United States to control land use decisions surrounding future issues on the rural landscape.

The structure of this thesis will be as follows: chapter two will provide background and contextual information useful for considering and interpreting this research. The significance of farming in Pennsylvania will be discussed, as well as a brief overview of the community and economic impacts of Marcellus shale development in Pennsylvania and resident perceptions. Finally, an overview of the effects of Marcellus shale on Pennsylvania agriculture according to existing research will be provided. This background will offer an understanding of the conditions within which landowner coalitions formed and operated, as well as the status of Pennsylvania agriculture at the time when some farmers chose to join landowner coalitions. Existing research suggests that Marcellus shale development has had mixed effects on Pennsylvania agriculture. This study will consider if and how those effects may be different if farmers signed leases with a coalition or as individuals.
Next, chapter three will provide a review of the relevant literature, beginning with an exploration of how previous research in the study region has framed the position of farmers in leasing decisions. Next, the few studies that do exist about landowner coalitions (Jacquet & Stedman 2011; Liss 2011) will be outlined, accompanied by an explanation of what this particular study adds to the existing research. The chapter will then transition to reviewing collective resource management literature, used previously by Jacquet and Stedman to describe landowner coalitions. These literatures include a number of types of collective action in natural resource management, including community-based natural resource management and agricultural and forest cooperatives. Finally, to this group of literature, this particular study will also include a review of social movements theory literature. This chapter will identify the research gap that this study seeks to fill, and introduce relevant literature that will be revisited in chapter six, as landowner coalitions are situated within this existing literature.

Chapter four will detail the study’s research methodology and research design. After providing rationale for a qualitative research design and grounded theory methodology, context and explanation of the study’s research questions and objectives will be provided, along with descriptions of the study region and sample selection. Next, data collection and data analysis methods will be described, followed by discussions of researcher positionality, questions of generalizability and validity, and research limitations. This chapter will provide the methodological information necessary to interpret findings and consider research limitations and strengths.

Chapter five will outline the results of this research. It will begin by describing the three typical coalition models, as well as cases that tend not to fit neatly within those boxes. The typical coalition process will then be explained, beginning with forming a group, followed by an
explanation of process and decision-making, marketing and negotiations, and finally the lease signing and beyond, including reflections on a second round of leasing and possible future applications for the landowner coalition model. Next, chapter five will outline variables of coalition success, the benefits and negatives of participating in a landowner coalition, and will conclude by outlining the effects of landowner coalitions on Pennsylvania farmers.

The final chapter, chapter six, will begin by using the results outlined in chapter five to situate landowner coalitions within the existing theoretical offerings from the literature outlined in chapter three. Comparisons will be made between landowner coalitions and certain aspects of both collective natural resource management and social movements theories. Ultimately this research finds that while most landowner coalitions fit squarely within the framing of collective natural resource management, some find themselves working towards goals that are beyond the confines of natural gas mineral rights agreements, operating as social movements with goals of working towards social change and political representation. Finally, a summary of the study’s conclusions will be provided.

The findings of this research study will inform outreach materials that will be particularly useful to those deciding whether to lease with a group, considering how their group can be most successful, or weighing the possibility of using the landowner coalition approach in new circumstances. Through outreach opportunities, benefits and negatives of joining a group, coalition best practices and variables of group success, and possible future applications of the coalition model will help inform landowners facing these questions.

This research’s primary limitation is the difficulty in discerning the effects of landowner coalitions. Because there is good reason to believe that landowner coalition lease negotiations affected individual lease negotiations in an area, it is very difficult to consider what lease
negotiations may have looked like without the presence of landowner groups. Future research using comparison groups of farmers and non-farmers who signed as individuals is called for to begin to sharply delineate the effects of landowner coalitions in the leasing landscape. Additional opportunities for future research on the topic include expanding the study area to include other areas of Pennsylvania, as well as landowner coalitions in other shale plays, and tracking lease terms and addendum across time in both coalition and individual leases to discern temporally if group leases have effected individual leases, as well as quantify some of the differences between group and individual leases, both in numbers and terms. A survey of landowners would be particularly fruitful, if a list of those who leased as individuals and group members could be assembled.

Future research should also consider the conditions in the Marcellus Shale region of Pennsylvania that allowed landowner coalitions to proliferate in a way that they had not in other shale plays around the country. Data collected during the course of the current research project is well suited to begin to answer that question, and suggests that landowner coalitions were utilized at a much greater scale in the Marcellus than in other shale plays due to factors such as smaller parcel sizes, the frequency of current landowners owning their mineral rights, and a “blank” or undeveloped shale play. Further analysis is needed to fully answer the research question, and could help to judge whether the landowner coalition model can be successful in other contexts in other shale plays, and moreover when applied to wholly different scenarios. Additionally, emergent themes from the current study’s grounded theory coding method, such as “power”, “legal expertise”, “information sharing and communication”, and “talking to neighbors”, lend themselves to consideration of landowner coalitions as a tool for procedural energy justice, and
future research should consider analyzing the landowner coalition model through an energy justice lens.
CHAPTER 2: Background on Farming and Shale Development in PA

This chapter will provide background and contextual information useful for considering and interpreting this research. The significance of farming in Pennsylvania will be discussed, as well as a brief overview of the community and economic impacts of Marcellus shale development in Pennsylvania and resident perceptions. Finally, an overview of the effects of Marcellus shale on Pennsylvania agriculture according to existing research will be provided.

Farming in Pennsylvania

Agriculture plays a substantial role in the economy, culture, landscape, and identity of Pennsylvania and its residents. In 2007, on the verge of Marcellus Shale development beginning in the commonwealth, Pennsylvania ranked fifth in the nation in milk and other dairy products from cows, fourth in nursery, greenhouse, floriculture and sod products, and fifth in cut Christmas trees and short rotation woody crops (Department of Agriculture’s National Agricultural Statistics Service). It also ranked in the top 10 in production of horses, as well as tobacco (all measured in value of sales). In 2007, Pennsylvania sold over $5.5 billion in agricultural products from its more than 63,000 farms. Although when compared on the national scale, this number doesn’t stand out, it does make Pennsylvania first in value of sales both the Northeast and mid-Atlantic regions (Department of Agriculture’s National Agricultural Statistics Service).

Known for smaller size farms than in most other agricultural regions of the United States, many farms are family-owned and intergenerational. As Marcellus development began in the state, the agricultural community was characterized by aging farmers and a decline in interest in farming on behalf of the next generation. This is reflected in the numbers, which show twice as
many farmers over the age of 65 as farmers under the age of 35 (Phillips & Phillips 2007:1). The average age of a farm operator in 2007 was 55.2 years (Department of Agriculture’s National Agricultural Statistics Service). There are a number of reasons for this trend. Phillips & Phillips (2007) found that the most important issue for young Pennsylvania farmers is the overall lack of profitability of the farm. Furthermore, 84% of their sample had experienced “moderate to severe economic difficulties in the past year” (Phillips & Phillips 2007: 5). It can be hard for young farmers to access capital, and pressure from development is increasing in many parts of the commonwealth. Additionally, access to resources has become an issue in some places. Decreases in milk trucks, butchers and processors, equipment repair, large-animal veterinarians, feed stores, and other resources has made farming increasingly difficult. Input prices seem to keep rising as some commodity prices, like milk, remain stagnant. Socially, farming can also be isolating and lack necessary support networks. A combination of these factors have led to hardships in Pennsylvania agriculture (Phillips & Phillips 2007). For example, dairy, the top agricultural commodity in Pennsylvania (by value of sales) had a series of difficult years leading up to and during the introduction of Marcellus Shale development in the commonwealth. While milk prices dropped between 2007 and 2009, feed costs increased. This resulted in a decrease in income for many of Pennsylvania’s dairy farmers (Penn State Extension 2012: 2), and a concentration in the dairy industry as larger farms bought up smaller operations.

Brief Overview of General Effects of Marcellus in Pennsylvania

Community Impacts

With a drastic influx of money, workers, and equipment into many of Pennsylvania’s rural communities came substantial changes. Research conducted by Brasier et al. (2017)
examined the impacts of Marcellus Shale development on crime, housing, health and health care access, and traffic incidents. In terms of crime, they found when controlling for all other factors, both driving under the influence and disorderly conduct arrest rates are positively associated with well density. Relatedly, counties with the highest number of wells saw more crashes and heavy truck crashes than those with less development. Additionally, although rental availability decreased across the commonwealth from 2000 to 2009, that trend was magnified in counties with high levels of development. When examining health-related effects, Brasier et al. found that although increases in the percentage of adults without health insurance was smaller in counties with development than those without, counties with high levels of development saw increases in the percentage of adults reporting poor/fair health, while counties without development saw decreases. A 4,000 household survey shows that Marcellus development experiences vary across space, levels of activity, and socio-demographic characteristics (Brasier et al. 2017).

**Economic Impacts**

Perhaps the most manifest of changes brought about by Marcellus Shale development are the economic ones. A report by Hesse et al. (2017) analyzed a collection of recently published peer-reviewed studies of Marcellus Shale economic impacts. Taken as a whole, they find that these studies find “modest economic changes associated with development” and note that in most cases, areas with the most wells received more positive benefits (1). These economic benefits are split into two main categories: employment and compensation, and leasing and royalty income. Examining effects on employment, Cosgrove et al (2015) found that shale gas development significantly increases employment and compensation in certain industries (natural resource and mining industries), but not in the overall county economy. There is also evidence
that many of the new employment opportunities created by development were filled with non-local employees, who either commuted into the county for work or lived their temporarily (Brasier et al. 2017). Again, Hesse et al. report a “fairly strong consensus” in the academic literature that Marcellus Shale impacts on employment are “modest” and shouldn’t be thought of as long-term effects, or as the greatest economic effect of Marcellus Shale development (2017: 2).

Multiple studies have suggested that leasing and royalty income payments have had more significant economic impacts in the region than employment (Costanzo & Kelsey 2012; Hardy & Kelsey 2015). For instance, Hardy & Kelsey utilized Pennsylvania income tax returns from more than 90 counties with gas development and found that the summed incomes for “rents, royalties, patents and copyrights” exceeded $2 billion from 2007 to 2010 (2015). These earnings are not equally distributed, however, suggest some studies. Hesse et al note that the distribution is determined by factors such as mineral rights ownership, age, gender, and employment status (2017). Kelsey et al. contribute a geographic variation, as they estimate that only about 51% of land in Marcellus counties are owned by county residents, while 25% is owned by those living somewhere else in Pennsylvania, 7.7% is owned by those living outside the state, and 17% is owned publicly (2011). This suggests that some of the windfall earnings are received (and possibly spent or saved) in a different geographic location than the location of the property. Variation in payments has also been noted among counties with similar levels of drilling (Costanzo & Kelsey 2012). An unequal distribution of royalty and leasing payments is also noted by Kelsey, Metcalf and Salcedo, who purport that a relatively small number of residents are actually benefitting from leasing and royalty payments, with about 10% of local landowners receiving approximately 90% of the income from leasing and royalty payments (2012).
In addition to their unequal distribution across and within counties, it’s important to note the distribution of economic impacts vary across time. As noted above, employment impacts are temporary due to the process of development, which requires most labor during the actual drilling of the well, and then much less during subsequent production stages. Leasing income comes in the form of a one-time signing bonus in most cases, and while royalty income can accrue over the production lifetime of a well, amounts are dependent on commodity prices, production rates, and the policies of the gas company (Hesse et al 2017). Depending on the spending and investment decisions of leasing and/or royalty income beneficiaries, that money may or may not continue to benefit the local economy into the future.

Resident Perceptions

The perceptions and experiences of Marcellus shale development vary greatly across populations, space and time. A few important factors are level of development, the history of extractive industry in the area, population size, and proximity to population centers and transportation networks (Brasier et al. 2011). Perceptions and experiences also tend to change over time. At first residents might feel enthusiasm and have positive expectations of change to come, which may give way to uncertainty as their expectations aren’t met or unexpected changes occur. This can turn to panic if the magnitude of these unexpected impacts is great enough. Eventually, residents turn to adaptation as they begin to live with the changes happening around them (Brasier et al. 2011: 34-35).

Researchers have begun to use primary data to judge resident perceptions of Marcellus Shale activity in Pennsylvania. In a study of over 300 school districts in Pennsylvania’s Marcellus Shale region, Schafft, Borlu, and Glenna (2013) found that perceptions of both risk and opportunity are higher in areas with high levels of drilling. Brasier et al examined the results
of a 4,000 household survey administered to four counties in the Marcellus Shale region and found substantial differences in experiences of residents by geographic location, proximity to development, and socio-demographic characteristics. In addition, they found that higher well density was simultaneously associated with more positive views of economic impacts, and more negative views on community and environmental impacts. The ability of a respondent to benefit also made substantial differences. Signing a gas lease and working in the industry were associated with more positive views, while those who rent homes reported more negative views. Women report more negative views of development than do men, and those with higher incomes report more positive views of development than their counterparts (Brasier et al. 2017).

Effects of Marcellus on Pennsylvania Agriculture

Not all of Pennsylvania farmland is in the Marcellus Shale production region, and not all of Pennsylvania’s Marcellus Shale region is farmland. Only one of Pennsylvania’s top ten agricultural counties as measured by sales has seen Marcellus Shale development, with one other top ten county having undeveloped resources beneath it. Other counties with Marcellus Shale development may have considerable agricultural production, but rank much lower in county rankings (Penn State Extension 2012: 1). Nevertheless, 54% of permitted well pads in Pennsylvania up to 2011 were on agricultural land, demonstrating the importance of research on the effects of Marcellus Shale development on agriculture (Drohan et al 2012). Shale gas development has the potential to affect agricultural activity through clearing acreage for well pads, access roads, and pipelines (Adams and Kelsey 2012; Glenna et al. 2014). And according to some research, farms could see up to a five-year decline in production after the development infrastructure is installed (Seachrist 2011). In addition, there may be competition for water and/or labor between the agricultural and shale gas development industries, as well as other farm
inputs such as lime (Xiarchos et al 2016; Glenna et al 2014). Water contamination can be a concern as well, along with increases in runoff leading to decreases in land productivity and/or soil fertility (Hoy et al forthcoming: 3). While some farmers may be able to work with companies in appropriate siting of infrastructure, those that do not own their mineral rights or those who rent land have no opportunity for input (Drohan et al 2012).

As mentioned above, dairy production is known as a rather labor-intensive form of agriculture, and anecdotes suggested that dairy farmers may switch to beef production or leave farming with the influx of leasing and/or royalty income. A study conducted by Glenna et al (2014), focus group participants reported that some farmers have chosen to exit the dairy industry and enter into “less intensive agriculture” due to Marcellus development income (17). Most often, people cite beef production as the “less intensive agriculture” that farmers may choose, but Xiarchos et al (2016) and Hoy et al (forthcoming) found no evidence that farmers in the Marcellus region are making this switch on an aggregate level. Nevertheless, dairy herds are shrinking. Adams and Kelsey (2012) found that counties with high levels of drilling activity showed an association with decreases in dairy cow numbers. Finkel et al (2013) confirm these findings, and note that milk production and dairy herd sizes have been decreasing in most counties since 1996, with much larger decreases during peak unconventional drilling years (2007 to 2011) in the most heavily drilled counties (189). Glenna and Suchyta (2017) similarly found that the decline in dairy cows increases as county-level drilling activity increases.

The number of farms in Pennsylvania declined between 2002 and 2012, as did the number of farms in most Pennsylvania counties (Glenna and Suchyta 2017). Xiarchos et al likewise found an overall decrease in the number of farms in the Marcellus region, with greater losses in areas with more drilling (2016). Bradford County is one notable exception, showing an
increase in farms during this time period (Glenna and Suchyta 2017). As number of farms decreased, the average acreage of farms increased in Pennsylvania, suggesting possible consolidation of farms in the region (Glenna and Suchyta 2017; Xiarchos et al 2016). It’s suggested that smaller farms are most likely to sell, and are possibly bought by their farming neighbors, leading to decreasing number of farms and increasing agricultural acreage.

Glenna et al (2014) collected primary data from focus groups that suggested that agriculturalists saw many economic benefits from Marcellus Shale development, including lease and royalty payments which were used to exit farming or reinvest in operations. However, higher land values lead to tax complications affecting farm succession. Weber and Hitaj (2015) looked at the effect of Shale development on real estate values for farms in the region, and found that it caused appreciation of real estate value. Appreciation varied by farm type and was greatest during the leasing period. Additionally, Hoy et al (forthcoming) found that leasing income (and to a lesser extent, royalty income) can provide farms with income that they can use to reinvest in their operation, pay off debt, or change their business. This all suggests that leasing and/or royalty income can have a significant effect on farm operations and a farm’s future plans, and warrants future research.

Chapter Summary

With a drastic influx of money, workers, and equipment into many of Pennsylvania’s rural communities came substantial changes. In addition to impacts of Marcellus Shale development on crime, housing, health and health care access, and traffic accidents, economic changes occurred as well through both employment and leasing income. Although economic benefits in these categories can be great, earnings are not equally distributed, with only a relatively small number of residents benefitting. Special consideration to agriculture is needed as
it plays a substantial role in the economy, culture, landscape, and identity of Pennsylvania, and a considerable share of Marcellus Shale development takes place on agricultural land. Possible negative effects of development on agricultural operations include a decline in production due to development infrastructure, competition for water or labor between agriculture and the gas industry, and water contamination. Even so, agricultural operations have seen many economic benefits from Marcellus Shale development, including leasing and royalty payments which are often used to exit farming or reinvest in operations. Research shows an overall decrease in the number of farms in the Marcellus region, with greater losses in areas with more drilling.
CHAPTER 3: A Review of the Literature on Landowner Coalitions, Collective Resource Management, and Social Movements

This chapter will provide a review of the relevant literature, beginning with an exploration of how previous research in the study region has framed the position of farmers in leasing decisions. Next, the few studies that do exist about landowner coalitions (Jacquet & Stedman 2011; Liss 2011) will be outlined, accompanied by an explanation of what this particular study adds to the existing research. The chapter will then transition to reviewing collective resource management literature, used previously by Jacquet and Stedman to describe landowner coalitions. These literatures include a number of types of collective action in natural resource management, including community-based natural resource management and agricultural and forest cooperatives. Finally, to this group of literature, this particular study will also include a review of social movements theory literature which will be useful in contextualizing landowner coalitions within existing theory in the discussion chapter.

In her 2013 qualitative study of farmers in the Marcellus Shale region, Malin found that farmers view natural gas development as inevitable and feel as though they have no choice but to sign a gas lease. She adds that farmers often feel uncomfortable voicing opposition to development, since the narrative surrounding economic growth from development is so strong. She relates these findings to “small-scale farmers’ economic vulnerability and the limited agency in dictating land use near their farms” (17). In her subsequent 2016 study of Pennsylvania farmers in Marcellus production counties, Malin and DeMaster found that although farmers and their livelihoods benefited economically from gas leases, they ended up in a “long-term web of natural resource dependence” (278). They note that farmers from small and midsized operations “experience rural environmental injustices as they endure corporate bullying” and “face
procedural inequalities negotiating and enforcing lease terms” (278). However, Malin and DeMaster suggest that the situation may be different in areas where landowners have formed coalitions (2016: 281), but suggest that this has not happened in Pennsylvania.

Would the findings be different in that case as Malin and DeMaster suggest? Since the study finds that large-scale farmers had more positive leasing experiences, would the inclusion of mid- and small-sized operations in a coalition with large-sized operations improve their leasing experiences as well? If this study did not sample any farmers who leased as a member of a landowner coalition within her research area of Bradford, Susquehanna, and Washington Counties, that would serve as a research limitation. The current research project includes two of these counties (Bradford and Susquehanna) in the research sample, and interviews farmers who participated in landowner coalitions in the northeastern Pennsylvania region.

Landowner Coalitions

The first major landowner group to collectively bargain in shale gas leasing negotiations was the neighborhood of Mistletoe Heights in the Fort Worth, Texas area (part of the Barnett Shale natural gas formation). Mistletoe Heights is a neighborhood of over 400 homes and has a “neighborhood committee” for decision-making. When a natural gas company sent $500/lot and 25% royalty leases to many Mistletoe Heights residents in 2006, residents who had professional experience with the oil and gas industry knew that they could negotiate. The committee wrote an updated lease that they found acceptable and many lot owners signed. Luckily, the Mistletoe Heights committee put their updated lease online for others to see what they had done. This showed other mineral owners that company leases could, in fact, be negotiated (Liss 2011).
Beginning in the mid-2000s, the rapid development of shale gas in Pennsylvania’s Marcellus region prompted landowners to quickly seek information to guide their leasing decisions in order to increase profits, improve quality of life, and protect the natural resources on their land and in the surrounding region. After learning about the landowner coalition model from existing groups, through extension educators, and neighbors, many farm and forest landowners in affected areas turned to landowner groups as a tool for information sharing and collective bargaining against oil and gas companies, hoping to maintain their ability to control local land use decisions.

Penn State Extension identifies three types of landowner groups (Marcellus fact sheet on landowner groups, Penn State Extension 2008). The first focuses on information sharing between members. Members may share information about companies, leases, and current rates. This first type of group does not market and negotiate as a group. Individuals are on their own to negotiate their individual lease, using the information shared in the group to support the effort. The next (and probably most popular) version of landowner groups work together to share information and also market their land together as one large block of acreage to gas companies. They may use a volunteer leader or leadership board and/or hire a consultant to negotiate with energy companies. Consultants generally charge either a one-time fee, or a percentage of royalty payments. In this case, landowners have to loosely commit to the group for the acreage count in marketing, but are not bound legally to signing the group lease (individually) at the end of negotiations. The final type of landowner group is a bargaining unit. In this case, mineral owners have signed “pre-agreements” and are bound to signing as a group under one lease (Marcellus fact sheet on landowner groups, Penn State Extension 2008).
Landowner groups have played an instrumental role in shale gas development in the Marcellus region. In Pennsylvania alone, nearly forty landowner groups have formed to gain collective bargaining power in negotiations with industry representatives. Altogether, these landowner groups represent well over 500,000 acres and vary in size, scope, and structure. While some groups represent a small group of landowners from a particular community, others are so large that they include landowners from multiple counties or even multiple states (Marcellus Drilling News, 2012). The best data available suggests that over 3,000 private landowners joined landowner coalitions in Susquehanna, Bradford, and Wyoming, Lackawanna and Wayne counties, representing over 200,000 acres (Marcellus Drilling News, 2012). Many farmers in Pennsylvania turned to landowner coalitions as a tool for information sharing and collective action because of the scale and long-term impact of the leasing decisions they faced. For those who decided to lease, they faced a daunting challenge of maximizing farm income while minimizing production, environmental, and health risks. It was uncertain how shale gas development would affect quality of life for themselves and their communities, their ability to pass their farm on to the next generation, and marketing/production decisions. Could a farm that signed a lease for shale gas development continue to farm sustainably?

Very few studies have been conducted on landowner coalitions in shale gas lease negotiations. Jacquet and Stedman (2011) have explored landowner coalitions in New York State’s Marcellus Shale Region, while Liss (2011) examined one particular landowner group in northeastern Pennsylvania. Jacquet and Stedman focus on a cooperative framework within community based natural resource management, to analyze landowners’ participation in coalitions, their motivations, benefits of membership, and the potential for extending benefits to the larger community. Many of the landowners initially joined with the intent of increased
personal financial benefit. Prior to the establishment of these landowner coalitions some of the leases were offering as low as $50 per acre. As more landowners began to join the coalitions, the lease agreements began to offer upwards of $2500 per acre through collective bargaining. They also note that the early adoption of collective negotiation strategies was favored by the presence of agricultural extension officers (Jacquet and Stedman 2011).

Although many New York landowners joined coalitions for economic maximization, they did indicate that the profits of participants would benefit the community, and that the increasing ecological and community benefits in their collective bargaining agreements indicated an increasing motivation toward benefitting non-members. Landowner group leaders saw the substantially increased lease rates and royalty payments having a direct impact on the local economies, with a high potential for positive collateral impacts of the ecological and social benefits of the larger community. Some of the landowner groups included a restrictive environmental component in their lease, including additional buffers up to 500 feet from buildings as well as regular water monitoring, and they required clauses to address contamination if the water supply was harmed in any way. Additional community benefits include organized legal efforts and lobbying. Most respondents indicated that they thought these communities would most certainly receive indirect benefits of more local income as well as the collective environmental effect of better property protections (Jacquet and Stedman 2011).

Liss (2011) focuses on one northeastern Pennsylvania landowner group that used social media and the internet to collect and share information, to build trust within their group and with one company, and finally collectively negotiate a lease that they felt protected their natural environment and enhanced their financial benefits. Many members in this landowner group received six times more money in the final group lease than they were originally offered by the
landmen as individuals, and also gained major environmental protection clauses. Liss notes that groups are able to split legal fees to afford quality legal representation as well. Because landowner groups are most often very loosely united, they all have different types of leadership and different processes. Liss reports that they must balance the demands of a diverse group of members with lease negotiations with multinational oil and gas corporations. This tension is navigated largely through trust. Often, group leaders are people who are already greatly trusted and respected in the community, and additional trust comes from the knowledge that they will live with the results just as the other members will (Liss 2011).

Liss ultimately notes how landowner groups have changed the power differential between mineral rights owners and the oil and gas companies. A company’s ability to sign leases that were beneficial to them, but often unfair to the mineral owner and far less than market value, hinged on the disproportionate levels of information between them and the lessor. Mineral owners knew less about the value of the reserve, risks and costs associated with production, negotiations, and the workings of the industry. However, landowner groups are changing this asymmetry of information. Information is collected and shared both within and between groups. Liss notes that “the energy companies can no longer use information scarcity and secrecy to gain the upper hand in these negotiations at the expense of landowners and their communities” (2011: 442).

This research builds on these two previous studies and contributes to the literature in two important ways. First, the timing of this research, after the realization of development, has allowed for landowners to reflect on the experience of joining a landowner coalition, and for effects to be more fully realized. In fact, this research is uniquely able to capture the beginnings of a second round of group leasing, allowing for reflection on the process as landowners decide
how to approach this second round of leasing. Second, this research also contributes an assessment of the effect of these landowner coalitions on a broader spatial scale in Pennsylvania, and particularly on Pennsylvania’s agricultural community. Agriculture plays a prominent role in both profession and identity in Pennsylvania, and many of the larger landowners who participated in landowner coalitions were indeed farmers. Since many Pennsylvania farmers have signed leases, both as individuals and members of a group, it is prudent to examine the effect that these different kinds of leasing have on farm operations and the farming community.

Collective Resource Management

To situate landowner coalitions within existing theory, I will draw on collective resource management literatures, as Jacquet and Stedman did in their 2011 New York State study. These include various forms of collective action in natural resource management, including community-based natural resource management and agricultural and forest cooperatives. Collective action can take many forms, including the development of institutions, mobilization of resources, coordination of activities, and information sharing (Poteete & Ostrom 2004). Thought to have “the potential to foster greater equity and voice in [natural resource management]” (German & Taye 2008: 102), the common thread throughout its many definitions is that it “requires the involvement of a group of people, it requires a shared interest within the group, and it involves some kind of common action that works in pursuit of that shared interest” (Meinzen-Dick, Di Gregorio & McCarthy 2004: 200). However, social science disciplines view collective action in different ways. While some see “individual incentives and bargaining power of individuals” to be the driving forces, others recognize that “individuals give value to not only
their own benefits, but also to the benefits that others receive” (Meinzen-Dick, Di Gregorio & McCarthy 2004: 204).

An example of collective action, community or “community-based” natural resource management emphasizes the involvement of community members and local institutions in resource management and decision-making, placing authority in the hands of local actors rather than central or state governments, with the goal of outcomes that honor both environmental protection and socioeconomic development (Kellert et al 2000). Taking a number of different forms, community natural resource management “has been advanced as a way of improving the social and economic standards of local and rural peoples” (Kellert et al 2000: 706). The model posits that communities “have a long-term need for the renewable resources near which they live and they possess more knowledge about these resources than other potential actors” (Agrawal & Gibson 1999: 630). Whether it be community-based watershed organizations (Stedman et al 2009) or community forestry initiatives (Charnley & Poe 2007; Thompson, Elmendorf, McDonough & Burban 2005), community-based natural resource management projects place an emphasis on the “power, participation, and property rights of frequently marginalized peoples” (Kellert et al 2000: 706). In addition to outcomes related to the conservation of natural resources and local socioeconomic development, they have been found to help in “building local leadership, enhancing the skills of rural residents, and making valuable connections with other communities” (Stedman et al 2009: 178).

Some scholars have critiqued the use of the term “community” in community-based natural resource management. Studies often do not offer either a grounded theoretical understanding or a practical definition of the term, which risks failing “to reflect the multiplicity of values and interests present within any given community” which contributes to the
marginalization and silencing of certain groups of people (Flint, Luloff, & Finley 2008: 527). Portraying a vision of homogenous communities where everyone agrees contradicts the ultimate goal of community-based natural resource management, which is “broadening the decision-making structure to include those with relevant local natural resource knowledge” (Flint, Luloff, & Finley 2008: 527).

In attempting to define “community” within this framework, scholars must decide which community to consider. Harrington, Curtis, & Black (2008) offer five different kinds of communities that may wish to be included in community-based natural resource management. While communities of place center on a particular geographic area or region, communities of interest represent groups with shared values and concerns that are “spatially diffuse” (Harrington, Curtis, & Black 2008: 205). Also not constrained by geographic boundary, Harrington, Curtis, & Black (2008) designate affected communities which “can comprise seasonal residents who live and work elsewhere” with interests in a geographic place (208), communities of practice which center on interactions while in pursuit of a shared goal, and communities of identity, built through connections between people who share particular socio-cultural characteristics (209-210).

Thompson, Elmendorf, McDonough & Burban (2005) emphasize the need to increase participation in community forestry, thereby expanding the community in community-based natural resource management. They suggest that participatory management necessitates broadening constituencies involved in decision-making, cultivating better dialogue among participants, and using appropriate conflict resolution techniques. A participatory approach is thought to reduce conflict and costs, generate better solutions, and lead to broader support from those involved than community-based projects that don’t focus on increased participation
(Thompson, Elmendorf, McDonough & Burban 2005). To increase participation, the authors suggest stakeholder mapping, snowball sampling, and focus groups, among other techniques.

A shortcoming of community-based natural resource management literature is its lack of discussion about the ownership of natural resources. We find few examples of natural resource ownership regimes that allow for the kind of management that the theory suggests. While helpful in framing landowner coalitions because of its emphasis on dual goals of environmental protection and economic development, emphasis on involving community members in decisions about local natural resources, and building skills and connections, community-based natural resource management does not apply to the sale of rights to natural resources on the private market. For examples of contractual agreements between private landowners and industry, we turn to cooperatives.

Cooperatives (or collaboratives), an alternative form of collective resource management, are concerned with the production of natural resources by private landowners and aim to “improve one’s individual position, community, and the competitiveness of the capitalistic economic order through self-help organizational activity based on democratic principles” (Togerson 1977: 92). Most common are farm (Knapp 1963; Togerson 1977; Kasabov 2016) and forest (Wolf & Hufnagl-Eichiner 2007; Kittridge 2005) landowner collaboratives. Cooperatives are thought to achieve both individual ownership benefits and greater public benefits (Kittridge 2005; Kasabov 2016), and range in form from information-sharing and education to collaborative marketing agreements (Kittridge 2005). Classic farmer cooperatives take on the latter form, described by Togerson (1977) as “voluntarily owned business organizations controlled by their member patrons and operated for and by them on a nonprofit or cost basis” (91). When successful, they are thought to allow farmers to “exercise greater control” (Kasabov...
Farmer cooperatives address challenges farmers face in the relationship between their operation and the firms that purchase their products. Farmers are disadvantaged by this relationship that places farm operators, “characteristically atomistic in nature (many in number and relatively small in size)” in negotiations with those with whom they buy and sell, “few in number and relatively large in size” (Togerson 1977: 92). Togerson explains that without utilization of farmer cooperatives, “farmers are powerless to deal with firms that are increasingly characterized by fewer numbers, larger market shares, more diversification in product lines, and greater vertical integration of operations” (1977: 92). Cooperatives were also seen as a tool to provide services either not available or not affordable to farmers (Togerson 1977).

While cooperatives more fully capture the negotiation and contractual agreement aspects of landowner coalitions, and together with community-based natural resource management effectively describe a majority of landowner coalitions, as initial interviews for this project began, ideas and perspectives began to emerge from certain coalitions that are not easily described by theories of collective resource management. Respondents pointed to larger, structural problems that they sought to change through their landowner coalition, beyond the confines of natural gas production. In some cases, groups or group members even went on to form broader organizations working for specific social and economic change in their community. These initial findings predicated the need to explore additional literatures. Therefore, social movements theory is included in the body of literature used to situate and make sense of landowner coalitions.
Social Movements Theory

Social movement organizations are groups of people who work together “to pursue or resist social change” (Edwards & McCarthy 2004: 621). Social movements are often used by those systematically excluded “to implement social change in ways that maximize their limited power and resources” (McGehee, Kline & Knollenberg 2013: 142). Early conceptions of social movements utilized three broad framings: as political process, as resource mobilization, and as political economy (McAdam & Boudet 2012). Theorists who conceived of social movements as political process “sought to understand movements in a dynamic relationship with the systems of institutionalized political power that the movements sought to change” (McAdam & Boudet 2012: 13). With a focus on challenging state authority, social movements as political process is a “distinctly political, state-centered account of movements” (McAdam & Boudet 2012: 15).

Other scholars, led by McCarthy and Zald (1973; 1977) positioned social movements as tools for the mobilization of resources. Whereas social movements as political process directed attention to the broader political environments movements existed within, “the focus of resource mobilization is squarely on the movement” (McAdam & Boudet 2012: 17). The mobilization of resources—namely people, money, and legitimacy—is of central importance to the study of social movements, and the “types and levels of resources available to and exploited by movements are important influences on movement emergence, growth, form, and impact” (McCarthy & Wolfson 1996: 1071). Although having largely disappeared from social movement studies (Goodwin & Hetland 2010), a third conception of social movements in early writing centered on political economy. This tradition “sought to understand the relationship between movements and revolutions and the systems of economic production and class relations that undergird all of social and political life” (McAdam & Boudet 2012: 17). All three of these
conceptions connected the study of social movements to a wider field of study “to understand social movements in relationship to much broader social, political, and economic forces” (McAdam & Boudet 2012: 19).

Recent research has refocused on the role of place and community in social movements. Examining opposition to energy projects in the United States, McAdam and Boudet (2012) focus their research on communities rather than movements, explaining that with few exceptions, “mobilization is always embedded in and shaped by a local community context” (69). Seeing the lack of place consideration a “fiction of the field”, McAdam and Boudet criticize research that describes movements that “somehow take place everywhere and nowhere in particular,” adding that “contention is always embedded in a local context” and describing national movements as “coalitions of local struggles” (2012: 202). Ultimately, McAdam and Boudet suggest that movements need to be “put in their place” so that research can “take account of the multiple ways in which local context powerfully shapes the prospects for and the forms and outcomes of contention” (2012: 203).

Local social movement organizations research focuses on three distinct features of mobilization efforts—agency, strategy, and organization—and emphasizes the use of existing networks and social capital for movement recruitment and resource mobilization. Agency is measured as the total amount of effort invested in a collective action, regardless of effectiveness or quality (McCarthy & Wolfson 1996). In addition to agency, social movement organizations utilize a range of strategies to meet their goals which generally fall under three categories: public education, direct service, and structural change. They may utilize one or all of these strategies in any combination. Public education is used to shine a light on the chosen social conditions, while direct service aims to aid victims of those social conditions (McCarthy & Wolfson 1996).
Finally, structural change involves “attempting to change laws, authorities, and/or regimes” (McCarthy & Wolfson 1996: 1072). While research on the organization of social movement groups has remained centered on centralization and bureaucratization, local social movement groups do not often take this form, instead exhibiting “relatively little variation on these dimensions” and “relatively flat hierarchies and low levels of formalization” (McCarthy & Wolfson 1996: 1072).

Due to the relatively informal and lateral nature of local social movement organizations, McCarthy and Wolfson point out “that other organizational dimensions, such as task group structures and leadership processes, may be more important” (1996: 1072). Their research focuses on the mobilization and coordination of members through meetings, either among leadership to make plans and develop strategy, or with the larger membership to communicate information and make decisions. Local groups often also use task committees to “pursue specific projects and/or functional tasks” with relative autonomy (McCarthy & Wolfson 1996: 1072). Local, grassroots social movement organizations generally exist within a broader organizational structure. Social movement organizations often exhibit “tiers” of organizational units, with local social movement organizations serving as the bottom level, “rooted in a geographic locality” with members and leaders generally drawn from within the reach of the group (McCarthy & Wolfson 1996: 1073). In addition, a top level works to “influence national policy and public opinion as well as provide policy leadership and technical assistance to grassroots locals” (McCarthy & Wolfson 1996: 1073). McAdam, McCarthy and Zald draw attention to an intermediate level, or “meso level” where they suggest the “real action in social movements takes place” (1988: 729). This multi-level, structured organization approach distinguishes social
Social movements have been shown to utilize existing social networks for recruitment, developing “not under the conditions of isolation and social disorganization” suggested by traditional collective behavior theory, but instead in places where “established grassroots organizations and informal networks afford aggrieved populations the mobilizing structures that facilitate emergent collective action” (McAdam & Boudet 2012: 204). Other researchers frame this in terms of social capital, emphasizing the ways in which human and material resources are “mediated through preexisting social networks” to facilitate movement emergence and mobilization (Edwards & McCarthy 2004: 624). Place influences social network structure, as “networks are shaped by the unique values and unspoken rules of the place in which they originate” (McGehee, Kline & Knollenberg 2013: 144), serving as an additional reason for grounding social movements in geographical context.

Recent research has begun to apply social movement theory to organizations that may not appear as social movements at first glance. For example, McGehee, Kline and Knollenberg (2013) examine a non-profit organization that acts in similar ways to a social movement to spread knowledge about economic development opportunities. The authors point out that “recent research has argued that the changing face of social movements includes less radicalized channels for working-and middle-class individuals looking for ways to enable collective action” (2013: 143). More specifically, Tarrow (2011) emphasizes the appeal of NGOs, for example, for providing a “safer, less demanding alternative to contentious social movements” (241). Landowner coalitions may, like NGOs, serve as a non-contentious social movement that nevertheless spreads knowledge and provides power in numbers. Although quite different in
appearance from traditional social movements, organizations like NGOs and coalitions may play largely the same role. Like McGehee, Kline and Knollenberg, this research will attempt to view a specific organization type—landowner coalitions—through a lens of social movement theory, in addition to theories centered around collective natural resource management.

Chapter Summary

This chapter has explored how previous research in the study region (Malin 2013; Malin & DeMaster 2016) has framed the position of farmers in leasing decisions as vulnerable, inevitable, and with limited agency. Farmers are described to have endured corporate bullying and procedural inequalities in negotiating and enforcing lease terms. This existing research suggested that the situation may be different in areas with landowner coalitions. Next, the few studies that exist about landowner coalitions (Jacquet & Stedman 2011; Liss 2011) were outlined. This research shows that landowner groups have played an instrumental role in shale gas development in the Marcellus region, and emphasizes that although landowners may join for personal benefit, they believe that the community will ultimately benefit (Jacquet & Stedman 2011). Landowner groups are also described as catalysts for information collection and distribution, and sharing of legal expertise, which together change the power differential between mineral rights owners and gas companies by changing the asymmetry of information (Liss 2011).

The chapter then transitioned to reviewing collective resource management literature, used previously by Jacquet and Stedman to describe landowner coalitions. These literatures include a number of types of collective action in natural resource management, including community-based natural resource management and agricultural and forest cooperatives. Community-based natural resource management emphasizes the involvement of community
members in resource management and decision-making, and places authority in the hands of local actors. It champions dual goals of environmental protection and economic development, and is thought to build local skills and connections. A shortcoming of community-based natural resource management literature is its lack of discussion about the ownership of natural resources. We find few examples of natural resource ownership regimes that allow for the kind of management that the theory suggests. While certainly helpful in framing landowner coalitions, community-based natural resource management does not apply to the sale of rights to natural resources on the private market.

For examples of contractual agreements between private landowners and industry, literature on cooperatives was examined. Cooperatives (or collaboratives) are groups of private landowners that produce privately-owned natural resources that achieve both individual ownership benefits and greater public benefits. They range in form from information-sharing and education to collaborative marketing agreements. The latter address challenges in the relationship between small operations and large powerful firms seeking to buy their products. Cooperatives also tend to provide services not available or affordable to members otherwise. Cooperatives offer insight into contractual agreements between private landowners and the firms that seek to buy their products, and together with community-based natural resource management, work effectively to explain most landowner coalitions. However, as initial interviews for this project began, ideas and perspectives began to emerge from certain coalitions that are not easily described by theories of collective resource management. Respondents pointed to larger, structural problems that they sought to change through their landowner coalition, beyond the confines of natural gas production. In some cases, groups or group members even went on to form broader organizations working for specific social and economic change in their
community. These initial findings predicated the need to explore additional literatures. Therefore, social movements theory is included in the body of literature used to situate and make sense of landowner coalitions.

Social movements are groups of people who work together to pursue or resist social change. They often use existing networks and social capital for recruitment and resource mobilization, and utilize a number of different possible strategies to reach their goals. Although local social movements generally have relatively flat hierarchies, they utilize task group structures and group meetings to increase organization and effectiveness. They often rely on a multi-level, broader organizational structure for support. Together, collective resource management and social movement theory literatures will be useful in contextualizing landowner coalitions within existing theory in the discussion chapter.
CHAPTER 4: Research Methods

This chapter will detail the study’s purpose, research methodology and research design process. After providing rationale for research design and methodology, context and explanation of the study’s research questions and objectives will be provided, along with descriptions of the study region and sample selection. Next, data collection and data analysis methods will be described, followed by discussions of researcher positionality, questions of generalizability and validity, and research limitations. This chapter will conclude with a brief summary of the research methods utilized in this study.

The primary purpose of this study is to present a grounded theory of landowner coalitions that is based upon research guided by four main research questions: What are landowner coalitions? How/why did they come about and what process(es) did they go through? What results were they able to achieve? And what are the advantages and disadvantages of membership in a landowner coalition? In addition, a secondary objective aims to produce useful information that can be disseminated through outreach opportunities to those facing questions about group leasing. To this end, the goal of this secondary objective is to evaluate evidence-based recommendations best practices and procedures for future landowner coalitions, the impact of Marcellus Shale development landowner coalitions on the long-term sustainability of farmers and farming communities in Pennsylvania, and the landowner coalition’s ability to serve as a model of collective action for farmers in the Northeastern United States to control land use decisions surrounding future issues on the rural landscape.

Qualitative Research Design
This research necessitated a qualitative research design due to the lack of previous research on the topic, and the nature of the research objectives and questions. First, qualitative research is particularly well suited to examine topics or phenomena that are “ill defined” or “not well understood” (Ritchie & Lewis 2003: 32). As very little research has been conducted on landowner coalitions (with the exceptions of Jacquet & Stedman 2011; Liss 2011), there is still a need to define the phenomena. As such, this study sought to both describe and define landowner coalitions. As Ritchie & Lewis suggest, the “open and generative nature of qualitative methods allow the exploration of such issues without advance prescription of their construction or meaning as a basis for further thinking about … theory development” (2003: 32). In addition, methodologically qualitative methods were required as no list of landowners who participated in coalitions exists from which to sample for a survey, for example. Qualitative sampling methods were necessary to identify respondents. Because this research had both theoretical and applied components, this section will outline the specific qualitative approaches utilized for each research objective.

The first research objective, the theoretical component, was to describe and define landowner coalitions. Description of the phenomenon called for explanatory qualitative research (or exploratory in the case of Singleton & Straits 2005), which is concerned with “why phenomena occur and the forces and influences that drive their occurrence” (Ritche & Lewis 2003: 28). Such research seeks to describe the influences, motivations, origins, and contexts of social phenomena (Ritchie & Lewis 2003). In this particular case, research questions were: What are landowner coalitions? How/why did they come about and what process(es) did they go through from inception to leasing? What results were they able to achieve? What are the advantages and disadvantages of membership in a landowner coalition? Through answering
these questions, the research was able to move from description to definition. This called for generative research, which is concerned with “producing new ideas …as a contribution to the development of social theory” (Ritchie & Lewis 2003: 30). Through generative qualitative research, new theory was developed in order to understand landowner coalitions as an emergent social phenomenon. Qualitative research was particularly well suited to describe and define landowner coalitions because of its’ ability to gather in-depth information capable of revealing what lies behind social phenomena, and its’ lack of predetermination which allows it to recognize and capture emergent concepts (Ritchie & Lewis 2003).

The applied component of this research included three remaining research objectives: (1) identify evidence-based recommendations for best practices and procedures for future landowner coalitions, (2) assess the impact of Marcellus Shale development landowner coalitions on the long-term sustainability of farmers and farming communities in Pennsylvania, and (3) evaluate the landowner coalition’s ability to serve as a model of collective action for farmers in the Northeastern United States to control land use decisions surrounding future issues on the rural landscape. These research objectives required the use of evaluative qualitative research, which is concerned with “how well” something works, and can identify factors of success of a model, as well as its’ organizational components and effects (Ritchie & Lewis 2003: 29). Qualitative research is well suited for evaluation because it focuses on actual rather than intended effects, and is responsive to a diverse set of stakeholder perspectives (Patton 2002). This applied component of the research sought to use the knowledge generated in the theoretical component to provide useful information to landowners. Ritchie & Lewis explain,

In order to carry out evaluation, information is needed about both processes and outcomes and qualitative research contributes to both. Because of its flexible methods of investigation, qualitative methods are particularly adept at looking at
the dynamics of how things operate. They can also contribute to an understanding of outcomes by identifying the different types of effects or consequences that can arise from a policy and the different ways in which they are achieved or occur (2003: 29).

Although this research describes, defines, and evaluates a model or process rather than a policy, qualitative methods are employed due to these unique capabilities.

Grounded Theory Methods

Because no conceptual framework or theory exists to wholly explain landowner coalitions, a grounded theory approach was used to construct such a theory from the data collected (Strauss & Corbin 1990; Charmaz 2006; Creswell 2013). The method garnered its name because it produces theories that are “grounded” in the data themselves. The inductive analysis of data rejects predetermination of findings and allows data to form the foundation of theory, as opposed to analyzing data through a particular theory “lens” (Charmaz 2006). More specifically, this research utilized Charmaz’s constructivist/interpretive grounded theory approach, which calls attention to differences in experiences and realities, as well as heterogeneity between people in levels of power, communication, and opportunity (2006). This method of qualitative research guided decisions throughout the research process, most notably in the data analysis stage. Grounded theory methods were applied to a case study approach to this research project. More specifically, this research represents a collective case study, as a single phenomenon (the landowner coalition) was illustrated through multiple cases within a regional boundary (Creswell 2013; Singleton & Straits 2005).

Research Objectives & Questions

This research has two main research objectives, as follows:
Research Objective 1: Describe and define landowner coalitions.

This includes the following supporting research questions: What are landowner coalitions? How/why did they come about and what process(es) did they go through? What results were they able to achieve? And what are the advantages and disadvantages of membership in a landowner coalition?

Research Objective 2: Produce useful information that can be disseminated through outreach opportunities to those facing questions about group leasing.

To this end, the goal of this secondary objective is to evaluate evidence-based recommendations best practices and procedures for future landowner coalitions, the impact of Marcellus Shale development landowner coalitions on the long-term sustainability of farmers and farming communities in Pennsylvania, and the landowner coalition’s ability to serve as a model of collective action for farmers in the Northeastern United States to control land use decisions surrounding future issues on the rural landscape.

This research builds on two previous studies on landowner coalitions: Jacquet & Stedman 2011 and Liss 2011. Jacquet & Stedman interviewed sixteen participants representing the leadership of twelve New York landowner coalitions in spring of 2010. They sought to characterize the “coalition phenomenon”, and consider whether coalition benefits extend outside of the members of the group (2011). Also in the spring of 2010, Liss conducted a series of interviews with six leadership members of one landowner coalition in order to present a case study on the group. The main focus of her research was on the role of information in building trust in extractive deals.
In addition to the substantive contributions of this research project to the literature (outlined in the literature review), it also makes advances in research design. First, although mentioned in the substantive contributions as well, the temporal aspect of this research should again be mentioned. The time at which the data for this project was collected allowed for a more complete reflection on the outcomes of landowner coalitions who signed in the late 2000s and early 2010s, as well as a re-evaluation of the landowner coalition model as some landowners prepared to complete the process in a second round of leasing.

Second, the geographical context of the data collected for this research also contributes to an improved research design. Jacquet & Stedman’s 2011 study in New York State was limited by a number of temporary moratoriums and an eventual state ban that limited the ability to assess the outcomes of landowner coalitions. While Liss’ 2011 study centered on one landowner coalition in Pennsylvania, it focused on a county that would eventually see a de facto moratorium placed by the Delaware River Basin Commission. While the current study included Wayne County, the epicenter of Liss’ study, it expanded the research area to include additional groups located in counties that have never been affected by a moratorium or ban, and have had realized and steady natural gas development for approximately ten years. For this reason, the data for this study is able to uniquely address the ways that landowners have perceived the effects on development of their participation in a landowner coalition.

Finally, this research improves upon the research design of previous landowner coalition studies in the size and scope of its study sample. Not only has this study sample increased the study size in comparison to past studies (from N=16 and N=6 to N=30 in terms of respondents, and from N=14 and N=1 to N=35), it has also expanded previous respondent categories from leadership of coalitions to key informants and non-leadership farmers. This expansion to non-
leadership members and individuals who have worked closely with landowner coalitions from the outside helped to allow for a greater diversity of descriptions and perceptions of the process.

Study Region

The data for this research was collected from Bradford, Susquehanna, Wyoming, Lackawanna and Wayne counties of Pennsylvania. Located in the northeast corner of the commonwealth, this study region was selected for three main reasons: the high volume of unconventional shale gas development, the presence of agricultural production, and the prevalence landowner coalitions. While the region as a whole represents all three of these categories, particular counties may not. This is because landowner coalitions do not conform to county boundaries, and therefore the study area has expanded into counties that may not meet one or more of the study region characteristics with the inclusion of large landowner groups that spill across county borders. In addition, Wayne County has been under a de facto moratorium since 2010, and therefore has had no unconventional natural gas development since leases were signed and test wells were drilled. Therefore, gas well numbers are low, even though many landowners in the county completed lease agreements as groups with natural gas companies.

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2 Originally, this study sought to include a comparative region in the southwest part of Pennsylvania. Unfortunately, no landowner coalitions that had completed the leasing process could be identified. Therefore, the southwest study region of Greene and Washington counties were dropped, and the northeast region was expanded.
Bradford, Susquehanna, and Wyoming are in the top 10 counties in the state in number of unconventional wells, with (1,416), (1,405) and (269) wells respectively (PA DEP 2017). Although Lackawanna (2 wells) and Wayne (5 wells) are ranked in the bottom third of Pennsylvania counties, they are included in this study because of the presence of landowner groups that signed leases with gas companies, although development never took place. Considerable amounts of acreage in all five counties is classified as agricultural land. Bradford County has the most farms and farm acreage, with 1,629 farms covering 308,000 acres, followed by Susquehanna County with 1,005 farms covering 166,000 acres. Wayne County’s 711 farms cover 113,000 acres, Wyoming County’s 508 farms cover 69,000 acres, and finally

3 As of September 2017
Lackawanna’s 303 farms cover 32,750 acres (2012 Census of Ag). Altogether, the region has over 4,000 farms covering more than 600,000 acres. Lastly, the best data available suggests that over 3,000 private landowners joined landowner coalitions in Susquehanna, Bradford, Wyoming, Lackawanna and Wayne counties, representing over 200,000 acres (Marcellus Drilling News, 2012).

<table>
<thead>
<tr>
<th>County</th>
<th>Unconventional Wells</th>
<th>Number of Farms</th>
<th>Number of Ag Acres</th>
<th>Population Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradford</td>
<td>1,416</td>
<td>1,629</td>
<td>308,000</td>
<td>55</td>
</tr>
<tr>
<td>Susquehanna</td>
<td>1,405</td>
<td>1,005</td>
<td>166,000</td>
<td>53</td>
</tr>
<tr>
<td>Wyoming</td>
<td>269</td>
<td>508</td>
<td>69,000</td>
<td>71</td>
</tr>
<tr>
<td>Wayne</td>
<td>5</td>
<td>711</td>
<td>113,000</td>
<td>73</td>
</tr>
<tr>
<td>Lackawanna</td>
<td>2</td>
<td>303</td>
<td>32,750</td>
<td>467</td>
</tr>
</tbody>
</table>

Table 1: Number of Unconventional Wells, Number of Farms, Number of Acres in Agricultural Production, and Population Density (persons/square mile) by Study County

Sources: PA DEP 2017; 2012 Census of Ag; U.S. Census Bureau, 2000;

Research Sample

The research sample for this study included three categories of subjects: key informants, coalition leadership, and coalition farmers. Due to the informal structure and organization of most landowner coalitions, contact information for landowner coalitions is not readily accessible. Therefore, a combination of convenience and snowball sampling were utilized during this research (Weiss 1994, Singleton & Straits 2005). Key informants were contacted first. These included oil & gas attorneys, financial consultants, extension educators, law professors, and others. They were contacted via telephone or email using information publicly available online, or given to the researcher through snowball sampling. Next, leadership of landowner coalitions
within the study area were contacted. Initial leadership were identified from a 2012 list of landowners groups published by Marcellus Drilling News. This list, although not 100% accurate or complete, listed the name and contact information of leadership for some groups. After successfully contacting a small number using the contact information on that list, snowball sampling was used to identify additional landowner coalitions and their leadership in the study area. Where possible, more than one leadership member from each group was included in the research sample to corroborate information.

Finally, the third category in the research sample was farmers who had participated in a landowner coalition. Some of these farmers were identified through snowball sampling from key informant and group leadership respondents. In addition, they were sought using announcements disseminated through Penn state extension offices in the region and local newspapers. Snowball sampling was also used within this category. In addition, farmers in landowner coalitions from previous studies within the study area were re-contacted to participate in this research. Care was taken to attempt to include both male and female farmers, small and large acreage farms, and a variety of different production types of farms within this sample subset. It’s important to note that these three categories were not mutually exclusive. Some key informants and farmers had served as leadership of coalitions, for example. See below for a visual of research sample divided by group. Overall, twenty-nine interviews were conducted with twenty-nine respondents (one interview was conducted with two respondents, while one respondent was interviewed twice). All together, these respondents represented over thirty-five landowner groups, keeping in mind that some respondents had taken part in or led multiple groups. Of the thirty-five coalitions,

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4 These respondents had previously given permission to be re-contacted for future research
5 Note: A majority of respondents represented only one group, while a few were entrepreneurs who had represented many, or had participated in one after the other or multiple at one time through separate land parcels.
information was collected on the number of acreage represented by ten groups. Three groups represented 15,000 acres or less, four groups represented between 15,000 and 25,000 acres, one group represented just under 50,000 acres, and the last group represented over 100,000 acres and 1,500 families.

Figure 2: Description of Respondents (Total N=29)

Data Collection

Before data collection began, an interview protocol was developed guided by the research questions and objectives (See Appendix A). This semi-structured interview guide included a question at the end for the respondent to add anything additional, and allowed room for follow-up questions from the researcher. Prior to use, the interview protocol was evaluated by Rural Sociology faculty members at the Pennsylvania State University and revised accordingly. This interview protocol evolved as interviews moved from one category of respondents to the next, but remained grounded in a consistent set of questions based on the research questions and objectives. As Weiss points out, tailoring interviews to respondents or categories of respondents
allows us to “gain coherence, depth, and density of the material each respondent provides” (1994: 3). Below is a list of topics covered in the interview protocol for each respondent group:

Key Informants:

- Why landowner coalitions happened, and what conditions allowed them to happen in the region
- Process of landowner coalitions from start to leasing (including recruitment and conflict)
- Markers and causes of success for groups
- Inclusion and exclusion of landowners
- Effects for farmers and their ability to farm
- Future applications of the model

Leadership:

- Why landowner coalitions happened, and what conditions allowed them to happen in the region
- Process of landowner coalitions from start to leasing (including recruitment and conflict)
- Goals of coalition and outcomes achieved
- Definition of success for landowner group
- Challenges faced
- Social connections within group
- Current state of coalition/future directions

Farmers:

- Inclusion and exclusion of landowners, recruitment
- Process for deciding on goals and choosing company
- Description of lease signing
- Effect on farm/farmer from signing with a group
- Comparison to what might have happened signing as an individual
- Definitions of sustainable farming and its relationship to leasing

After receiving approval from the Pennsylvania State University’s Institutional Review Board for the research project and all corresponding documents (consent form, interview protocol, etc), semi-structured interviews were conducted from November 2016 to August 2017.
An effort was made to conduct all interviews in-person so that reactions, expressions, and body language could also be noted. Where necessary, phone interviews were conducted. Consent was obtained prior to all interviews. Whenever possible, respondents signed a consent form, either in person or emailed/faxed. However, in some cases verbal consent was obtained for phone interviews using the written consent form as the verbal consent guide. Of the twenty-nine interviews\(^6\), one was conducted with two leaders present, while one key informant was interviewed twice. Interviews ranged from 16 to 102 minutes, with an average length of 48 minutes. All interviews were recorded and transcribed verbatim using a transcription service, and all personally identifiable information has been redacted from the transcript.

In addition to the twenty-nine interviews conducted from November 2016 to August 2017, seven interviews from a previous research project are also included in the data for analysis. The interviews were conducted from August to September of 2013 with leadership from one of the landowner coalitions included in the project, and centered on largely the same topic. These interviews are no longer attached to identities of individual research respondents. These interviews ranged from 53 to 98 minutes, with an average length of 77 minutes. Again, all interviews were recorded and transcribed verbatim, and all personally identifiable information has been redacted from the transcript.

Data Analysis

The qualitative data generated through this research project (including the seven transcripts from 2013) were systematically coded according to grounded theory coding methods using qualitative data analysis software (NVivo citation). Although the research questions and

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\(^6\) Farmer interviews were originally planned as focus groups – two to three at each county extension office. However, due to unusual weather that caused the focus groups to coincide with necessary farm operations, interviews were planned instead.
objectives were used to steer the data collection, the data itself was allowed to steer the analysis, allowing for emergent themes (Charmaz 2006). First, attributes coding was conducted. This attached information such as date, fieldwork setting, participant characteristics, participant category, and landowner coalition name to each transcript. The first round of content coding was done using initial coding methods. Initial coding is done by coding all analytical ideas line by line in the transcript, taking care to remain open to all directions and emergent themes. The idea is for the analysis to come from the perspective of the respondents (Charmaz 2006, Saldaña 2009). Next, the second round of coding was done using focused coding methods. Focused coding uses the most significant or frequent initial codes found in the first round of coding to synthesize and organize the data (Charmaz 2006, Saldaña 2009). See Appendix B for a complete coding scheme.

Researcher Positionality and Reflexivity

It should be noted that the researcher for this project is a native of just outside the study area. This did lead to some situations where the researcher knew or was familiar with the research respondents, taking on an “insider/outsider” status as described by Heley (2011). While this did raise concerns of bias, it also allowed the researcher entry into the research sample population, as a trusted individual. This was aided by the researcher’s association with Penn State Extension which was highly trusted and respected by research respondents, and through the use of snowball sampling and recommendations. In order to minimize bias, the researcher limited talking during interviews and only sought to steer the conversation when necessary.

Generalizability and Validity
Validity refers to the “accuracy” of findings, and Creswell (2013) suggests a number of tactics that researchers can take to promote validity, encouraging researchers to utilize at least two. This researcher engaged in peer review/debriefing, member-checking, and made sure to clarify research bias. The researcher’s advisor and committee made sure to probe the researcher about methods, meanings and interpretations, as Creswell suggests. In addition, the researcher used member-checking with participants to see if information heard thus far resonated with them, or if they felt differently. Lastly, the researcher made sure to reflect, both in this body of work and throughout the research process, on any biases that were brought into the research project. In addition to Creswell’s tactics, this research also made sure to corroborate information from other sources (Weiss 1994) whenever possible. For this reason, steps were taken to try to reach multiple respondents from each landowner coalition to compare accounts.

The sampling methods utilized in this research (purposeful and snowball sampling) pose challenges to representational generalizability as a representative sample was not attempted. In addition, it is probable that non-response bias decreased the generalizability of this research as it is entirely possible that those more satisfied with their experience with a landowner coalition (or the other way around) were more willing to participate. As Singleton & Straits note, “non-observations tend to be different in systematic ways from observations” (2005:145). That is in addition to the selection of landowner coalitions that leased, therefore making them inherently the successful subset based on some definitions of “success”. There is also a consideration to be made about the effects of small sample size (groups in just five Pennsylvania counties) as well as the location in which the research was carried out on inferential generalizability. It is probable that contextual factors such as community ties, gas development interests, and the geology of
different areas (to name just a few) create different circumstances within which these landowner coalitions operate.

Research Limitations

In addition to possible concerns about validity and generalizability, this research has one additional main limitation. This is the difficulty in discerning the effects of landowner coalitions. Because there is good reason to believe that landowner coalition lease negotiations affected individual lease negotiations in an area, it is very difficult to consider what lease negotiations may have looked like without the presence of landowner groups. It is not enough to compare those who signed with a landowner coalition and those who signed as individuals, as the former most likely affected the latter. Unfortunately, looking to geographic areas that didn’t have landowner coalitions is inadequate because of the difference in contextual factors. If time had allowed, this study would have gained from comparison groups of farmers and non-farmers who signed gas leases as individuals. Future research is called for to use these comparisons to begin to sharply delineate the effects of landowner coalitions in the leasing landscape.

Chapter Summary

The primary purpose of this qualitative study was to present a grounded theory of landowner coalitions that is based upon research guided by four main research questions: What are landowner coalitions? How/why did they come about and what process(es) did they go through? What results were they able to achieve? And what are the advantages and disadvantages of membership in a landowner coalition? In addition, a secondary objective aimed to produce useful information that can be disseminated through outreach opportunities to those facing questions about group leasing. To this end, the goal of this secondary objective was to
evaluate evidence-based recommendations best practices and procedures for future landowner coalitions, the impact of Marcellus Shale development landowner coalitions on the long-term sustainability of farmers and farming communities in Pennsylvania, and the landowner coalition’s ability to serve as a model of collective action for farmers in the Northeastern United States to control land use decisions surrounding future issues on the rural landscape.

The data for this research were collected from Bradford, Susquehanna, Wyoming, Lackawanna and Wayne counties of Pennsylvania. Located in the northeast corner of the commonwealth, this study region was selected for three main reasons: the high volume of unconventional shale gas development, the presence of agricultural production, and a reputation for landowner coalitions. Twenty-nine semi-structured interviews were conducted from November 2016 to August 2017 with key informants, coalition leadership, and coalition farmers, identified through a combination of convenience and snowball sampling. All interviews were recorded and transcribed verbatim using a transcription service, and all personally identifiable information has been redacted from the transcript. In addition to the twenty-nine interviews conducted for this project, seven interviews from a previous research project are also included in the data for analysis. The qualitative data generated through this research project (including the seven transcripts from 2013) were systematically coded according to grounded theory coding methods using qualitative data analysis software. Because no conceptual framework or theory exists to wholly explain landowner coalitions, a grounded theory approach was used to construct such a theory from the data collected.

This research builds on two previous studies on landowner coalitions: Jacquet & Stedman 2011 and Liss 2011. In addition to the substantive contributions of this research project to the literature (outlined in the literature review), it also offers an improved research design. First, the
time at which the data for this project was collected allowed for a more complete reflection on
the outcomes of landowner coalitions who signed in the late 2000s and early 2010s, as well as a
re-evaluation of the landowner coalition model as some landowners prepared to complete the
process in a second round of leasing. Second, the geographical context of the data collected for
this research contributes to an improved research design as it included multiple coalitions that
had gone through development for some time. Finally, this research advances the research design
of previous landowner coalition studies in the size and scope of its study sample.
CHAPTER 5: Results

This chapter will document the results of this research. It will begin by describing the three typical coalition models, as well as cases that tend not to fit neatly within those boxes. The typical coalition process will then be explained, beginning with forming a group, followed by an explanation of process and decision-making, marketing and negotiations, and finally the lease signing and beyond, including reflections on a second round of leasing and possible future applications for the landowner coalition model. Next, this chapter will outline variables of coalition success, the benefits and negatives of participating in a landowner coalition, and will finally conclude by outlining the effect of landowner coalitions on Pennsylvania farmers.

Landowner Coalition Models

Respondents described three main categories or models of landowner coalitions. Most groups fit squarely into one of these three categories, although some were hybrids or unique cases altogether. The three models are as follows: Model 1 (landowner model) was landowner-led, start to finish, Model 2 (hybrid landowner/entrepreneur model) was landowner-led and then hired someone to market and/or negotiate, while Model 3 (entrepreneur model) was entrepreneur-led, start to finish.

Model 1: Landowner Model

These landowner coalitions were initiated by landowners, either purposefully or through informally talking to neighbors. Often, either one landowner became the leader of the group, or a leadership committee structure was established. These groups may have consulted with attorneys and other experts, but largely handled the whole process, from inception to lease-signing, themselves. Certainly some of the groups that chose this model were incredibly successful, and
often felt considerable pride in their efforts. A member of the negotiation leadership for one such group explained:

To negotiate a $200 million deal with no one having legal authority, no one considered—they appointed [other leader] and myself for that negotiating committee, but in the end, they could tell us all to go take a hike. For 1,000 landowners representing 37,000 acres and a $200 million investment venture, that was pretty amazing that we could pull that off. In a business world, you’ve got your chain of commands and everything (Leadership 3).

However, others suggested possible downsides to this approach. Describing a landowner model coalition, one leader said that by doing it all themselves, they “got off track” in submitting a lease that was too long and wasn’t marketable (Leadership 2). However, those groups that did utilize this model did so because they felt they had all the expertise that was needed within the group, or did not want to pay someone for negotiations they believed they could handle themselves.

Model 2: hybrid landowner/entrepreneur model

Like the landowner model, hybrid landowner/entrepreneur model groups were initiated by landowners. They also had landowner-led group leadership in the form of a committee or an individual. These groups differ from the landowner model, however, in that they eventually hire someone to negotiate with gas companies on behalf of the group.

landowners would get together and talk and start to work together, share information and so forth, and then they would go hire a pro. They would go hire a consultant or a group or somebody out there who would actually take care of the negotiations for ‘em. In some cases, that was an attorney. In some cases, that was an independent land group that would do that (Key Informant 2).
More common than the landowner model (Key Informant 2), the hybrid landowner/entrepreneur model was utilized by landowners due to a number of different reasons. Some leaders felt as if they didn’t have the time or skills to handle the negotiations themselves. As one Penn State Extension educator explained, “if it was completely landowner driven, it might have been hard on a landowner who has a full-time job and who doesn’t have, maybe, the knowledge and sophistication. They needed third-party assistance there of some sort” (Key Informant 2). A leader of a hybrid landowner/entrepreneur model group confirmed, “At some point we’ve gotta go from the bush league to somebody that knows what they’re doing… there was someone very credible there to stand up in the final town meetings… that went through point by point, people asking questions to a professional” (Leadership 2). Others felt they needed to hire someone because of the responsibility and pressure that came with negotiating the group’s lease terms. One consultant, hired by many groups, put it this way: “A lot of the groups I worked with—they didn’t wanna be in charge of it. They ultimately didn’t wanna have the responsibility if it didn’t go well. They just didn’t know how to be the cat herder, which is what I am” (Key Informant 12).

Once the group decided to hire someone, often they “interviewed” a number of different consultants and/or attorneys before choosing and hiring one. Consultants gave a presentation to the group, or perhaps were interviewed by group leadership. While some groups hired just a consultant or just an attorney, others hired both. For compensation, these consultants and lawyers either charged a flat or hourly fee, or charged a percentage of either bonus payments or royalty earnings.

Leadership: Models 1 & 2
So who were the leaders of landowner-led coalitions? Groups were led in a number of different ways, ranging from a single leader to organizational structures with sub-committees for different roles. Some groups were led by a single person, start to finish, with that person sharing information and leading group meetings. Others were led by large leadership teams or groups. A member of such a group explained:

there was a lead group, and there were probably 20 of us in a lead group. Then from that lead group, there were a couple of smaller groups and committees that were formed. One was data collection. Another was data collection and the graphing, putting together on a map where the various land was so we could present this to a gas company. Then there was negotiation (Leadership 3).

In some cases, this “core group” or “leadership team” was thought of as representation of a diverse group, and therefore they ultimately were the decision-makers on behalf of the group. Other groups continued to involve the larger group membership in decision-making. As one key informant explained, groups tended to make “collective decisions” and “work together well”, adding “for most of these coalitions, I would say it was really a wonderful, collaborative process” (Key Informant 11).

Respondents emphasized that leaders of these groups tended to be people who cared for their community and neighbors and wanted to help. Describing one such leader, a key informant noted, “he’s very community-oriented. He really cares about making sure that his community does the right thing. I would say that’s true and a lot of these coalition leaders tend to have that kind of mentality but it’s not true of all of them” (Key Informant 11). Correlated with caring for the community and its people, these leaders were often described as “trusted” individuals. “It took somebody in the neighborhood who was trusted and interested in helping everybody, and that’s not everybody in the neighborhood” explained one respondent (Key Informant 12).
Interestingly, respondents also seemed to conflate “trusted individuals” with those that held large acreages in the community. “For the most part the people with the acreage carried the group forward in direction and planning and things of that nature” explained one leadership member. “Those people tended to be the respected people in the community that everyone followed anyway. It was a natural dynamic to move that way” (Leadership 2). It was also noted that generally these large landowners could have negotiated quality deals on their own, and so a certain amount of altruism on the part of these large landowners was often suggested.

Sometimes leaders were community members who happened to have some experience with oil and gas development or company negotiations and wanted to share that knowledge with neighbors. Some leadership members had held previous jobs that prepared them for being a member of the negotiating team or picking lease terms, whether it be legal experience or working in the business world. In either case, leaders invested an impressive amount of time learning, sharing information, communicating, hosting meetings, and negotiating with companies. One leader described coming home at the end of the day to ninety-nine missed calls on the answering machine, evidence of the amount of time spent communicating, sharing information, and answering questions for his group members. Other leaders sent out detailed emails with updates and information nightly. Some of the skills necessary for running a meeting and communicating with members, such as PowerPoint presentations or Constant Contact email organization, were unknown by group leaders and learned along the way.

Given that some of these groups took over two years to sign leases after inception, these responsibilities added up to an incredible time commitment. Added to that time commitment was the weight of the negotiations. In the end, some of these leaders and leadership teams ended up negotiating multi-million dollar deals. One leadership member offered,
To be honest, when I sit back and I look at being able to negotiate a 200—it was a $200 million deal. To negotiate a $200 million deal with no one having legal authority, no one considered—they appointed [the other negotiator] and myself for that negotiating committee, but in the end, they could tell us all to go take a hike. For 1,000 landowners representing 37,000 acres and a $200 million investment venture, that was pretty amazing that we could pull that off. In a business world, you’ve got your chain of commands and everything (Leadership 3).

There is certainly a sense of pride held among leaders who negotiated what they consider to be successful deals. Serving as leadership of a coalition was no doubt an undertaking, and many of the lease negotiations ended in favorable terms for group members.

Model 3: Entrepreneur Model

The third model was initiated and led by people who might be considered “entrepreneurs”. These might be self-made experts, attorneys, accountants, or people who have special knowledge of the oil and gas industry or negotiations. These entrepreneurs saw that opportunity and went into a community and started to advertise that they were going to put together a landowners group. Usually they had already talked to one or two influential landowners in the area. Would use their name to bolster their credibility in the community, and get people to come to a meeting. In many respects it was grass roots driven, but also driven by people that saw an opportunity to engage in a business (Key Informant 1).

Typically, in this instance, the entrepreneur largely dictated the terms and conditions of the lease. While this tended to allow for less input from landowners in the group (Key Informant 2), it also provided knowledge and guidance to landowners that might not have all of the information that they need (Farmer 1). Some entrepreneurs put together upwards of twenty landowner groups.
Like in the hybrid landowner/entrepreneur model, these entrepreneurs were typically paid a flat or hourly fee, or charged a percentage of the bonus payments or royalty earnings. This model was certainly the most controversial, with some respondents touting the immense positive impact of some of these entrepreneurs, while others questioned their motives and saw their economic interests as at odds with the groups leasing interests. For others, those interests were not at odds. One respondent explained:

you can’t lose track of the fact that the people that actually put together some of these larger coalitions were making a seven figure—I don’t want to say salaries, but generated seven figure outcomes for them personally. It was a very entrepreneurial moment. They were doing it for the benefit of it hundreds and thousands of people that were joining, but they were also doing it for the benefit of themselves (Key Informant 5).

Nevertheless, respondents described competition between entrepreneurs, as well as conflict between entrepreneurs and other landowner coalition leaders or consultants. Many times, a group would interview several entrepreneurs before hiring one, leading to natural competition. Entrepreneurs also felt strongly about how they should be compensated, with those that charged flat fees often very critical of those that charged a percentage of bonus or royalty earnings. In some cases, group leaders saw entrepreneurs as threats to group cohesion, and one entrepreneur described being uninvited to community meetings due to distrust from group leaders.

**Blurring the Boxes**

Of course, not all groups fit within the descriptions of these three models. One group included in the study specifically decided to limit themselves to information sharing. There was never any expectation that they would all sign the same lease or negotiate collectively.
we decided that, as a small group, we would not be encumbered by responsibility to come back and report what we decided to do. We told everybody in our meetings that each person’s an individual. We’re only sharing individual information with each other in order to have a better understanding of how to go about the gas leasing, which was recommended at the seminars. If you’re a group, that you share information and try to help each other out, but not necessarily control what the other individuals do (Farmer 8).

However, the group’s informal leader, who described himself as “just an information source” did seem to negotiate with companies informally on behalf of the group. He mentioned going back to a company to say “Well, I need a better offer than $2000” (Farmer 8). Group members signed individually when they felt the right offer came along, however.

Also included in this study was one group that operated like a landowner model landowner group, initiated and marketed by landowner leadership. However, after they had received their offers from gas companies, they hired a consultant who went back out to negotiate for an even better deal. The leader of that group explained the process: “He said ‘You send out your information packets, and all the stuff you’ve gathered up. When you get those packets back, and open up, and we have the date set, you give me six weeks to go out, and I’ll get you a better deal,’ with the same lease” (Leadership 1). The group agreed to pay the consultant 15% of whatever additional revenue he procured, beyond the original offers they had received. The consultant did end up coming back with an offer that exceeded the original one in both bonus payment and royalty percentage.

Lastly, a new type of landowner coalition altogether was included in this study. This group actually formed a company that leased their own land. The leader of that group explained it this way:
instead of having a loose coalition of landowners with no formal or legal tie to one another, actually having the landowners formally unite in a legal way. Form a company, and in the case of [this group], actually leasing their own property. First you form a company… The landowners serve on a board, the board of managers that runs that company. They actually lease their own properties (Leadership 5).

The reasons offered for using this model centered around negotiating power. Gas companies are forced to negotiate with the landowners and can no longer treat landowners differently. This group can then contract with pipeline and production companies, or can sell those leases to a natural gas company. In addition to more control, the leader of this group also touted the economic benefits to the landowners of this model:

The landowners pretty quickly become like any other entity out there: Shell, or Cabot, or Chesapeake, or anybody else who controls significant reserves. They have a great amount of power now over what happens. … What really we’re thinking is just the traditional sitting at the negotiating table and a natural gas producer is sitting at the table, and we negotiate a lease. The big difference is the value of the transaction that’s going to occur. When Williams has leases and they assign or sell them to Cabot, which occurred a few years ago, the individual landowners were happy, in Pennsylvania at least, were happy to receive a signing bonus of 2,500 per acre, and maybe a 21 percent royalty on it. When Cabot picked up the leases from Williams, company to company, they were paying 9,000, 10,000 and $11,000.00 an acre at the same time that they were paying private landowners 2,000, 2,500 per acre. That’s pretty common in the business. … Monetarily there’s quite an advantage to the landowners here to form their own company (Leadership 5).

This model is certainly a new idea, but this particular group was signing landowners into the group at the time of data collection. This means that in the case of this particular landowner coalition, outcomes could not be assessed. Data from members is included in this results section, but is based on what respondents thought the coalition would achieve, and therefore the inclusion of this landowner coalition that has not yet completed leasing is a limitation of this research.
The Typical Coalition Process

All landowner coalitions went through slightly different processes from inception to signing depending on their model, their goals, the timing and market, and other contextual factors. However, there is a typical process timeline (see Figure 3 below) that describes the general sequence of events for most of these groups. For some groups, this process took just a few months, and for others, it may have taken two years. The general timeline began with landowners talking to their neighbors about offers to lease, sharing information and hosting meetings until a group comes together, deciding on goals, marketing the group to companies and/or negotiating with interested companies, and finally each individual signing their own group lease.

![Typical Coalition Timeline (~1 Year)](image)

Figure 3: The Typical Coalition Process

Forming a Group

The first step towards talking to neighbors and forming groups was landowners realizing that there was something different about gas companies approaching them to lease this time. This
is because many of the areas in the study region had leased their land to natural gas exploration or development for decades. A key informant explained,

A lot of landowners had previously leased their property, and those leases had expired, and no production was made on their property over the decades. When they came around again and offered a very low upfront signing bonus, many landowners signed up thinking this isn’t really gonna go anywhere. It’s free money, and then I’ll never see this guy again. This time it was a little bit different (Key Informant 7).

Many landowners ended up signing leases in a new era of economically developable shale gas for five, ten, twenty or fifty dollars per acre, not realizing that development was a possibility this time around. Eventually, people started to hear stories of neighbors offered high dollar amounts or test wells being drilled and started to gain interest and ask questions about signing leases.

Conversations with neighbors often happened very informally. One key informant offered the example of

a couple guys at the feed mill perhaps talkin’ with the vendor himself, who had a talk with another producer, perhaps, that was there hours before. Maybe you ran into your neighbor at the feed mill or the fuel station or somethin’ like that. You just got to swappin’ stories. “Hey, you know, some landman stopped in, said he was headin’ down the road, blah, blah, blah.” Might have been at the local canteen. It’s just those informal conversations (Key Informant 8).

In addition to informal conversations, notices went out in local papers about meetings in local community buildings or someone’s house to discuss leasing offers going around. Respondents described a natural progression from these informal conversations and meetings to the formation of groups. One respondent explained that “as time went on, we kind of started talking to more neighbors and more people wanted to become involved and eventually we grew to well over
100,000 acres” (Respondent 13). Sometimes additional members were added to the groups through active recruitment. Group leaders would call all their neighbors, or use a map of nearby properties to go door to door to spread the word about the coalition. Other members heard about the groups through word of mouth and decided to attend their informational meetings, perhaps, and eventually joined the coalition.

Membership in most landowner groups was fairly informal and unstructured, often formalized only through being on the email list or phone tree. “There was no upfront money. There were no signatures. It was all mostly just a handshake and you’re with us” described a farmer involved in one group (Farmer 6). Other groups, however, collected membership fees to pay for legal expertise or administrative costs, among other things. Groups included in the study charged anywhere from $25 to $75 per member. A number of groups ended up making donations to local organizations or charities with the leftover money from membership fees. Even in these cases, however, nothing was binding landowners into the group or compelling them to sign the negotiated lease. A key informant explained,

When these loose coalitions of landowners… they’re getting together, ultimately, no one is signing a legal document that says, ‘I’ll live with any results.’ What they’re saying is, ‘Hey, listen. We’re gonna work together to get the best deal possible. When we receive that deal, we will all go home and decide whether or not we accept it for our own’ (Key Informant 2).

Some groups had mechanisms for pledging acreage at the point when gas companies were providing their bids. Those companies had to know how much and which acreage they were bidding on. In other cases, gas companies would offer a deal contingent upon a certain number of acres signing leases. Ultimately, however, since each lease contract was between individuals and the company in the end, each landowner was not legally bound to signing the final lease.
Coalitions were bound together by “word of mouth” and “pledges” and membership fees for the most part.

Process & Decisions

Once landowner coalitions had formed, and as they were forming, gathering information and learning about oil and gas development and the leasing process were top priorities. One leader explained that landowners who had chosen to join a group were those particularly interested in learning more before making a leasing decision:

People were starved for information. They’d owned their properties for a long time. A lot of the folks that were willin’ to jump into it early on, without more information, had already signed leases. These folks were the folks that stayed on, and were more interested in what it was gonna be doin’ than just the immediate financial gratification (Leadership 1).

As a group, many coalitions brought in speakers such as extension educators, farm bureau representatives, lawyers, and financial consultants to present on topics of interest at group meetings. An extension educator explained their role in education: “We were helping them to learn what questions to ask and how to protect themselves and issues that should be considered” (Key Informant 5). Individuals from groups, whether leadership or not, also attended many meetings and seminars put on around the state by different organizations in order to gather information to bring back to the group. One farmer recalled, “I basically decided that my wife and I would take whatever spare time we had and go to Penn State seminars on gas leasing. They were quite prominent at that time” (Farmer 8).

Information was also sought from other places around the country that had experienced gas leasing, such as Montana and Texas. “We hooked up with people in Texas who would gone
through this before in the Barnett Shale down there. And they had made lots of mistakes in theirs and errors along the way and things they would do differently and they shared that freely with us” explained a leadership member of one group (Respondent 1). Many groups were incredibly thorough in their exploration of the issue, seeking answers to even the most specific questions.

One member listed just some of the topics they sought information on:

   Any use of chemicals and how they were going to be controlled and what influence they could have on the water quality, the health of the people in the area... Any other kind of disturbance or destruction that would occur because of the need to make the pad sites. You know, how much does that impact the trees, the forests, where do they site these things? And then the whole drilling process itself. What did they need to support that? How do they handle that support structure: the trucks and the chemicals coming in and the ponds and, again they kind of had to understand the whole pad site and technically how did it work and then what do they do if there is any issue or problem? How do they control that problem? What are the safety measures put in? What are the state regulations and the federal regulations and who oversees it? …. I think in the first 2 years, I probably reviewed 30,000 to 60,000 pages of information by email, by attachment, by going to websites, by reading books, by going to meetings... We were brought up to snuff pretty quickly at a pretty high level (Respondent 8).

This thorough and exhaustive search for information impressed local educators and even the gas companies. One educator noted, “I did have a comment from one of the gas companies that they had never seen landowners educated so fast” (Key Informant 3).

All of the learning that happened both within and outside of the group was then integrated into the shared knowledge of the coalition. “The whole really benefits by the individual parts, but the individual benefits by being part of that whole” explained one farmer (Farmer 10). “Say I went to Williamsport,” began another, “to something that Penn State was doing down there on gas leasing, and then I come back to my Land Owners Group, and I could say, ‘Hey, I went there. This is the materials I got from down there. Here’s some questions that
people had’’ (Farmer 3). Similarly, a leader explained sharing news of local leasing activity: “If somebody in one corner of the county got an offer from a gas company, and we found out about it, we’d pass that information along to other people” (Leadership 1). This was particularly useful in cases when different landowners were receiving different information. One farmer described making these comparisons: “you find out what’s going on with other people, too. What were you told by this company? This is what I was told by this company. You realize the stories you’re getting are different. They’re telling different people different things” (Farmer 3).

How this information was disseminated varied from group to group – but in all cases it was a significant undertaking to keep group members informed. One leader explained sending a detailed email out nightly with any information he had gather or received, while others used phone trees or social media to keep members informed. “It was a communications nightmare,” explained one leader, “but that communication is what allowed this thing to go forward - the transparency. If we got anything, or we heard about anything, everybody heard about it” (Leadership 1). Not only were group members sharing information within groups, but group leaders often shared information between groups as well. A leader explained how important this expansion of the knowledge network was:

It got to be where the leaders of these different groups, I would get together with the leaders of these other groups and say, “What are you guys doing? What are you guys learning,” … You have that network of people. Then you expand that to all these other communities, and you get a vast network of knowledge. That’s what I think really transformed the Northeastern Marcellus leasing was all of these landowner groups, the coordination between the landowner groups (Leadership 2).

Later on in the leasing process, this communication between groups also included information about what lease terms different groups were able to secure.
All of the groups included in this study eventually saw the value in holding group meetings for a variety of reasons – while some held public meetings from inception. One leader described eventually deciding they needed a meeting to make sure everyone was receiving the necessary information:

We were passin’ out the information, and everybody was goin’ back home, and supposedly disseminating it to their own groups. We found out that that information wasn’t always getting back to where it needed to be, or some of the information was left off, or somebody had a better idea. We determined that probably we should have a get-together with everybody that we’d been talkin’ to — at that time, maybe 120 people, I guess – give ’em all the same information (Leadership 1).

Other groups held meetings throughout the process, with meetings growing as the coalition did.

One leader described how meetings evolved in their group:

It started with informal meetings. Sometimes it was three or four of us sitting in this office just looking at a map …Well, then these small meetings of a handful of people that were spearheading this turned into, ‘Well, we should have a meeting of some sort.’ Sometimes it would be a meeting in somebody’s garage with 25, 30 people. Three or four times, as this group expanded, I went down, and I would rent the local township hall or a couple of times rented—there was a big banquet room. A fellow that owns a lot of property in the township also owned the restaurant. He said, ‘Do you wanna have a meeting here? It holds 300 people. We’ll set up chairs, have a meeting.’ That’s what we did, got everybody in a room and say, ‘Alright, here’s what we’re doing’ (Leadership 2).

Groups varied considerably in how often they held meetings, and whether those were open to the public always or sometimes just among group leadership. Meetings were held in local community areas, schools, businesses, and even in people’s living rooms or garages.
Many respondents shared their surprise at how many people attended group meetings, describing having to bring in extra chairs or having people standing in corners and in hallways. One leader set up the first group meeting and was shocked by the turn out:

High school said yeah, we could use the auditorium, because, of course, they had the projection and all that available. The night that we were havin’ it, the real estate agent that I’d talked to… came up… He said, ‘How many people are here?’ I said, ‘Well… we got 120 people we thought of, and if half of ’em come, and bring their wives, we’ll have 120 people.’ He said, ‘Well, the auditorium holds 1,200 they tell me, and there’s probably over two-thirds full’ (Leadership 1).

Respondents described these meetings as sometimes lasting for hours, with conversations often spilling over into the parking lot. These meetings were important for information sharing and hosting speakers, as well as for members to provide input on negotiations.

One group reported using group meetings to collect both information and input from their members. “They decided to make up some slips of paper and say, your name and address, phone number, acreage you own, and then what do you want from this? What do you expect to get from this?” explained a group member (Farmer 4). This information was then compiled and any “reasonable” requests were included in the discussions with their attorney when crafting their group lease. Other groups gathered input more informally, through group discussions. “There was lots of opportunities for somebody to chime in and say, ‘I don’t want anything close to my house,’ or, ‘I think we should concentrate on royalty dollars,’ or, ‘I think we should concentrate on ___,’” explained one respondent (Key Informant 2). Another added, “everybody kind of played off each other and everybody kind of had a say and all became a valuable part of the whole team” (Respondent 13). However, there were groups that left decision-making up to their
leadership team, or leaders that steered the coalition and then reported progress to the membership.

Just as groups had different levels and methods of gathering input from their members, they also varied in how group decisions were made. Some groups reported often coming to a consensus and decisions being made naturally and easily. Others noted some conflict in decision-making. One key informant described a typical conflict scenario:

If I am landowner and I was sitting there and saying, ‘Hey, the most important thing to me is to not have any kind of infrastructure near my house,’ you’re my neighbor and saying, ‘I don’t care about that. What I want is the most bonus dollars I can possibly get.’ Another neighbor is saying, ‘Hey, let’s big picture this. I really want the royalty dollar. That’s where the big money is.’ Then we have a conflict of priorities there between those three individuals, right? That was where the potential for conflict existed (Key Informant 2).

It was difficult to get from respondents a sense of how these disputes were handled. Some respondents mentioned having group discussions to eventually reach consensus, but others described how leadership teams or leaders ultimately made decisions after hearing input. Faced with a large decision about group leasing, one leader described how a decision was reached: “We discussed it within the core group… we sent out emails explainin’ what had gone on, and why” (Leadership 1). He went on, “like I said, there were disagreements. Hell, some people wanted the bonus money. Some people wanted the royalty money. We just decided what we thought was the best for everybody” (Leadership 1). One leadership member attributed the success of their group negotiations to the ability of negotiators to decide what was best for the group:

I think the thing that was important is that with committees, my experience is that it’s very, very hard to reach consensus and to get to something. If you have a couple of people that have good business heads and good sense of negotiating and of sticking up for what they believe in, it’s much more effective if you’re dealing
with a smaller group. That is what happened here. It come right down to [the two negotiators] dealing directly with these companies that this whole thing came about. If you had to go through a committee, it would never have happened, I don’t think. I shouldn’t say it would never have happened, but it wouldn’t have happened perhaps with the favorable outcome that we realized (Leadership 3).

Again, respondents noted the role of trust and leadership being local landowners who were part of the group in the willingness to follow the decisions of leadership.

Through all of this information sharing, communication, and group meetings, each group decided on some set of goals, whether explicitly stated or not. Sometimes it was a very broad goal, such as “protecting the landowners’ interest” (Farmer 5) or “protecting [the] land as well as we could” (Respondent 13), while other times it was a specific goal such as choosing “environmentally conscious companies that were going to come in and work with care and be responsible” (Respondent 13). One respondent spoke of a general goal of being able to take pride in the decisions being made: “As I had said and other people had said in the meetings was, we will be judged for generations to come by the decisions we are making today and in the near future, and we better do a good job” (Farmer 2). Another respondent echoed this sentiment, “we have worked so hard to do this for the community and to make it happen the right way. It wasn’t just willy-nilly, helter-skelter. We went about it the right way” (Respondent 2). Other goals centered on working together and helping each other:

There were goals that were set early on to keep informed and to keep our neighbors and friends informed of developments in real time because oftentimes, the energy companies or the landsmen were playing divide and conquer by whatever strategies they always employ. We don’t have to elaborate on that so much. The mission was to keep informed, to stay together. I think one of ours that we have used, and I remember hearing it years ago, was a quote by Ben Franklin at the signing of the Constitution. ‘We must all hang together, or surely we will hang alone.’ (Farmer 2).
Responses noted not only were these goals explicitly set in the case of some groups, but sometimes considerable concessions were made in order to achieve them. “The tougher you make it on the gas companies, the more it costs them to operate,” explained one group member noting the many protective stipulations they included in their lease, “so I’m sure it would have, we probably could have also had more money if we had just accepted the gas companies’ lease in the first place rather than our lease” (Respondent 13). While a few groups shared sentiments that suggested that beneficial economic terms were their primary goal, most coalitions in this study included some kind of land, landowner, or community protection as a main goal of the group.

Marketing & Negotiations

Once groups had established their membership and decided on goals, negotiations with gas companies began. Negotiations covered what would be included in the leasing contract between the coalition members and the company, and included details about bonus payments (the up-front per-acre compensation to the landowner), royalty percentage (a percentage of earnings from gas production paid to the landowner), and various lease addenda that covered environmental protection, landowner protection, and other topics of concern. This process generally began with the group putting together a “prospectus” packet that described the group, the properties included, possibly what addenda they wanted in their lease, and other pertinent information. Some groups sent this packet out to specific companies that they had identified, while others sent it to groups operating and leasing in the area, or in the case of one group, even attended a trade show in Texas to provide information to industry representatives. One leader described their group’s marketing process, one similar to that of other groups, as such:
We put together a packet. We made up maps. Hired engineering companies to make up maps of the areas where we had the properties, and colored them one color… went to the courthouse, and we got different lists of what companies had recorded at the courthouse to say, ‘Well, okay, we’re here, and this company B is over here, and company C is over here. Here’s how they’re interspersed, and here’s how our properties fit in with them.’ Then we determined that it was time to maybe put the thing out for bid. We wrote letters to companies and said, ‘Here’s what we have. If you’d like to bid on it, please send back a self-addressed envelope, and we’ll send you packets.’ That’s what we did (Leadership 1).

Once groups received bids, they would begin negotiating lease terms with companies that they believed had provided adequate bids. Other groups negotiated with the companies that had originally approached group members in the area, without going through a prospectus and bid process.

Once companies had been identified, negotiations generally termed to specific lease terms and addenda. Companies and group leadership or negotiators went back and forth to agree on lease stipulations, with groups sometimes moving on to other companies in cases where stipulations couldn’t be agreed to. A member of one negotiating team described one such instance:

We got about two days into the discussions, and all of a sudden, they wanted to be able to bury stuff from the drilling and their development operations on the site… It was not against any kind of environmental law, but we said no. The other was over taxes, clean and green taxes. In Pennsylvania, as you know, there’s that clean and green. If you got more than ten acres, you get a reduction in your taxes if you agree not to develop it. There was a big concern about what would be the recapture of those taxes if gas development. They said that they were not going to be responsible for that, and so they packed their bags, hopped in their airplane, and flew back to Texas. That thing blew right up right then…. Then we started contacting other gas companies. The second one in line… We asked them their policy on disposal of filings and shavings and whatever— for drilling operation. They said, ‘We do not dispose of anything on-site. It’s all taken to an approved landfill. That’s how we get rid of our stuff.’ Oh, that’s pretty good. As far as the
taxes, they said, ‘We’ll have to talk about that.’ That’s probably something that they could work through. We spent a couple of days, I think, going over that, and we came to an agreement (Leadership 3).

Eventually, landowner groups settled on a company and a lease that they were happy with.

In most cases, landowner coalitions contracted with or had the services of legal expertise in these negotiations. In some cases, the lawyer took care of the negotiations, and in others they were consulted during the process or simply looked over the paperwork. One member recalled, “We actually had at least one lawyer and I believe two who were members of the group. Our last ‘negotiating meeting’ was held in one of their offices” (Farmer 5). Another explained, “I had volunteer lawyers that were family friends and things like that were helping guide us on our leases and our alliance” (Farmer 2). Lawyers were often picked that had experience in oil and gas negotiations as well as environmental protection, in an effort to reflect the goals of many of these coalitions.

Signing Leases and Beyond

Once a lease was decided upon, generally there was one “signing day” when the company had all of the paperwork prepared and coalition members individually went to wherever they were set up to sign their leases. Some respondents described this as a celebration, or described celebrations held after the signing. “There was a significant amount of money involved,” explained a key informant, “there was sense of community in that people got together at that point and did have a celebration” (Key Informant 1). It’s important to note that although these leases were negotiated collectively, the contractual agreement was an individual one between a landowner and the gas company. A key informant explained this balance: “individuals
that saw value in making a collective—or going through a collective process. Then the action item at the end was them individually making a decision, and individually, if that decision was to go forward, then to sign a lease. They still did it in a collective way. The whole value of that whole process was the collective nature of it” (Key Informant 4). In some cases, respondents described room for further negotiations on the part of particular landowners in their individual lease. One member explained, “every landowner still was a standalone. They would sign their lease, and there were opportunities to negotiate or fine-tune certain terms and conditions or stipulations in their leases. That was part of their own ability” (Farmer 2). Another, however, suggested that these further negotiations were not allowed: “That was a requirement by the gas company that it was gonna be a common lease for all landowners. They said, ‘Don’t go out there and Joe Blow over here, he’s got something in there that he doesn’t like in that contract, so don’t think that you’re gonna now start negotiating 1,000 different contracts’” (Leadership 3). This difference may be attributable to the positions of different gas companies. In many instances, gas companies would offer the group’s lease terms to the wider community at or after this signing day, but again, not every company took this action.

After leases were signed, some coalitions disbanded while others continued to meet either informally or formally. One leader explained,

The group, we dissolved… I’ve kept the Constant Contact and paid for that, and kept our thing and paid for that, our website, which we haven’t updated… We kept that, so if there’s somethin’ comes up, like there’s been a couple class action lawsuits that came out, and people would ask what they should do. Again, we try to gather information, and use those Constant Contact, and the webpage to try to keep folks informed (Leadership 1).
Other groups continued to meet regularly to address any issues that may come up. Respondents mentioned using the group to bring in financial planners to share knowledge about how to manage the new income, to consider other changes they would like to see in the community, to serve as a possible mechanism for class action litigation if the need should arise, or to clarify specific issues landowners are having that is not clear in the lease. In other cases, it made sense for people to continue to operate as a gas unit (a grouping that the company creates). Some group members went on to work together with other royalty owners on a statewide basis through the National Association of Royalty Owners Pennsylvania chapter. In the case of the county that eventually saw a moratorium on natural gas development from their Regional River Basin Commission, the coalition lead to a larger effort that seeks to raise awareness of and support economic development in the region. A member of that group explained, “We had always talked about forming a larger coalition… And so this looks like this is the fruition of that desire from years ago, that we’re starting to move in that direction” (Farmer 10).

Other groups are currently coming back together, or forming for the first time, to negotiate in a second round of leasing. Some landowners have seen their leases expire if no production has taken place, and are coming back to the landowner coalition model to negotiate once again. One leader explained, “It’s just now startin’ to pick up again. It’s round two. The company’s coming around. The landowners are pretty experienced actually from round one. There’s a lot of knowledge out there already about what they wanna see in a lease agreement” (Leadership 5). Respondents noted that the market is markedly different now than it was during the first round of leases, and some of the landscape is still held in production, leaving a patchwork of un-signed landowners in some cases. Even so, a number of respondents were
interviewed who were currently negotiating as part of a group, which signifies the choice to utilize the coalition model a second time.

Members of one coalition went on to form broader organization working for specific social and economic change in their community. The group emphasizes private property rights and champions economic development in the region. With a slogan of “more than a river”, one member described to me that “to those of us who live and work here, there’s much more to this area than the tourism and recreation that’s associated with the Delaware River,” (Farmer 10). The group sees attention paid only to recreation and tourism industries, and is concerned about the over-regulation that harms other development in the region, such as mining, farming, and construction. A 501(c)(4) was formed so that the group can be politically active, and the group has a website for landowners to donate and hopes to form a united voice to be heard in decisions about economic development in the region (Farmer 10).

Respondents were also asked about potential additional situations when the landowner coalition model may be useful. Many of the answers showed general support for the group approach, with comments such as “I think it could be applied to any other area, community concerns with agricultural or with any other industry as well” (Farmer 10) and “I believe that participation is critical in order to address a lot of challenges that we have because we can’t deal with any of these issues individually, we’ve got to face those challenges as groups… by working in groups we can change them into opportunities” (Farmer 5). Agricultural strategies such as dairy marketing and group orders for feed were mentioned, as well as equipment-sharing programs. In addition, respondents discussed additional energy-related land use issues. The landowner coalition model is already being utilized in the case of wind energy. One of the lawyers interviewed during this research had worked with natural gas landowner groups in the
past and was currently representing one such wind group. He explained that situation during our interview:

they were trying to take advantage of landowners who are in a somewhat depressed area and don’t have other opportunities coming along. The company just assumed they’ll make a low offer and everybody will jump at it. Now, we’ve formed this coalition; they understand that’s not the case. Again, we’ve negotiated a tremendous number of landowner protections in the lease but we’ve also increased the financial terms, significantly (Key Informant 11).

Many respondents also discussed the possibility of the landowner coalition model being applied to pipeline negotiations, although many different opinions were expressed in regard to whether such a model would work in that instance. Other possible applications mentioned were solar energy development and power line right-of-way negotiations. While respondents mentioned a number of future applications and discussed how these may or may not work at length, wind energy development was the only case that has proven itself as an appropriate application for the model.

Variables of Coalition Success

Variables of coalition success can be divided into two main categories: external contextual factors and internal group dynamics. While internal group dynamics are largely able to be controlled by landowners, some of the contextual factors of coalition success are fixed due to location, timing, and place for example.

Internal Group Characteristics

The first internal group characteristic described as a variable of success for landowner coalitions is group size. Some respondents noted the benefit of larger groups, explaining that the
greater the number of acres that a group brings to the table, the better that they could do in negotiations. On the other hand, however, other respondents noted some distinct advantages afforded by keeping the group small. Describing the group they were a part of, one key informant explained,

Because we were all from the same community, I would argue that we all had the same kind of beliefs and philosophy in that tight little group. As opposed to several groups I’m familiar with that were much larger groups, and had people from many varying and different backgrounds, that come at this with a different thought process (Key Informant 1).

Here, group size is seen as a factor in the homogeneity of the group, rather than acting as a variable of success on its own, where larger groups lead to more heterogeneity which may be detrimental to group success. Therefore, while group size was certainly mentioned as a variable of success, respondents saw benefits and detriments to both small and larger sized groups, and also saw group size as a factor in other variables of group success.

The second internal group variable of coalition success mentioned by respondents was trust. Trust was mentioned again and again amongst project respondents. “Those loose coalitions work like that,” explained one, “In most of ‘em, there was an implicit trust among group members that, ‘We’re in this together. We’re gonna work this way together’” (Key Informant 2). This trust came from both existing relationships and the knowledge that everyone benefited collectively from the group’s actions. Put another way, “The trust part of it, I think, was aided by the fact that… everybody was doin’ it on a volunteer basis, and nobody was gonna get any more, goin’ forward, than what the others that were members of the group were gonna get. The leases would be exactly the same” (Leadership 1). Although not always explicitly stated, respondents seemed to suggest that groups that were landowner-led were more successful because of the
tendency for group members to trust group leadership. It was not just that group leaders needed to have or develop some sort of expertise, but that group members had to trust in that expertise and its motives in order to feel that the group was successful. However, some respondents who had been part of entrepreneur-led groups also expressed trust in the leaders in most cases.

**External Contextual Factors**

Moving on to external contextual factors, location was purported to affect the success of coalitions. This is true both because of the location of geological formations, and the spatial distribution of a company’s lease holdings. One key informant explained the importance of geologic location, stating, “It was a very speculative business. These companies did more seismic work, they knew which areas they wanted and some people were ready to sign and told there were faults or things that the companies didn’t want their area anymore” (Key Informant 3). A group leader added, “there were some companies that wanted, for instance, the northwest corner of Wyoming County. It was a hot corner. The southeast corner, down towards Lackawanna County was a harder sell” (Leadership 1). In addition, companies typically looked for properties in areas that they were already operating, or if they were not yet operating in the area, they looked for a large contiguous block of land to lease for development purposes. Respondents described the benefit of a group being in a company’s “wheelhouse” or “market territory” (Key Informant 10). In both of these ways, location certainly played a role in the degree of success achieved by landowner coalitions.

Market conditions are of course dependent on a combination of variables, such as location and timing, but also operated independently to provide conditions for varied degrees of success for coalitions. Greater economic conditions, such as the great recession and the price of natural gas, had great effect on lease negotiations. As key informant described the unique market
in which one group signed like this, “I think the climate that we saw when [the group] made their deal was really the peak of the oil and gas boom in Pennsylvania. The companies could not do enough to get those leases signed” (Key Informant 11). Other groups weren’t so lucky. One leader explained, “The signing bonuses were creeping up, creeping up. They got about, I think, as high at the $6,000.00 range for private landowners. Then the great recession hit. There’s always the question if the great recession had not hit, would that value continue to creep up” (Leadership 5). A number of groups discussed the effect of the great recession on their lease negotiations, although the terms did eventually creep back up as competition came back after the recession. Some groups operated in a waiting pattern during this time.

The success of a group also depended on the perspective of the company they decided to lease with, and more broadly on the perspective of the companies operating or leasing in that area. Some gas companies seemed amenable to or even excited by leasing landowner groups, while others were opposed to the idea and even hostile to their efforts. One coalition leader described a company in the latter position:

The company that began leasing around here was all about divide and conquer. They felt that they were the first ones here. They had time to do that, and it did. They had about a year before the next competition of companies came in to pick off more acreage. They did. They worked very, very hard at just divide and conquer, neighbor against neighbor, whatever they could do to sign somebody. Then when they did sign someone, which was surprisingly was few and far between, but when they did they’d parade that around like heads on a stake. They just, ‘We got so and so, and that’s it. Your coalition’s going down.’ … They were engaged in actively dismantling the group as much as they can the entire time (Leadership 2).

Other companies, however, saw benefit it leasing landowner coalitions. Respondents suggested that this was beneficial to companies in some cases, as one key informant described, “because
the groups are bringing such large, contiguous blocks of ground to the market, companies were very interested in leasing those big blocks like that. It was easier for them to do a deal like that, with that number of acres, with fewer landmen involved in the brokering of that deal” (Key Informant 4). Signing a landowner group may have decreased the transaction costs of securing large contiguous blocks of land, and therefore more and more companies seemed amenable to the idea over time.

Positive Results of the Coalition Model

Power

Respondents described many benefits to utilizing the landowner coalition model, compared to operating as an individual. In fact, one key informant mentioned, “I’ve never really talked to anybody that was unhappy with their landowner coalition, because probably they did get a better deal than what they could have if they would have just done it themselves” (Key Informant 10). Members of landowner coalitions were able to procure a better deal largely because they attained greater negotiating power than did most individuals. As a leader from one coalition pointed out,

There’s great power that the landowner has. In the United States of America, unlike most of the rest of the world, the private landowner owns a column of earth all the way to the center of the earth in theory, and all of the minerals therein as well. There’s a lot of control. There’s a lot of power there. You put that together, and yeah, you can accomplish great things (Leadership 5).

The power that coalitions had was evident in a number of ways. First, often company executives would be personally involved in their lease negotiations. This was mentioned a number of times, with respondents noting details such as, “We met at State College with their executives. They
flew in. We met with them. We reached a general agreement” (Leadership 3), and “their vice president of land flew in, when we met at an attorney’s office” (Leadership 1).

The power of coalitions was also evident in some of the stories of negotiation that were shared during interviews. For instance, a number of groups ended up as the object of bidding wars between multiple companies. One group was able to change their bonus payment lease terms from $3,500 to $5,500 from 7:00 to 11:00 pm the night before signing day, all by phone with. Another group shared this story:

at the end, [a member of our negotiating team] said, ‘[company representative], all I’m gonna tell ya is that if you’re tellin’ us this is … your best offer, it better not change, because if it does, you’ll lose all credibility, and this deal’ll be off.’ Marty said, ‘Yeah, I know. This is it. There won’t be a better one comin’. We left that meeting…. and I got a phone call. That offer was 20 percent royalty and $5,500.00 an acre. I got a phone call that said, ‘I just heard about a lady who got an offer of 5,750 from somebody from [the gas company]. That 5,500 offer was not their best offer.’ I called [company representative’s] cellphone, and I said, ‘I guess the deal’s off.’ He said, ‘Why?’ I said, ‘I just got a word… one of your land men has offered somebody 5,750 an acre.’ He said, ‘Lemme call you right back.’ Hung up the phone, and I continued to drive. I had gotten another five miles down the road, and the phone rang. He said, ‘I just talked to [our CEO], and he said our offer’s 5,750 an acre. The guy that made that offer doesn’t work for [our company] anymore.’ That’s how the offer went up $250.00 an acre in five minutes (Leadership 1).

In yet another example, a group’s negotiators were able to get the company they signed with to pay over $50,000 for their legal fees. There were many cases of coalitions exhibiting their great bargaining power in favorable outcomes such as these examples.

Respondents explained that coalitions were able to procure these beneficial outcomes because “The coalitions had the strength to tell the companies to either accept this or walk away. We saw most situations, that the companies wanted it bad enough, that they would pay a higher
price and they would take any of the terms that were offered, just to get that property” (Key Informant 3). The position of their bargaining power was summarized in this way by one respondent:

Basically, you had a new area where they were used to leasing at 12 percent. The coalitions changed that. The coalitions, with their negotiating power, went back to the companies and said, “Look. We know what you’re doing in other parts of the country. We’re not gonna let you get away with what you’re trying to do here in Pennsylvania when we know you’re paying the landowners for the exact same thing 25 percent in other states. Plus, we understand the terms in these leases, now.” Nobody ever did, before. “We’re not going to get away with you giving us business lease. We want a landowner-friendly lease and we want to make sure that we are well protected (Key Informant 11).

In this way, coalitions displayed much greater leverage and power in negotiations than did individual landowners. This was clearly a benefit of utilizing the landowner coalition model.

Two of the benefits of landowner coalitions that led to this increased power were their offering of contiguous acreage and their increased knowledge and expertise. Companies sought contiguous blocks of acreage, which was made difficult when individual landowners each signed with different natural gas companies, creating a patchwork of leaseholdings in the area. Coalitions offered companies large blocks of developable land, which was advantageous to them. In addition, the increased knowledge and expertise held by coalitions allowed for their increased power in negotiations. One respondent explained, “When you have a group of 50 amateurs versus one professional, those 50 amateurs in my estimation normally come up with a better deal just by sheer numbers because I say, ‘Hey, what about this?’ and you say, ‘Hey, what about that?’” (Key Informant 2). The suggestion that diversity of ideas benefitted groups runs contrary to earlier sentiments that small group size allowed for homogeneity of groups, which tended to make groups more successful. In this view, all of the information gathered and shared during the
coalition process ultimately benefitted coalitions, as they were able to balance the asymmetry of information between the coalition and the company.

Lease Terms

Generally, respondents suggested that landowner coalitions received better lease terms on average than did individuals. A legal representative interviewed explained,

Those guys got addendum after addendum after addendum. They also did, at least in some cases, pretty well with the royalty deduction issues. A lotta folks got a what we call market enhancement clause that starts off looking like it prohibits all these bad deductions and then there’s a semicolon that says however gas company feels like takin’ ‘em it can take ‘em. Some of the bigger groups got a true no deduction clause, which is big (Key Informant 9).

Landowner coalitions included in this study also signed leases that included provisions such as where surface disruption could happen, and when it would need to be reclaimed. Other addenda included stipulations making sure that companies had insurance in case anyone got hurt on the premises, and had set aside enough money to adequately plug and reclaim the well site, “right down to how many pounds of seed and how much lime and fertilizer they had to put on to reseed so that things would grow” (Leadership 4). Other groups included larger setbacks from waterways and buildings than was required by law. Of particular importance to future rounds of leasing was a Pugh clause, which allows the landowner to re-lease parts of their land that are not held in production, and requires a new lease for layers of shale beneath the Marcellus formation. Overall, landowner coalitions were able to achieve better lease terms than they would have as individuals, though lease terms varied greatly between groups.

On the financial side, respondents suggested that groups also received higher bonus payments and royalty percentages than did individuals. However, as with lease addendum, it is
difficult to decipher the extent of the effect of landowner coalitions, since often their leases were offered to individuals after signing day. Nevertheless, as one group leader stated, “I would think that without a doubt, if you look at the average price of gas leases and what people got as an individual versus a coalition, there’s no doubt the coalition came out much, much better” (Leadership 3). Another group member echoed this from their own experience, explaining, “We certainly would not have gotten the amount of bonus money or probably the royalties, by going individually, we felt we had more negotiating power and could get more, higher bonus money and royalties, by going with a group” (Farmer 10). Many respondents supported their claims that groups were able to achieve better economic terms by comparing what they were first offered by companies to what the group eventually negotiated. One noted “the price was twenty times what we had been offered four months earlier,” (Farmer 8), while another added, “when I consider what the gas companies were offering when they first knocked on my door… that pales in what—compared with what we finally did sign for. Without the community coming together as a group, I don’t think we would have ever got that” (Farmer 9).

Each new group deal seemed to advance the bonus and royalty amounts, according to respondents. One key informant explained,

each new deal that was done had clear economic advantages to it in the payments that were made at that point in time. It might have been $3,000.00 deal for a 20,000-acre group. Then the next one that was done somewhere in the region, six months later, went to 4,000. One after that went to 5,000. Those were the type of steps that we saw (Key Informant 4).

Because these numbers were per acre and they increased so dramatically with each new coalition negotiation, this meant an incredible different in the amount of money funneled into a coalition, and perhaps the surrounding community. “We’re talking about what went from something
measured in thousands of dollars with some of the first groups, hundreds of thousands of dollars to… hundreds of millions of dollars” (Key Informant 5). Therefore, not only did those in coalitions get better economic terms than did most individuals, but these terms continued to increase over time with each additional negotiation.

Equalizer

Respondents described the ways that landowner coalitions served as an equalizer, both between landowners and natural gas companies and amongst landowners. Because landowners were thought to have achieved more protective leases with better economic terms, they consequently were thought to spread more of the wealth generated by natural gas development to the landowners than would have been the case without them. As one farmer explained, “a good lease can be the basis for an equitable, and environmentally sound relationship between a landowner, and gas company” (Farmer 3). The ability of landowners to profit in a meaningful way from their mineral rights was important to respondents. One farmer explained:

Now, if I may switch from the outside to the inside, if the energy companies are making such a potential profit from the beginning to the future, even though they say they’re not making a huge profit right now, who should benefit? I believe it should be the people that that resource is being extracted from. I believe that profoundly. Those people should be compensated for what’s happening. I also believe it should be a larger group of people, not just the one farm. It should be a group of farmers or a community of energy partners. I don’t think that’s greed. I think that’s getting our fair share (Farmer 2).

Another respondent echoed this sentiment, saying “What I like about gas drilling is the little guy gets a piece. The little guy gets part of it, whereas most anything else out there, it’s only the big guys that get the whole game. Everybody else pays for it. That to me is huge” (Respondent 8).
Coalitions were seen as working for landowners to receive what they deserve in return for their mineral rights, so that not only companies are profiting.

Although the sentiment of coalitions serving as an equalizer between landowners and companies was a strong sentiment expressed by a number of respondents, much more common was the sense that they served as a leveling amongst landowners. Equal benefits to landowners seemed to be important to many coalition members and leaders. One declared, “if it is something to benefit from, then we’ll all benefit alike. We think that that’s a good strategy, a good mission statement” (Farmer 2). Coalitions accomplished this by allowing landowners to participate in the process that would otherwise have been shut out of leasing opportunities. For example, one group spanned across the border into New York State where a moratorium on unconventional shale gas development was in place. Through negotiations, the group leadership insisted that the company sign all of the members, including those that owned property in New York State. The company agreed to pay them $500 per acre, with the stipulation that if the moratorium were lifted, they would receive the remainder of the total amount paid to Pennsylvania landowners (Farmer 4).

In another case, the coalition negotiated for the company to pay $1,000 per acre to each landowner in the group before they checked to ensure that each landowner actually owned their mineral rights. Ultimately, those that were confirmed as mineral rights owners received an additional $4,750 and those that in fact did not own their mineral rights, confirmed by the company checking deeds at the courthouse, had at least received their $1,000 per acre (Key Informant 1). Finally, coalitions allowed landowners who weren’t located in areas with developable shale reserves to sign a lease and receive income, even if development on their property would not take place. A key informant described one such case:
During the leasing process they had found that below a certain latitude line there really wasn’t any recoverable natural gas, but [the] County had established a landowner group which included the entire county. Many of those properties were below that latitude line and would not have gotten their property leased, but because they were in the [landowner] group, [the company] leased the entire group including properties that they knew would not be valuable to them so that they could get the rest of the acreage. That was a definite benefit to some landowners who were not essentially eligible for leases, but because they were part of a group that was leasing as an entire block they were able to participate in the leasing process (Key Informant 7).

Essentially, this meant that some landowners, through participating in a coalition, were able to benefit financially from natural gas development, without incurring any of the risks associated with the extraction process.

Coalitions also served as a leveling between large and small landowners in shale gas development negotiations. Every coalition included in this study allowed landowners with parcels of any size to be included, although some respondents did mention having heard of those that excluded smaller landowners. “You could be a landowner with a home, on a quarter acre, and you could be part of the group,” explained one respondent (Key Informant 1). In a number of cases, gas companies requested only signing landowners that owned over a certain number of acres. In all of those cases, the landowner coalition insisted that the company must sign all of its members, even those with a half-acre lot. In addition, coalitions allowed these smaller landowners affordable access to an attorney that might not have been worthwhile if they chose to negotiate on their own. “Somebody with ten acres probably would not have paid $3,000.00 to an attorney to negotiate their lease because the amounts weren’t significant enough to them….” explained a key informant. “They could easily just sign up for this land group and know that
they’re getting a professionally negotiated lease with a vetted company. It gave them a step up in that battle that they otherwise would not have had” (Key Informant 7).

Impact on Community

Respondents described helping their community as both a reason for starting or participating in a landowner coalition, and a goal of the coalition once it was formed. “We’re doing our very best to be good stewards of our land and of our communities,” explained one farmer (Farmer 2). Respondents also emphasized that the large sums of money going to landowners through coalition leasing would eventually be spread around the community. “Those hundreds of millions of dollars that went into those respective members, it also went into those respective communities and was being spent in a variety of different ways,” suggested a key informant (Key Informant 5). In addition, since landowners were often allowed to sign coalition leases as individuals after a signing day, coalitions affected the leasing negotiations of landholding members of the larger community who weren’t in coalitions but did own mineral rights. As explained by one respondent, “economically, there is no question that we saw that leases, the next big deal that was done as a group then became the new standard within the community that companies that were out there leasing would abide by” (Key Informant 4). However, those that had signed before coalitions received little in lease negotiations comparatively, and respondents suggested that tension ensued between those who had signed for, say $150 an acre and their neighbor who waited and signed a year later with a coalition for $2,500 an acre (Key Informant 4).
An obvious economic impact of landowner coalitions on surrounding communities is donations, both from landowners and companies. One way that this occurred is in how landowners chose to spend the income from their lease. One coalition member recalled:

I said, ‘You know, we need to donate back to the community, too.’ I gave $1,000.00 to the church. I gave money to the VFW, the Little League, the Civic Club for their scholarship fund. I had a list. I’d been making a list while I was anticipating getting a lease, of who should get donations, so I did that (Farmer 3).

In addition to individual landowners, some coalitions also made donations as a group. For instance, describing donating the remaining balance from membership fees after leasing was completed, one leader noted, “the check that we gave to United Way when we got all done, we held on to that money for a couple years, I guess for a year, to make sure somethin’ didn’t come up where we needed more stuff. We had over $10,000 left we gave to United Way” (Leadership 1). A key informant spoke more generally of this trend:

People were getting money that they really didn’t have the need for, so to speak. It seems like an odd comment. People that were relatively—leading relatively simple lives and were happy with their relatively simple life from the economic standpoint, but were very vested in their community, so were willing to invest some of that same money, local fire department, churches, hospitals, whatever (Key Informant 4).

Through donations such as these from both individuals and whole coalitions, income from leasing was spread throughout the community to services utilized and enjoyed by many, even those who did not own land and may not have had opportunities to benefit, and in fact may have felt greater hardships as a result of development.

Mentioned more often than individual or coalition donations, however, were those made by the natural gas companies. Respondents described instances where companies purchased all
of the 4H animals at the local fair, donated to the creation of a community building, contributed $350,000 to the building of new fire and ambulance facilities, repaired and upgraded roads, and installed guardrails in an area of road where accidents had occurred. “If you look at the millions of dollars—if you drive around [the] County—infrastructure and roads and things that the gas companies have put in and then they have an impact fee they pay, now, they’re putting a lot of money back into the community. A lot of money,” explained one coalition leader (Leadership 4). Coalition members often saw these acts as signs that the companies were “good neighbors” and were benefitting the community at large.

Relationships

Finally, coalitions provided a benefit to the fabric of communities by creating a space for new relationships to form. According to respondents, many new relationships were formed, and many of those remain intact after the leasing process has been completed. “I keep up with a lot of people,” explained one coalition leader. “It was a great way for me to meet people in the community and for people to then get to meet me. Myself, absolutely, I still keep up on those relationships” (Leadership 2). One respondent made sure to point out, however, that in most instances, it was not the case that the entire group bonded and maintained relationships, but rather that individuals within the group formed relationships that may have continued outside of the coalition (Key Informant 2). One farmer described his experience:

I’m gonna say 30 percent of the people that were… I probably knew previously from going to school, or church, or community events. The rest of ‘em were people that I had never met before. … A lot of those people have become my friends. Every once in a while, I’ll see ‘em at Dunkin Donuts or one of the township meetings. You just look at ‘em. It’s like you know that they’re part of your family yet. Yeah, we’ve really gained a whole new relationship with a lot of these people (Farmer 11).
Others emphasized the fact that they were able to form relationships with people that were their neighbors or that they knew of that they had never had a chance to really get to know.

Especially meaningful were those relationships formed between people who may not have otherwise been exposed to each other, and the interaction between groups of people from heterogeneous backgrounds and life experiences. One farmer described some of the people he came to know within the coalition as people he “never would have met before if not for this and folks from all walks of life too. It was very nice that way and eye-opening and educational just to—just to work with all these different people” (Farmer 9). He later reflected:

It’s also just, again, I guess, eye-opening. I live in a fairly rural community here, where you don’t meet too, too many people. It was just nice to work with a lot of people from other areas and just to gain their insight and their knowledge and [inaudible 08:42]. I think it went both ways. We got a lot of people that moved to—moved to the country from the city, and they don’t really understand the country way of life and vice versa. I think it was good for everybody involved just to realize that there’s a lot of different people, but—and—lot of different people, but a lot of times, they think alike too in different ways (Farmer 9).

In some cases, these new relationships were discussed in terms of new networks or human resources. “If things come up in your life or you have a question that—now I might know somebody that would have an answer for me or have advice for me,” he explained. “I think it’s definitely grown my inner circle, so to speak” (Farmer 9). In this way, coalitions benefited local communities by expanding networks and forming new relationships.

Negative Results of the Coalition Model

Individual versus Group Needs
One possible negative to an individual joining a landowner coalition to collectively negotiate a lease is the focus on group needs versus those of a particular individual. “If you were to look at every person and say, what’s the best lease for you, it’s not going to be exactly the same lease for everyone,” explained one key informant. “I think that is a limitation on the coalitions” (Key Informant 6). Another added:

everybody’s unique. Everybody has different family situations, financial situations, personal situations that will drive you to need or want to desire a lease different than your neighbor. You join a landowner group, you’re getting a one-size-fits-all. You might lose out on… something that is particularly of need to you, but might not be of need to me (Key Informant 1).

Because of this, extension educators reported advising landowners to make sure that their individual goals and interests aligned with the coalition they were considering joining. Likewise, a landowner with unique needs or interests, such as a lease that prohibits surface disturbance, may not benefit from joining a landowner coalition.

Those left out

For a number of reasons, there were groups of people that may have been left out of the coalition process, and therefore not able to appreciate the benefits discussed above. The first group of people not able to participate is landowners who do not own their mineral rights. While most landowners in Pennsylvania do own their mineral rights, there are certain areas where it is more common for those mineral rights to have been severed in the past. In addition, those in desperate financial situations or without information to suggest that this round of leasing would be different than past rounds that never led to development might have signed early, and therefore could not participate in collective negotiation with a landowner coalition.
One landowner described a situation in which landowners were encouraged to sign early, without realizing the potential of that round of leasing. “I did have one neighbor saying, ‘Well, they’re offering $25.00 an acre. Take it. They’re not gonna find anything here. They already did this back in the ‘50s,’ but they were unaware of the fracking...” explained a farmer. “They thought they knew what they were talking about. Yeah, they thought they were telling the people, ‘Hey, take it. It’s free money. They’re not gonna find anything,’ and look what happened” (Farmer 3). Others may have realized that there was a potential for leasing terms to improve over time, but were not in a financial situation that allowed them to wait. For instance, the same farmer explained:

If you have a farmer who’s behind on mortgage payments, or they’ve got a huge grain bill, they’re gonna go after that $100 an acre, cuz they’re thinkin’, ‘Okay, I got 200 acres. $100—that’s $2,000.’ Ya know, cuz they’re thinking, ‘I might not have this farm two years from now. I might be in foreclosure’ (Farmer 3).

Exacerbating this problem was the fact that landowner coalitions tended to slow down the leasing process, with some of them taking over two years from inception to leasing. “If it’s someone that needs the money right now, it’s probably not the way to go because it could take time. I haven’t seen a landowner group that didn’t take more than probably a year,” suggested a key informant (Key Informant 10).

Impacts of Landowner Coalitions on Farmers

Central to this research was the consideration of specific effects of landowner coalitions and participating in landowner coalitions on agricultural operators in Pennsylvania. As one participant noted, “traditionally we don’t see farmers as landowners, but they own a pretty good share of the real estate in Pennsylvania” (Key Informant 3). Respondents described a number of
Economics

“Because it was based on a compensation, then certainly farmers have a good portion of acreage and so they benefitted financially when they owned their oil and gas rights,” pointed out one key informant (Key Informant 2). From the initial offers from gas companies of two, five, or twenty-five dollars per acre to the thousands of dollars per acre that some landowner coalitions finally received, the income for farmers changed from a small boost, to a windfall earning of large proportions. A key informant explained:

They went from $2.00 to $5.00 to 15 to 25 to 100 to 300. As they made those transitions over the time you can imagine it had some kind of an effect on their income stream to their—we’ll say to their family, maybe more so than to their operation. You can imagine as you went past that—and they went to a situation where—then it went to $1500.00 to $3,000.00 to $6,000.00 an acre, that then it became a life changing even… Those life-changing events from a agricultural standpoint when it was $100.00 or $300.00, that was something that was just an income stream for the moment, to pay taxes for that year or something like that. It was not so life changing. When it went to thousands of dollars, then at that point a farm in Pennsylvania could have been a million dollars in income; we’re talking about people that have never seen that kind of money. I think it changed the perspective (Key Informant 5).

Even though generally little gas income remained after taxes and paying off debt and making upgrades (except in the case of ongoing royalty payments), respondents described many ways in which the income improved the financial situations of farmers. For instance, a key informant explained, “many farmers found themselves in the position is that they are debt free for the first time in their lives. They don’t have to worry about making payments on their farm. They live in
a nice house. They have a new truck, maybe a new tractor, and they have given their kids some money” (Key Informant 7).

For some farmers, this income protected them from having to sell part or the entirety of their farm. A farmer explained, “the signing of the lease helped us in a way that we were able to pay some of the taxes. I wasn’t one of ‘em, but a lot of my neighbors were to the point of almost losing their farms to taxes… used that money to pay their back taxes so that they didn’t lose the farms” (Farmer 11). Another added, “to maintain a large tract of land and pay taxes on it, you have to have some income, and this would have benefitted a lot of the farmers who are struggling to make ends meet,” adding that “a lot of our aging farmers, in order to keep the family farm, which they love so dearly, the lease money would help them to be able to do that” (Farmer 10). In less extreme cases, signing a lease protected farmers from having to sell of a piece of their land to pay that year’s taxes or overdue bills. For some farmers, the income from gas leasing was the first time in a long time when it made financial sense to continue to own their land. A few participants pointed out that often lease income was considerably more per acre than the property was worth to sell.

This income was especially helpful for older farmers looking for a chance to retire. Key to the benefit of this income was the fact that it was a liquid asset, something farmers generally have little of. One farmer explained:

One of the huge benefits that I saw in this is that it gave financial security to a number of people in their senior years who might have been worried about how they were going to get along in retirement. It gave them a sense of security that they didn’t have and it was liquid, most farmers their value is in their land it’s not liquid. You have many senior age farm families that wrestle with am I going to have to sell part of the farm in order to live out my last few years? The financial security that brought to those individuals in my opinion was huge (Farmer 5).
Another respondent shared similar sentiments, explaining that the $160,000 (after taxes) that her mom received from signing a gas lease. She offered, “It just definitely made it easier because it liquefies your estate instead of being so heavy real estate so if it came time to split things up, it would be less likely something would have to be sold. So that again would be a plus for many families” (Respondent 1).

The economic influx for farmers helped them to keep their farms, and keep them whole today and into the future. It’s important to note the added importance of keeping the land for many of the regions multigenerational farms. One farmer explained of multigenerational farmers:

the land becomes part of them, you know? They are working on it everyday and it is part of their life everyday and it’s a family member. To sell it would be selling part of you. So it’s just very important, it’s just a very important thing and I think it would just rip their hearts out, rip a part of their soul out. It’s just a very deep primal feeling. It’s kind of hard to describe but it’s just something that, you know, they don’t want to give up easily (Respondent 13).

For many farmers, the added income from natural gas development, and possibly larger amounts of that income due to coalitions, rid them of their immediate worries of losing the farm, or perhaps dulled them slightly. Many respondents shared stories of farms who had a “For Sale” sign in the ground, or were near having to sell, that were able to keep the farm due to income from gas leasing, or no longer had to subdivide a parcel to sell.

Future of the Farm

Relatedly, a few respondents drew attention to what this additional gas income meant for the next generation of farmers. One key informant noted that many farmers he spoke with were attracted to the coalition model because of the added protection for their land achieved by many
coalitions in their leases. This was important for farmers so that the farm remained largely as it was for future generations to enjoy. An extension educator added:

"anecdotally we saw conversation around the idea that parents were inclined to say to some of their kids, I think there was still opportunity in agriculture… Whereas before we were seeing more parents encourage their kids to leave agriculture and go to some other profession, go to college and become an accountant. Don’t go to college and become a dairy farmer, that kinda thing (Key Informant 5)."

Due to the recent nature of these leasing negotiations and received income, it is yet to be seen whether coalitions and the bonus and royalty income they negotiated had significant effects on the interest and success of next generations taking over the family farm.

On the landscape level, respondents discussed the effect of farms not having to subdivide or sell. "I think the natural gas could preserve a lot more of the open land just by keeping farms" explained one respondent (Respondent 13). Another, a farmer, explained further:

"Too much of the properties have been, over the years, including some close neighbors, broke up into probably, oh, five, ten, six, ten, one-acre lots, and a house gets plopped in there, and a sewer system and a well and a driveway. The rest goes on. It’s not necessarily beneficial for society or for the world to have every square acre in the world have a house on it. It’s nice people can have rural country living. I’d rather see it just stay sorta natural (Farmer 8)."

Some respondents saw natural gas development, and specifically leasing through the coalition model, as a way to provide the economic, personal, and environmental protection necessary to support the agricultural landscape and preserve it for generations to come.

**Effects on Land**
A number of the lease terms attained by coalitions included protections for the land leased that were especially important for agriculturalists. One example is the reclamation of well pads or any other land disturbance. Many group coalition leases had stipulations about keeping soil layers separate and returning them to the group in the same order to maintain production value, compensating the landowner for any crops, timber, or other resources that are removed from the land for development, using fencing and gates that wouldn’t allow cattle or cows to escape, and reclaiming the well area to its exact state before development or another agreed-upon goal for the land. Two respondents had experience with having test wells on their property, which had already been reclaimed at the time of interviews. One farmer described the location where his test well had been:

all the well area, with the exception of the access road, which we retained because it is useful, the pad and all that area was reclaimed. Yep. That area, in fact, was just hayed off, oh, this past week, and—for the, I’d say, what, third or fourth year in a row, probably, already. Yeah… that land was reclaimed to its original condition and so forth and it was re-seeded. Right now, yeah, you’d never know anything ever happened over there (Farmer 12).

Another farmer noted, “where the test well was by us, I used to rake hay on that field. And once the pad was gone, it was totally restored back to the exact… it looks exactly like it did when I used to rake hay on it 30 years ago,” (Farmer 10). She attributed this to the coalition’s lease stipulations, adding “by the reclamation process, and by having a good standard, a high standard of reclamation in our lease, the land is really returned right back to the way it was,” (Farmer 10).

Reinvesting in the Farm

An additional benefit of landowner coalitions to farmers specifically was their ability to reinvest in their farming operations. Respondents described using lease money to purchase additional cattle for their herd, more efficient farming equipment, and newer used trucks. “You
didn’t see the farmers leaving because they had a windfall, you saw them fixing their places and re-investing to be farmers,” explained one respondent (Respondent 8). Another, a farmer, added:

The gas lease just gives you that little bit of a cushion, whether it’s—gives you that money to invest in your infrastructure or your equipment. Just to have yourself set up better. Lot of times, use new buildings, new equipment to make yourself more productive. Basically, bottom line, it takes money to run any business. If the gas company or the gas money would play into—help support whatever endeavors you’re doing ’cause that’s—I think it just takes a capital investment in the first place to make life easier in the end. I know, just on my farming operation here, I try to keep upgrading my equipment from—I keep saying upgrade from something that’s 50 years old to something that’s 15 years old (Farmer 9).

Respondents described many of these upgrades as simply catching up with improvements that should have or could have been made years ago if financial situations had allowed. This was an opportunity for farmers to reinvest in their operations in hopes of making them more profitable and more sustainable.

Quality of Life

The income generated through gas leasing certainly had effects on the quality of life of some farmers. One noted, “it gave me the opportunity to not be working five, six and seven days a week, daylight ‘til dark because I had enough money where I wasn’t. I didn’t have the same concerns I had had before it. I could rely on the money I received from the gas lease” (Farmer 8). Another described the emotional effects of having the “pressure taken off” thanks to the additional income (Farmer 9). One farmer explained his hopes for the effects of the additional income:

in my case, I kind of see it as a way of hopefully being able to keep the farm and still live a life, have family time, and actually enjoy it a little bit. Because in the
beginning I always thought I wanted to keep it because I always enjoyed going hunting and doing things like that but the fact is that I don’t hunt anymore, or very rarely because I don’t have time. And if I do, I’m just too tired and don’t have the energy. It’s just not worth putting the effort into it anymore. So it’s, you know I kind of find myself getting in a rut where I’m just living to work, and working for things that I’m not enjoying. And I think that’s probably the same path a lot of people go down… I would do it at a more leisurely pace and have newer, better equipment to make life easier. But you could hire help, so you’d take Saturday and Sunday off or something. There’s a lot of things you could do to treat it more like a job or a regular business than a life (Respondent 13).

In addition, respondents discussed the opportunity for some farmers to switch from a dairy operation, as one example, which is incredibly time intensive and physically demanding, to raising beef cattle (Key Informant 3).

Relationships

As discussed above, one benefit of the landowner coalition model is the relationships developed through the interaction of members who may or may not have known each other prior to joining. Respondents often discussed specifically how these new relationships could be beneficial to the agriculturalists in the group. First, respondents saw benefits in new relationships between farmers. A key informant explained:

one of the things that certainly occurred is in most of these groups, trust was built between neighbors, okay? Now, after I trust you, I’m more willing to entertain the idea of you planting and harvesting my corn. Or let’s get together and grow hops and then try to sell them to local microbrews or whatever the project should happen to be (Key Informant 2).

Additionally, however, these new relationships could be beneficial to farmers insofar as they got to know non-agricultural neighbors. Again, the key informant provided an example of this scenario:
I think we can say that as several groups formed and grew closer together, those farm neighbors and those nonfarm neighbors, building a relationship may have been helpful in some regards. Where I was the neighbor and I was concerned or perturbed about you spreading manure every spring… Now, I know you and so either I can talk to you about it or I can say, ‘Oh, that Carl. He’s a good guy, but boy, did he make it smell last week, right?’ (Key Informant 2).

In both of these cases, relationships formed through the cooperation and conversations typical of the coalition model are particularly helpful to farmers, either through additional opportunities for support and collaboration between agriculturalists, or greater understanding from others.

Possible Negatives to Farmers

Although landowner coalitions secured outcomes that benefitted agriculturalists in particular in a number of ways, there were also a handful of possible negative effects. First, a number of respondents described situations in which farmers expected a large windfall of income and ended up spending that money before they had it. One recalled, “I had two friends that went out and bought boats and motorcycles and all kinds of toys, so that they felt because they got the money, that they had really accomplished something. Yet a year later, they were having a hard time scrimping out their mortgage payment,” (Farmer 8). In addition, the additional income became a curse to one family when the owner of the farm passed away. According to a respondent who had heard of the situation:

He didn’t tell me who but he said he knew of a lady east of us who—east of Towanda—who had a farm and they just started getting royalties. She was 82. She was the last owner; it was gonna be passed down to her children. Did no estate planning. When she passed away, because of the royalties coming in, they appraised it way up there and the children were gonna owe $3 million in inheritance. They couldn’t pay it (Leadership 4).
In this particular scenario, the gas company paid and granted the family “life use of the farm” (Leadership 4). Although that was helpful for this family, stories such as this one to resonate with farmers who are not used to considering the implications for windfalls of income such as those created by gas leasing.

Other possible negative effects, according to respondents in this study, were the length of time necessary to truly reclaim cropland, the struggle of ag suppliers, and the fact that some farmers decided to move out of the area after receiving their income. One farmer lamented:

what we didn’t know was how long it took to reclaim crop land after—they did a good job. They took the topsoil, stored it and they dug down a level and then they took down more and made a ditch. They filled it in and they packed it and they put the topsoil back on top, but when you disturb the chemistry and biology of topsoil, it takes just about five years for it to get that biology and that organic matter and chemistry back to where it was... That’s one thing we learned the hard way (Farmer 6).

Additionally, one key informant explained that ag suppliers, such as those that sell feed or provide veterinarian services, began to struggle in areas where farmers began to change their operation or retire due to the influx of income. Lastly, one coalition leader explained that he has seen a lot of farmers leave the area once they received their gas money (Leadership 5). This may be representative of a negative effect to the agricultural community, or may be seen as a positive effect for that family if they had been hoping to move for some time. It’s difficult to know whether this was a negative or positive effect of the additional income, and for whom.

Chapter Summary

These results have revealed three main categories or models of landowner coalitions: the landowner model was landowner-led, start to finish, the hybrid landowner/entrepreneur model
was landowner-led and then hired someone to market and/or negotiate, while the entrepreneur model was entrepreneur-led, start to finish. The general timeline of coalitions began with landowners talking to their neighbors about offers to lease, sharing information and hosting meetings until a group comes together, deciding on goals, marketing the group to companies and/or negotiating with interested companies, and finally each individual signing their own group lease. Landowner coalitions generally received better lease terms, bonus payments, and royalty percentages on average than did individuals operating within the same context. However, for all of these outcomes, it is difficult to decipher the extent of the effect of landowner coalitions, since often their leases were offered to individuals after signing day.

This chapter also outlined a number of potential benefits to landowners of joining landowner coalitions. Members of landowner coalitions were able to procure a better deal due to their ability to attain greater negotiating power than did most individuals, served as an equalizer, both between landowners and natural gas companies and amongst landowners, and helped their community through raising the standard for lease negotiations in a given area, making donations to the broader community from groups or individual members, and community development projects funded by industry requested by groups. Finally, coalitions provided a benefit to the fabric of communities by creating a space for new relationships to form. However, a number of negatives of landowner coalitions were also revealed: the focus on group needs versus those of a particular individual being paramount. In addition, there were groups of people that may have been left out of the coalition process for a number of reasons, and therefore not able to appreciate the benefits discussed above. Findings have identified a number of variables of coalition success, although only a few are under the control of landowners. These include internal group
characteristics such as group size and trust, as well as external factors such as location, market conditions, and the perspective of the company they decided to lease with.

Next, this chapter outlined the effects of signing a lease with a coalition on farmer members. From the initial offers from gas companies of two, five, or twenty-five dollars per acre to the thousands of dollars per acre that some landowner coalitions finally received, the income for farmers changed from a small boost to a windfall earning of large proportions. For some farmers, this income protected them from having to sell part or the entirety of their farm, and was especially helpful for older farmers looking for a chance to retire. Some respondents saw natural gas development, and specifically leasing through the coalition model, as a way to provide the economic, personal, and environmental protection necessary to support the agricultural landscape and preserve it for generations to come. A number of the lease terms attained by coalitions included protections for the land leased that were especially important for agriculturalists. The income from leasing through a group was an additional benefit of landowner coalitions to farmers. Respondents described using lease money to purchase additional cattle for their herd, more efficient farming equipment, and newer used trucks. The income generated through gas leasing certainly had effects on the quality of life of some farmers, and the relationships formed through the cooperation and conversations typical of the coalition model were found to be particularly helpful to farmers, either through additional opportunities for support and collaboration between agriculturalists, or greater understanding from others. However, possible negatives for farmers included situations where a large windfall of income was expected and ended up spent before it was received. Additional income also had unintended financial effects in some cases, and some agricultural suppliers faced challenges as farming operations changed and
some farmers retired. In addition, agricultural land took a long time to be truly productive again after development in some cases.

Finally, this chapter suggested future applications of the landowner coalition model, including agricultural strategies such as dairy marketing and group orders for feed, as well as equipment-sharing programs. In addition, respondents discussed additional energy-related land use issues, such as solar energy development and power line right-of-way negotiations. Many respondents also discussed the possibility of the landowner coalition model being applied to pipeline negotiations, although many different opinions were expressed in regard to whether such a model would work in that instance. While respondents mentioned a number of future applications and discussed how these may or may not work at length, wind energy development was the only case that has proven itself as an appropriate application for the model. Future research is needed to understand the conditions necessary for the coalition model to be a utilized.
CHAPTER 6: Discussion and Conclusion

This final chapter will begin by utilizing the results outlined in chapter five to situate landowner coalitions within the existing theoretical offerings from the literature outlined in chapter three. Comparisons will be made between landowner coalitions and certain aspects of both collective natural resource management and social movements theories. Finally, a summary of the study’s conclusions will be provided, along with research limitations and opportunities for future research on the topic of shale gas development landowner coalitions.

Discussion

The primary goal of this research is to use grounded theory methods to situate landowner coalitions within existing theoretical offerings presented in the literature. Like that of Jacquet and Stedman (2011), this research demonstrates that coalitions share many characteristics with theories of collective resource management. We can most broadly see landowner coalitions as collective action for natural resource management, as it exhibits qualities such as increased equity (German & Taye 2008) through the leveling of the playing field both among landowners and between landowners and natural gas companies, and providing greater voice (German & Taye 2008) for participants through collective bargaining. While this collective action is seen by scholars as driven either by individual incentives or for the greater good (Meinzen-Dick, Di Gregorio & McCarthy 2004), both of these are motivations for joining or starting a landowner coalition, occurring either simultaneously, or individually for different people. Some landowners described joining or starting landowner coalitions for their own individual benefit and greater bargaining power to advance individual outcomes, while others joined or started groups out of altruism for their neighbors and community, with a desire for their community as a whole to
benefit and simultaneously remain protected. Most often, landowners described a combination of these two motivating factors.

More specifically, landowner coalitions exhibit characteristics of community-based natural resource management, grassroots ecosystem management, and farm and forest cooperatives. Landowner coalitions share all but one of the five characteristics of community-based natural resource projects set forth by Kellert et al (2000). They demonstrate a commitment to the involvement of local community members in the management of natural resources by coming together as a community to negotiate lease terms that will govern the management of shale gas extraction in the surrounding area. Landowner coalitions share with community-based natural resource management in the inclusion of traditional and modern ecological knowledge in resource management decisions. Coalition members utilized local ecological knowledge to consider how broader information about the leasing and production processes would effect their particular landscape and properties, which informed their decisions around what addenda were important to include in their lease. For example, local ecological knowledge about soil layers and crop production led to a lease clause stipulating that soil must be returned to disturbed ground in the same order in which it was removed, and knowledge of the view- and soundscapes of the local landscape led to lease clauses about light and noise buffers near houses.

However, while they do show an interest in devolving power, unlike community-based natural resource management landowner coalitions seek to devolve this power from a company or corporation, rather than from a government entity, by aggregating their diffuse individual power (much like a cooperative, discussed below), and by changing the asymmetry of information. Most landowner coalitions also specifically champion a twofold approach that balances economic benefit with environmental protection in their leasing decisions. They
emphasize that they own vast natural gas reserves and thus should be justly compensated for them. They place great importance on private property rights, including mineral rights and strive to protect the environmental quality of their individual property, rather than the collective environment more broadly, as in the case of community-based natural resource management. However, the case could be made that as these individual landowners combine parcels into contiguous blocks of land, the environmental protection of these individual properties aggregates to a collective protection of the local environment, and indeed some landowners champion protecting the local landscape, environment, and community beyond their private property.

Although landowner coalitions don’t share all characteristics with community-based natural resource management projects, they certainly share many features with the method, including the goal of improving the life of rural peoples, an emphasis on power, participation, and property rights (Kellert et al 2000), and outcomes such as building local leadership, enhancing skills of members or leaders, and fostering relationships within their coalition and across nearby communities facing shale gas development prospects (Stedman et al 2009). Just as in the literature on community-based natural resource management, however, landowner coalitions raise questions about who the “community” represents (Flint, Luloff, & Finley 2008; Harrington, Curtis, & Black 2008). A number of groups of people are left out of the coalition process due to a lack of property or mineral rights ownership, difficult or prescient financial situations, or a lack of the information necessary to know that this round of natural gas leasing would be different.

A shortcoming of community-based natural resource management literature is its lack of discussion about the ownership of natural resources. We find few examples of natural resource ownership regimes that allow for the kind of management that the theory suggests. While helpful
in framing landowner coalitions because of its emphasis on dual goals of environmental protection and economic development, emphasis on involving community members in decisions about local natural resources, and building skills and connections, community-based natural resource management does not apply to the sale of rights to natural resources on the private market.

For examples of contractual agreements between private landowners and industry, we turn to cooperatives (Kasabov 2016; Kittridge 2005; Knapp 1963; Togerson 1977; Wolf & Hufnagl-Eichiner 2007). Farmers join cooperatives to overcome a structural imbalance in their relationship with those they buy from and sell to, as multiple small farmers can organize to negotiate and do business with single large firms (Togerson 1977). Likewise, landowners see the need for coalitions because they are many in number but small in size, and negotiating with multinational corporations who hold much more power. Coalitions fulfill this need for improvement in the landowner’s position in the negotiations, much as cooperatives do for farmers. A second reason for the utilization of both farmer cooperatives and landowner coalitions is to provide services to members that either aren’t available or aren’t affordable. In the case of landowner coalitions, legal representation is accessed affordably when the cost is shared among all members of the group. Like the forest owners in Kittridge’s 2005 study, landowners who join coalitions accrue both personal benefits as mineral rights owners and benefits to the wider community, such as investment in infrastructure from gas companies, donations from coalitions and individuals, and a new standard for individual lease negotiations. In form, both cooperatives and coalitions ranged from low levels of commitment for information sharing and education to formal marketing and negotiating as a group (Kittridge 2005). Lastly, landowner coalitions represent the interests of farmers and other private landowners, create relationships within the
group and expand the network of members, similar to the “rural cooperatives” described by Kasabov (2016).

While cooperatives more fully capture the negotiation and contractual agreement aspects of landowner coalitions, and together with community-based natural resource management effectively describe a majority of landowner coalitions, as initial interviews for this project began, ideas and perspectives began to emerge from certain coalitions that are not easily described by theories of collective resource management. Some of the descriptions of landowner groups offered by respondents harkened to notions of collectively working for social change in their community, a goal characteristic of social movements. One coalition eventually fell under a natural gas development moratorium which they felt was unjust. With this moratorium serving as a grievance and catalyst for action, members went on to form a broader organization working for specific social and economic change in their community. The group emphasizes private property rights and champions economic development in the region. The group sees attention paid only to recreation and tourism industries, and is concerned about the over-regulation that harms other development in the region, such as mining, farming, and construction. A 501(c)(4) was formed so that the group can be politically active, and the group has a website for landowners to donate and hopes to form a united voice to be heard in decisions about economic development in the region (Farmer 10).

Like those most often to participate in social movements, these landowners consider themselves “systematically excluded” (McGehee, Kline, & Knollenberg 2013) from discussions about economic development and the future of their region. They see these discussions led by people who vacation or recreate in the area, and formed an organization to represent the interests of those who “live and work” (Farmer 10) there to create change in the region. The group seeks
to implement change in ways that maximize the limited power and resources of members, and
benefits all who “live and work” in the region broadly. These same sentiments were shared when
describing the landowner coalition that eventually led to the formation of the group. The
consideration of landowner coalitions as social movements fits with some of the most recent
social movements research, which has begun to apply social movement theory to organizations
that may not appear as social movements at first glance, but act as social movements in function
(McGehee, Kline & Knollenberg 2013).

The use of existing social networks and the organizational structure of landowner
calitions also resemble that of social movement theory. As social movements research has
suggested, landowner coalitions developed “where established grassroots organizations and
informal networks afford[ed] aggrieved populations the mobilizing structure that facilitate
emergent collective action” (McAdam & Boudet 2012: 204). Landowner coalitions accessed
social capital—both human and material resources—through these preexisting social networks to
advance their cause (Edwards & McCarthy 2004). The structure of some landowner coalitions
closely resembles organizational structure discussed in social movements literature. Like most
local social movement organizations, they show “relatively flat hierarchies” and “low levels of
formalization” (McCarthy & Wolfson 1996). Many coalitions utilized task committees, such as
negotiation teams or legal representation selection committees, to meet their goals and work
relatively autonomously with the trust of the membership. Leadership teams, often highly trusted
individuals within the community, held group meetings to receive input, make collective
decisions, and keep members informed. We can perhaps see services such as Penn State
Extension, The Farm Bureau, the Pennsylvania Chapter of the National Association of Royalty
Owners, and those who had leased in other areas of the country, as the “top level”, providing
expertise, technical assistance, and policy influence to the local grassroots organization—the landowner coalition (McCarthy & Wolfson 1996).

Considering all of this, we can see most landowner coalitions as collective resource management organizations that utilize organizational structures and tools characteristic of local social movements. Coalitions placed an emphasis on dual goals of environmental protection and economic development, on involving community members in decisions about local natural resources, and building skills and connections, characteristics they share with community-based natural resource management. They also negotiate for and ultimately enter into contractual agreements as private landowners with industry, characteristic of cooperatives that achieve individual ownership benefits and greater public benefits through collaborative marketing. In drawing from this group of theories, we can describe landowner coalitions as “collaborative natural resource marketing groups”, choosing to use the word “collaborative” and not “collective” as the resource is only functionally—and not legally—collected.

However, this research has found that landowner coalitions are not all alike, creating space to differentiate between different kinds of coalitions in a way that previous research has not (Jacquet & Stedman 2012). While most coalitions fit squarely within this new theoretical framework, some find themselves working towards goals that are beyond the confines of natural gas mineral rights agreements, goals of working towards social change and political representation. While many coalitions exhibit collective notions of a shared identity, those that face a grievance or perceived injustice are given a catalyst for action and begin to act as social movements.

Conclusion
In addition to presenting a grounded theory of landowner coalitions, this research sought to explain their form and function. Findings reveal three main categories or models of landowner coalitions: The landowner model was landowner-led, start to finish, the hybrid landowner/entrepreneur model was landowner-led and then hired someone to market and/or negotiate, while the entrepreneur model was entrepreneur-led, start to finish. The general timeline of coalitions began with landowners talking to their neighbors about offers to lease, sharing information and hosting meetings until a group comes together, deciding on goals, marketing the group to companies and/or negotiating with interested companies, and finally each individual signing their own group lease. Landowner coalitions generally received better lease terms, bonus payments, and royalty percentages on average than did individuals operating within the same context. However, for all of these outcomes, it is difficult to decipher the extent of the effect of landowner coalitions, since often their leases were offered to individuals after signing day.

Findings outline a number of potential benefits to landowners of joining landowner coalitions. Members of landowner coalitions were able to procure a better deal due to their ability to attain greater negotiating power than did most individuals, largely thanks to offering large blocks of contiguous acreage and their increased knowledge and expertise. Coalitions also served as an equalizer, both between landowners and natural gas companies and amongst landowners. Respondents described helping their community as both a reason for starting or participating in a landowner coalition, and a goal of the coalition once it was formed. This help was administered through raising the standard for lease negotiations in a given area, making donations to the broader community from groups or individual members, and community development projects funded by industry requested by groups. Finally, coalitions provided a
benefit to the fabric of communities by creating a space for new relationships to form. However, a number of negatives of landowner coalitions were also revealed: the focus on group needs versus those of a particular individual being paramount. In addition, there were groups of people that may have been left out of the coalition process for a number of reasons, and therefore not able to appreciate the benefits discussed above. These reasons include not owning property or mineral rights, or being in financial situations that didn’t allow them to wait for landowner coalition process to reach leasing.

This research also sought to identify recommendations for best practices and procedures for future landowner coalitions. To this end, findings have identified a number of variables of coalition success, although only a few are under the control of landowners. Beginning with group size, some respondents noted the benefit of larger groups, explaining that the greater the number of acres that a group brings to the table, the better that they could do in negotiations. On the other hand, however, other respondents noted some distinct advantages afforded by keeping the group small, such as ease of decision-making and homogeneity of beliefs and ideas. Location also seemed to effect the success of coalitions. This is true both because of the location of geological formations, and the spatial distribution of a company’s lease holdings. Market conditions are of course dependent on a combination of variables, such as location and timing, but also operated independently to provide conditions for varied degrees of success for coalitions. The success of a group also depended on the perspective of the company they decided to lease with, and more broadly on the perspective of the companies operating or leasing in that area. Some gas companies seemed amenable to or even excited by leasing landowner groups, while others were opposed to the idea and even hostile to their efforts. The last variable of coalition success mentioned by respondents was trust. This trust came from both existing relationships and the
knowledge that everyone benefited collectively from the group’s actions. Although not always explicitly stated, respondents seemed to suggest that groups that were landowner-led were more successful because of the tendency for group members to trust group leadership. However, some respondents who had been part of entrepreneur-led groups also expressed trust in the leaders in most cases.

Next, this research set out to assess the impact of Marcellus Shale development landowner coalitions on the long-term sustainability of farmers and farming communities in Pennsylvania. In order to make this assessment, this research outlined the effects of signing a lease with a coalition on farmer members. From the initial offers from gas companies of two, five, or twenty-five dollars per acre to the thousands of dollars per acre that some landowner coalitions finally received, the income for farmers changed from a small boost, to a windfall earning of large proportions. For some farmers, this income protected them from having to sell part or the entirety of their farm, and was especially helpful for older farmers looking for a chance to retire. Key to the benefit of this income was the fact that it was a liquid asset, something farmers generally have little of.

Some respondents saw natural gas development, and specifically leasing through the coalition model, as a way to provide the economic, personal, and environmental protection necessary to support the agricultural landscape and preserve it for generations to come. A number of the lease terms attained by coalitions included protections for the land leased that were especially important for agriculturalists. One example is the reclamation of well pads or any other land disturbance. An additional benefit of landowner coalitions to farmers specifically was their ability to reinvest in their farming operations. Respondents described using lease money to purchase additional cattle for their herd, more efficient farming equipment, and newer
used trucks. The income generated through gas leasing certainly had effects on the quality of life of some farmers, and the relationships formed through the cooperation and conversations typical of the coalition model were found to be particularly helpful to farmers, either through additional opportunities for support and collaboration between agriculturalists, or greater understanding from others. However, possible negatives for farmers included situations where a large windfall of income was expected and ended up spent before it was received. Additional income also had unintended financial effects in some cases, and some agricultural suppliers faced challenges as farming operations changed and some farmers retired. In addition, agricultural land took a long time to be truly productive again after development.

Finally, this research aimed to evaluate the landowner coalition’s ability to serve as a model of collective action for farmers in the Northeastern United States to control land use decisions surrounding future issues on the rural landscape. Data collected through interviews suggested agricultural strategies such as dairy marketing and group orders for feed, as well as equipment-sharing programs. In addition, respondents discussed additional energy-related land use issues, such as solar energy development and power line right-of-way negotiations. Many respondents also discussed the possibility of the landowner coalition model being applied to pipeline negotiations, although many different opinions were expressed in regard to whether such a model would work in that instance. While respondents mentioned a number of future applications and discussed how these may or may not work at length, wind energy development was the only case that has proven itself as an appropriate application for the model. Future research is needed to understand the conditions necessary for the coalition model to be a utilized.

Research Limitations
This research has one main limitation, and this is the difficulty in discerning the effects of landowner coalitions. Because there is good reason to believe that landowner coalition lease negotiations affected individual lease negotiations in an area, it is very difficult to consider what lease negotiations may have looked like without the presence of landowner groups. It is not enough to compare those who signed with a landowner coalition and those who signed as individuals, as the former most likely affected the latter. Unfortunately, looking to geographic areas that didn’t have landowner coalitions is inadequate because of the difference in contextual factors. If time had allowed, this study would have gained from comparison groups of farmers and non-farmers who signed gas leases as individuals. Future research is called for to use these comparisons to begin to sharply delineate the effects of landowner coalitions in the leasing landscape.

**Future Research**

Additional opportunities for future research on the topic include expanding the study area. This should include other areas of Pennsylvania, as well as landowner coalitions in other shale plays. A particularly fruitful opportunity for future research is a case study is southwest Pennsylvania. Qualitative research would be well suited to explore why landowner coalitions did not appear in the southwest corner of the state, at least to the degree that they did in other production zones in the commonwealth. Opportunities exist for quantitative work as well. There is a need for future research to track lease terms and addendum across time in both coalition and individual leases. This will help to discern temporally if group leases have effected individual leases, as well as quantify some of the differences between group and individual leases, both in numbers and terms. A survey of landowners would be particularly fruitful, if a list of those who leased as individuals and group members could be assembled.
Future research should consider the conditions in the Marcellus Shale region of Pennsylvania that allowed landowner coalitions to proliferate in a way that they had not in other shale plays around the country. Data collected during the course of the current research project is well suited to begin to answer that question, and suggests that landowner coalitions were utilized at a much greater scale in the Marcellus than in other shale plays due to factors such as smaller parcel sizes, the frequency of current landowners owning their mineral rights, and a “blank” or undeveloped shale play. Further analysis is needed to fully answer the research question, and could help to judge whether the landowner coalition model can be successful in other contexts in other shale plays, and moreover when applied to wholly different scenarios. Additionally, emergent themes from the current study’s grounded theory coding method, such as “power”, “legal expertise”, “information sharing and communication”, and “talking to neighbors”, lend themselves to consideration as a tool for procedural energy justice, and future research should consider analyzing the landowner coalition model through an energy justice lens.
References


Appendix A: Interview Protocol

Interview Protocol\(^7\)

Overview of Research Project:

- I am a graduate student at Penn State. I am completing this research as part of my Masters Thesis here at Penn State. Research questions:
  - What is the process by which these coalitions formed and operated?
  - What types of effects did these landowner coalitions achieve?

Verbal Consent:

- Use consent form.

Interview Questions

- Could you please tell me a little bit about yourself, specifically your role in your community and your occupation?
- Can you please describe the timeline of your discovery of natural gas as an issue, and your resulting actions and decision-making process?
- What was your role in the coalition?
- What were your considerations when joining a landowner group? What did you consider to be some of the pros and/or cons?
- Do you think that the broader community has or will benefit from the coalition? If so, in what ways?
- Does the community work with the coalition and/or the coalition work with the community? If so, in what ways?
- What resources did you and/or the landowner group use to guide your decisions?
- What were your priorities for a lease?
- What is the state of the coalition presently?
- Do you see any future roles for the coalition? If so, what might those be?
- What was your coalition able to achieve as an end result?
- What did it mean to you to be part of the coalition?
- What are your general reflections on the benefits or negatives of being part of a landowner coalition?
- Is there anything you’d like to add?
- Would it be ok to contact you for follow-up questions?
- Who else should I talk to?

\(^7\) This protocol was altered for each category of research respondents (key informants, coalition leadership, farmers) to ask questions specific to their knowledge and expertise
Appendix B: Complete Coding Scheme